ANNUAL REPORT
July 1, 2016 - June 30, 2017
University of Pittsburgh
School of Medicine

University of Pittsburgh Medical Center
Department of Medicine

Mark T. Gladwin MD
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Michael Donahoe MD
Executive Vice Chair, Clinical Affairs

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Executive Administrator

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Senior Administrator

Neil Karls MBA
Manager Finance
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Chair Comments

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Medical Education in the Department of Medicine

Division Reports
Cardiology
Endocrinology and Metabolism
Gastroenterology, Hepatology and Nutrition
General Internal Medicine
Geriatric Medicine
Hematology/Oncology
Infectious Diseases
Pulmonary, Allergy and Critical Care Medicine
Renal-Electrolyte
Rheumatology
Vascular Medicine Institute

Acknowledgments
The Department of Medicine had a very productive year that included, among other highlights, substantial increases to research funding, the recruitment of internationally recognized faculty experts, the introduction of meaningful clinical quality programs, and the teaching of our talented medical students and fellows. Bolstered by our strong partnership with UPMC and its substantial investments in the Department, our researchers remain at the forefront of science, and our clinicians are ranked among the nation’s best providers of care. U.S. News & World Report placed UPMC on its “Best Hospitals” Honor Roll for 2017, marking the 18th year that the health system appeared on the list of the nation’s top 20 hospitals. In addition, six of UPMC’s medical specialties—all based within the Department of Medicine—received top assessments: three specialty practices ranked among the nation’s top 10 and three were among the top 20.

Our national and international reputation for excellence was instrumental in our hiring of several new faculty members. Key among them are Jane Liebschutz, MD, MPH, FACP, and Erin Kershaw, MD—both are accomplished and highly respected physician scientists. Dr. Liebschutz was named Chief, Division of General Internal Medicine, and Dr. Kershaw was promoted from within the Division of Endocrinology and Metabolism to Chief of that Division. In addition, Toren Finkel, MD, a world-renowned cardiology and aging researcher formerly of the National Institutes of Health, was named to direct the Aging Institute of UPMC and Pitt. The Department’s direct and indirect grant expenditures rose to $153.1 million in FY2017, and our researchers published 840 peer-reviewed manuscripts, including several in the most respected medical journals, such as the Journal of the American Medical Association, Science, New England Journal of Medicine, and The Lancet.

On the clinical front, we worked to improve the patient experience through better healthcare models and more efficient operational practices. We significantly expanded our use of inpatient and outpatient telemedicine during the year, including for patients with physicians in the Divisions of Endocrinology, Infectious Diseases, Pulmonary, Renal, and Rheumatology. Among other clinical initiatives that have resulted in improved quality are the redesign of the hospital-discharge process, the creation of a Geriatrics Consultation Service for frail elderly trauma patients at UPMC Presbyterian, and the formation of a multi-disciplinary pulmonary embolism team that is available around the clock for consults.

Fiscal year 2017’s residency match proved to be one of the best in the program’s history. We attracted excellent interns from the nation’s high-quality medical schools as well as 6 international research scholars. The Department’s clinician educators were quite active at all levels of our medical education, with many of them receiving teaching and mentoring awards.

Finally, we continue to promote the evolution of an entrepreneurial culture driving our fundamental NIH-funded discoveries to the clinic and commercialization. We are proud to announce the formation of two new companies within the Department of Medicine this year: Koutif Pharmaceuticals, based on Dr. Mallampalli and Dr. Chen’s development of small molecule inhibitors of E3 ligases, and Globin Solutions, focused on the development of carbon monoxide poisoning antidotes.

I am proud of the Department faculty and staff and their commitment to excellence in all of our missions.

Sincerely,

Mark T. Gladwin, MD
Jack D. Myers Professor and Chair
Chairman, Department of Medicine
Director, Pittsburgh Heart, Lung, and Blood Vascular Medicine Institute
## TABLE 1 – ADMISSIONS, PATIENT DAYS, AND AVERAGE LENGTH OF STAY

**UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MEDICINE**

Admissions, Patient Days, and Average Length of Stay (ALOS) by Division

<table>
<thead>
<tr>
<th>Division</th>
<th>Admissions FY 03 YTD (Base Year)</th>
<th>Admissions FY 15 YTD</th>
<th>Admissions FY 16 YTD</th>
<th>Admissions FY 17 YTD</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endocrinology</td>
<td>171</td>
<td>47</td>
<td>41</td>
<td>5</td>
<td>-87.8%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>1,080</td>
<td>569</td>
<td>506</td>
<td>434</td>
<td>-14.2%</td>
</tr>
<tr>
<td>General Medicine</td>
<td>4,343</td>
<td>9,990</td>
<td>10,265</td>
<td>11,236</td>
<td>9.5%</td>
</tr>
<tr>
<td>Geriatric Medicine</td>
<td>392</td>
<td>434</td>
<td>451</td>
<td>469</td>
<td>4.0%</td>
</tr>
<tr>
<td>Hematology / Oncology</td>
<td>247</td>
<td>1,220</td>
<td>1,264</td>
<td>1,417</td>
<td>12.1%</td>
</tr>
<tr>
<td>Infectious Disease</td>
<td>56</td>
<td>12</td>
<td>4</td>
<td>4</td>
<td>0.0%</td>
</tr>
<tr>
<td>Pulmonary Medicine</td>
<td>799</td>
<td>2,894</td>
<td>2,629</td>
<td>2,929</td>
<td>11.4%</td>
</tr>
<tr>
<td>Renal-Electrolyte</td>
<td>159</td>
<td>10</td>
<td>10</td>
<td>18</td>
<td>80.0%</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>78</td>
<td>75</td>
<td>-</td>
<td>6</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>7,325</strong></td>
<td><strong>15,251</strong></td>
<td><strong>15,170</strong></td>
<td><strong>16,518</strong></td>
<td><strong>8.9%</strong></td>
</tr>
<tr>
<td><strong>DOM Total</strong></td>
<td><strong>7,325</strong></td>
<td><strong>15,251</strong></td>
<td><strong>15,170</strong></td>
<td><strong>16,518</strong></td>
<td><strong>0.8%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Division</th>
<th>Patient Days FY 03 YTD (Base Year)</th>
<th>Patient Days FY 15 YTD</th>
<th>Patient Days FY 16 YTD</th>
<th>Patient Days FY 17 YTD</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Presbyterian, Shadyside and Montefiore Hospitals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endocrinology</td>
<td>357</td>
<td>51</td>
<td>44</td>
<td>13</td>
<td>-70.5%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>7,858</td>
<td>3,508</td>
<td>3,125</td>
<td>2,736</td>
<td>-12.4%</td>
</tr>
<tr>
<td>General Medicine</td>
<td>25,433</td>
<td>60,295</td>
<td>63,616</td>
<td>70,526</td>
<td>10.9%</td>
</tr>
<tr>
<td>Geriatric Medicine</td>
<td>1,948</td>
<td>1,976</td>
<td>1,935</td>
<td>2,083</td>
<td>7.6%</td>
</tr>
<tr>
<td>Hematology / Oncology</td>
<td>1,184</td>
<td>8,027</td>
<td>7,251</td>
<td>8,789</td>
<td>21.2%</td>
</tr>
<tr>
<td>Infectious Disease</td>
<td>324</td>
<td>47</td>
<td>9</td>
<td>12</td>
<td>33.3%</td>
</tr>
<tr>
<td>Pulmonary Medicine</td>
<td>8,012</td>
<td>31,883</td>
<td>29,546</td>
<td>33,526</td>
<td>13.5%</td>
</tr>
<tr>
<td>Renal-Electrolyte</td>
<td>1,158</td>
<td>42</td>
<td>49</td>
<td>81</td>
<td>65.3%</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>381</td>
<td>518</td>
<td>-</td>
<td>44</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>DOM Total</strong></td>
<td><strong>46,655</strong></td>
<td><strong>106,347</strong></td>
<td><strong>105,575</strong></td>
<td><strong>117,810</strong></td>
<td><strong>11.6%</strong></td>
</tr>
</tbody>
</table>
## Key Stats FY 2016-2017

### Department of Medicine
http://www.dom.pitt.edu

### Presbyterian, Shadyside and Montefiore Hospitals

<table>
<thead>
<tr>
<th>Specialty</th>
<th>ALOS FY 03 YTD (Base Year)</th>
<th>ALOS FY 15 YTD</th>
<th>ALOS FY 16 YTD</th>
<th>ALOS FY 17 YTD</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Endocrinology</strong></td>
<td>2.1</td>
<td>1.1</td>
<td>1.1</td>
<td>2.6</td>
<td>136.4%</td>
</tr>
<tr>
<td><strong>Gastroenterology</strong></td>
<td>7.3</td>
<td>6.2</td>
<td>6.2</td>
<td>6.3</td>
<td>1.6%</td>
</tr>
<tr>
<td><strong>General Medicine</strong></td>
<td>5.9</td>
<td>6.0</td>
<td>6.2</td>
<td>6.3</td>
<td>1.6%</td>
</tr>
<tr>
<td><strong>Geriatric Medicine</strong></td>
<td>5.0</td>
<td>4.6</td>
<td>4.3</td>
<td>4.4</td>
<td>2.3%</td>
</tr>
<tr>
<td><strong>Hematology / Oncology</strong></td>
<td>4.8</td>
<td>6.6</td>
<td>5.7</td>
<td>6.2</td>
<td>8.8%</td>
</tr>
<tr>
<td><strong>Infectious Disease</strong></td>
<td>5.8</td>
<td>3.9</td>
<td>2.3</td>
<td>3.0</td>
<td>30.4%</td>
</tr>
<tr>
<td><strong>Pulmonary Medicine</strong></td>
<td>10.0</td>
<td>11.0</td>
<td>11.2</td>
<td>11.4</td>
<td>1.8%</td>
</tr>
<tr>
<td><strong>Renal-Electrolyte</strong></td>
<td>7.3</td>
<td>4.2</td>
<td>4.9</td>
<td>4.5</td>
<td>-8.2%</td>
</tr>
<tr>
<td><strong>Rheumatology</strong></td>
<td>4.9</td>
<td>6.9</td>
<td>-</td>
<td>7.3</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>DOM Total</strong></td>
<td>6.4</td>
<td>7.0</td>
<td>7.0</td>
<td>7.1</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

**Source:**

UPMC Inpatient Statistics Database
Prepared by:

Department of Medicine, Finance
### TABLE 2 – OUTPATIENT VISITS AND ANCILLARY TESTS

**UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MEDICINE**

#### Total Outpatient Visits by Division

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endocrinology</td>
<td>25,287</td>
<td>25,463</td>
<td>24,887</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>35,652</td>
<td>31,947</td>
<td>28,401</td>
<td>-11.1%</td>
</tr>
<tr>
<td>General Medicine</td>
<td>50,347</td>
<td>55,171</td>
<td>53,202</td>
<td>-3.6%</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>7,448</td>
<td>7,429</td>
<td>7,245</td>
<td>-2.5%</td>
</tr>
<tr>
<td>Hematology/Oncology</td>
<td>34,068</td>
<td>34,594</td>
<td>32,822</td>
<td>-5.1%</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>7,635</td>
<td>7,939</td>
<td>7,551</td>
<td>-4.9%</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>27,559</td>
<td>25,124</td>
<td>25,003</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Renal-Electrolyte</td>
<td>9,323</td>
<td>9,728</td>
<td>10,017</td>
<td>3.0%</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>51,702</td>
<td>44,808</td>
<td>41,538</td>
<td>-7.3%</td>
</tr>
<tr>
<td><strong>DOM Totals</strong></td>
<td>249,021</td>
<td>242,203</td>
<td>230,666</td>
<td>-4.8%</td>
</tr>
</tbody>
</table>

#### Outpatient Visits: New and Consultation Only by Division

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>% Change</th>
<th>% Total Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endocrinology</td>
<td>5,283</td>
<td>4,663</td>
<td>4,821</td>
<td>3.4%</td>
<td>19.4%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>8,723</td>
<td>8,071</td>
<td>7,335</td>
<td>-9.1%</td>
<td>25.8%</td>
</tr>
<tr>
<td>General Medicine</td>
<td>2,509</td>
<td>3,364</td>
<td>3,398</td>
<td>1.0%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>692</td>
<td>770</td>
<td>877</td>
<td>13.9%</td>
<td>12.1%</td>
</tr>
<tr>
<td>Hematology/Oncology</td>
<td>3,980</td>
<td>3,780</td>
<td>3,443</td>
<td>-8.9%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>1,051</td>
<td>1,214</td>
<td>1,004</td>
<td>-17.3%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>5,083</td>
<td>4,823</td>
<td>5,094</td>
<td>5.6%</td>
<td>20.4%</td>
</tr>
<tr>
<td>Renal-Electrolyte</td>
<td>1,455</td>
<td>1,486</td>
<td>1,533</td>
<td>3.2%</td>
<td>15.3%</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>8,461</td>
<td>7,081</td>
<td>7,099</td>
<td>0.3%</td>
<td>17.1%</td>
</tr>
<tr>
<td><strong>DOM Totals</strong></td>
<td>37,237</td>
<td>35,252</td>
<td>34,604</td>
<td>-1.8%</td>
<td>15.0%</td>
</tr>
</tbody>
</table>
TABLE 3 – wRVUs by Division

UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MEDICINE

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2004 (Base Year)</th>
<th>FY 2014</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endocrinology</td>
<td>16,535</td>
<td>67,181</td>
<td>75,532</td>
<td>72,840</td>
<td>73,833</td>
<td>1.4%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>90,388</td>
<td>238,990</td>
<td>232,518</td>
<td>214,810</td>
<td>209,014</td>
<td>-2.7%</td>
</tr>
<tr>
<td>General Medicine</td>
<td>82,422</td>
<td>237,934</td>
<td>247,577</td>
<td>265,690</td>
<td>276,323</td>
<td>4.0%</td>
</tr>
<tr>
<td>Geriatric Medicine</td>
<td>23,794</td>
<td>32,610</td>
<td>34,229</td>
<td>35,474</td>
<td>34,801</td>
<td>-1.9%</td>
</tr>
<tr>
<td>Hematology/Oncology</td>
<td>46,281</td>
<td>87,681</td>
<td>93,090</td>
<td>87,303</td>
<td>90,299</td>
<td>3.4%</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>17,087</td>
<td>65,750</td>
<td>60,964</td>
<td>60,559</td>
<td>59,312</td>
<td>-2.1%</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>86,613</td>
<td>352,325</td>
<td>370,204</td>
<td>311,658</td>
<td>313,973</td>
<td>0.7%</td>
</tr>
<tr>
<td>Renal-Electrolyte</td>
<td>44,366</td>
<td>96,128</td>
<td>98,782</td>
<td>99,248</td>
<td>110,181</td>
<td>11.0%</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>12,076</td>
<td>115,950</td>
<td>109,001</td>
<td>92,705</td>
<td>86,094</td>
<td>-7.1%</td>
</tr>
<tr>
<td><strong>DOM Totals</strong></td>
<td><strong>419,562</strong></td>
<td><strong>1,294,549</strong></td>
<td><strong>1,321,897</strong></td>
<td><strong>1,240,287</strong></td>
<td><strong>1,253,830</strong></td>
<td><strong>1.1%</strong></td>
</tr>
</tbody>
</table>
## TABLE 4 – CLINICAL REVENUE

**UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MEDICINE**

Clinical Revenue by Division (a)

<table>
<thead>
<tr>
<th>Division</th>
<th>Category</th>
<th>FY 2003</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endocrinology</td>
<td>UPP / EPIC (b)</td>
<td>446,754</td>
<td>3,997,239</td>
<td>4,000,973</td>
<td>3,936,714</td>
<td>-1.6%</td>
</tr>
<tr>
<td></td>
<td>HBC/Hospital Support (c)</td>
<td>666,448</td>
<td>2,933,329</td>
<td>2,679,980</td>
<td>2,966,145</td>
<td>10.7%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>1,113,202</td>
<td>6,930,568</td>
<td>6,680,953</td>
<td>6,902,859</td>
<td>3.3%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>UPP / EPIC (b)</td>
<td>4,338,809</td>
<td>12,862,703</td>
<td>12,177,415</td>
<td>11,496,584</td>
<td>-5.6%</td>
</tr>
<tr>
<td></td>
<td>HBC/Hospital Support (c)</td>
<td>1,221,806</td>
<td>8,869,717</td>
<td>8,813,074</td>
<td>8,805,400</td>
<td>-0.08%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>5,560,615</td>
<td>21,732,420</td>
<td>20,990,489</td>
<td>20,301,984</td>
<td>-3.2%</td>
</tr>
<tr>
<td>General Medicine</td>
<td>UPP / EPIC (b)</td>
<td>1,231,285</td>
<td>10,846,980</td>
<td>11,467,944</td>
<td>11,523,875</td>
<td>0.005%</td>
</tr>
<tr>
<td></td>
<td>Managed Care Revenue</td>
<td>-</td>
<td>106,606</td>
<td>138,497</td>
<td>133,458</td>
<td>-3.6%</td>
</tr>
<tr>
<td></td>
<td>Quality Incentives</td>
<td>-</td>
<td>946,257</td>
<td>827,046</td>
<td>695,682</td>
<td>-15.8%</td>
</tr>
<tr>
<td></td>
<td>HBC/Hospital Support (c)</td>
<td>2,273,550</td>
<td>13,275,041</td>
<td>14,207,964</td>
<td>16,453,419</td>
<td>15.8%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>3,504,835</td>
<td>25,174,884</td>
<td>26,641,451</td>
<td>28,806,434</td>
<td>8.1%</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>UPP / EPIC (b)</td>
<td>778,503</td>
<td>1,888,692</td>
<td>1,883,025</td>
<td>1,860,032</td>
<td>-1.2%</td>
</tr>
<tr>
<td></td>
<td>Managed Care Revenue</td>
<td>-</td>
<td>41,770</td>
<td>38,221</td>
<td>36,390</td>
<td>-9.3 %</td>
</tr>
<tr>
<td></td>
<td>Quality Incentives</td>
<td>-</td>
<td>-</td>
<td>177</td>
<td>-</td>
<td>-100%</td>
</tr>
<tr>
<td></td>
<td>HBC/Hospital Support (c)</td>
<td>417,220</td>
<td>2,352,072</td>
<td>2,376,140</td>
<td>2,454,762</td>
<td>3.3%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>1,195,723</td>
<td>4,282,534</td>
<td>4,297,563</td>
<td>4,351,184</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

*Notes: (a) Clinical Revenue includes revenue from all sources.
http://www.dom.pitt.edu*
<table>
<thead>
<tr>
<th>Department</th>
<th>UPP / EPIC (b)</th>
<th>Quality Incentives</th>
<th>HBC/Hospital Support (c)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hematology/Oncology</strong></td>
<td>1,246,011</td>
<td>4,330,104</td>
<td>4,236,411</td>
<td>4,181,840</td>
</tr>
<tr>
<td>Quality Incentives</td>
<td>-</td>
<td>-</td>
<td>1,024</td>
<td>-</td>
</tr>
<tr>
<td>HBC/Hospital Support (c)</td>
<td>1,078,424</td>
<td>8,123,582</td>
<td>8,402,468</td>
<td>8,476,489</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,324,435</td>
<td>12,453,686</td>
<td>12,639,903</td>
<td>12,658,329</td>
</tr>
<tr>
<td><strong>Infectious Diseases</strong></td>
<td>505,705</td>
<td>2,521,856</td>
<td>2,537,559</td>
<td>2,486,476</td>
</tr>
<tr>
<td>Quality Incentives</td>
<td>-</td>
<td>5,455</td>
<td>-</td>
<td>440</td>
</tr>
<tr>
<td>HBC/Hospital Support (c)</td>
<td>94,668</td>
<td>3,145,648</td>
<td>3,123,026</td>
<td>3,181,892</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>600,373</td>
<td>5,672,959</td>
<td>5,660,585</td>
<td>5,668,808</td>
</tr>
<tr>
<td><strong>Pulmonary (d)</strong></td>
<td>2,542,622</td>
<td>17,941,326</td>
<td>15,017,395</td>
<td>14,451,408</td>
</tr>
<tr>
<td>HBC/Hospital Support (c)</td>
<td>612,214</td>
<td>6,892,183</td>
<td>5,166,290</td>
<td>5,425,389</td>
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<tr>
<td><strong>Total</strong></td>
<td>3,154,836</td>
<td>24,833,509</td>
<td>20,183,685</td>
<td>19,876,797</td>
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<tr>
<td><strong>Renal-Electrolyte</strong></td>
<td>1,691,416</td>
<td>3,791,829</td>
<td>3,909,560</td>
<td>4,128,147</td>
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<tr>
<td>HBC/Hospital Support (c)</td>
<td>136,620</td>
<td>2,668,095</td>
<td>2,806,128</td>
<td>2,930,332</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,828,036</td>
<td>6,459,924</td>
<td>6,715,688</td>
<td>7,058,479</td>
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<tr>
<td><strong>Rheumatology (e)</strong></td>
<td>93,292</td>
<td>10,146,738</td>
<td>9,745,708</td>
<td>9,936,052</td>
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<tr>
<td>Quality Incentives</td>
<td>-</td>
<td>-</td>
<td>35</td>
<td>-</td>
</tr>
<tr>
<td>HBC/Hospital Support (c)</td>
<td>610,052</td>
<td>3,409,973</td>
<td>3,166,009</td>
<td>3,224,808</td>
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<tr>
<td><strong>Total</strong></td>
<td>703,344</td>
<td>13,556,711</td>
<td>12,911,752</td>
<td>13,160,860</td>
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</tbody>
</table>
### Key Stats FY 2016-2017

<table>
<thead>
<tr>
<th>Department</th>
<th>UPP / EPIC (b)</th>
<th>Managed Care</th>
<th>Revenue</th>
<th>HBC/Hospital Support</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shadyside Hospitalists</td>
<td>616,361</td>
<td>1,862,506</td>
<td>2,264,399</td>
<td>2,590,557</td>
<td>14.4%</td>
</tr>
<tr>
<td>Managed Care</td>
<td>31,091</td>
<td>-</td>
<td>-</td>
<td>60</td>
<td>...</td>
</tr>
<tr>
<td>HBC/Hospital Support</td>
<td>(c)</td>
<td>-</td>
<td>-</td>
<td>3,100,073</td>
<td>2,867,018</td>
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<td>Total</td>
<td>647,452</td>
<td>1,862,506</td>
<td>5,364,472</td>
<td>5,457,635</td>
<td>1.7%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Unallocated Medicine</th>
<th>UPP / EPIC (b)</th>
<th>Managed Care</th>
<th>Revenue</th>
<th>Quality Incentives</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managed Care</td>
<td>31,091</td>
<td>22,131</td>
<td>8,163</td>
<td>3,140</td>
<td>-61.5%</td>
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<tr>
<td>Quality Incentives</td>
<td>-</td>
<td>21,127</td>
<td>-</td>
<td>9,500</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td>647,452</td>
<td>2,213,776</td>
<td>430,911</td>
<td>1,811,892</td>
<td>320%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DOM Grand Total</th>
<th>UPP / EPIC (b)</th>
<th>Managed Care</th>
<th>Revenue</th>
<th>Quality Incentives</th>
<th>HBC/Hospital Support</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managed Care</td>
<td>31,091</td>
<td>170,507</td>
<td>184,881</td>
<td>173,048</td>
<td>-6.4%</td>
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<tr>
<td>Quality Incentives</td>
<td>-</td>
<td>972,839</td>
<td>828,282</td>
<td>705,622</td>
<td>-14.8%</td>
<td></td>
</tr>
<tr>
<td>HBC/Hospital Support</td>
<td>(c)</td>
<td>7,111,002</td>
<td>51,669,640</td>
<td>53,841,152 (f)</td>
<td>56,785,654</td>
<td>5.5%</td>
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<tr>
<td>Total</td>
<td>20,632,851</td>
<td>123,310,971</td>
<td>122,517,452</td>
<td>126,055,261</td>
<td>2.8%</td>
<td></td>
</tr>
</tbody>
</table>

(a) Excludes CVI and UPCI.
(b) UPP / EPIC includes net patient revenue for inpatient consults, outpatient visits and procedures.
(c) HBC / Hospital contracted revenue determined by total Division wRVUs and the agreed upon Division rate of reimbursement.
(d) Includes Medical Thoracic Associates.
(e) Includes Lupus, Arthritis and Internal Medicine and Margolis.
(f) Total does not tie exactly to the amount noted in other income for UPP Business Units on Table 5 mostly because Table 5 includes hospital contracted revenue for all Divisions of the Department of Medicine, as opposed to just clinical Divisions.

Source: FY 17 Division Financial Statements
Prepared by: Department of Medicine Finance
### TABLE 5 – FINAL REPORT OF FINANCIAL ACTIVITY

**SCHOOL OF MEDICINE AND UNIVERSITY OF PITTSBURGH PHYSICIANS**

**DEPARTMENT OF MEDICINE**

Fiscal Year 2017 Final Report of Financial Activity

**Total Department**

<table>
<thead>
<tr>
<th>Revenue:</th>
<th>Hard Money</th>
<th>Restricted</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vascular Division Seed UPMC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical UPP UPP Clinical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td>Net Patient Service Revenue</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>School of Medicine - ECU</td>
<td>2,702,247</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>School of Medicine - Other</td>
<td>525,327</td>
<td>885,671</td>
<td>-</td>
</tr>
<tr>
<td>SVC Discretionary Support</td>
<td>1,112,998</td>
<td>2,896,437</td>
<td>-</td>
</tr>
<tr>
<td>Direct Grants</td>
<td>-</td>
<td>-</td>
<td>54,810,391</td>
</tr>
<tr>
<td>Indirect Cost Recovery</td>
<td>16,667,577</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Gifts</td>
<td>-</td>
<td>802,606</td>
<td>-</td>
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<tr>
<td>Investment Income</td>
<td>-</td>
<td>198,943</td>
<td>-</td>
</tr>
<tr>
<td>Endowment Income</td>
<td>-</td>
<td>1,290,256</td>
<td>-</td>
</tr>
<tr>
<td>UPMC Corporate Support</td>
<td>744,864</td>
<td>4,688,105</td>
<td>141,974</td>
</tr>
<tr>
<td>UPP Academic Support</td>
<td>-</td>
<td>5,068,331</td>
<td>-</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>(150,527)</td>
<td>1,258,778</td>
<td>114,567</td>
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<tr>
<td>Total Revenue</td>
<td>21,602,486</td>
<td>17,069,127</td>
<td>256,541</td>
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</table>

**Expenses:**

<table>
<thead>
<tr>
<th>Salaries and Fringe:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Money</td>
</tr>
<tr>
<td>Vascular Division Seed UPMC</td>
</tr>
<tr>
<td>Medical UPP UPP Clinical</td>
</tr>
<tr>
<td>Department</td>
</tr>
<tr>
<td>Finances</td>
</tr>
<tr>
<td>Other Salary</td>
</tr>
<tr>
<td>Staff Salary</td>
</tr>
<tr>
<td>Total Salaries</td>
</tr>
<tr>
<td>Total Fringe Benefits</td>
</tr>
<tr>
<td>Total Salaries and Fringe Benefits</td>
</tr>
</tbody>
</table>
## Key Stats FY 2016-2017

**Source:** Department of Medicine, UPMC and University of Pittsburgh General Ledgers  
**Prepared by:** Department of Medicine Finance

### Operating Expenses:

<table>
<thead>
<tr>
<th></th>
<th>Hard Money</th>
<th>Restricted</th>
<th>Self Support</th>
<th>Research</th>
<th>Vascular Medicine</th>
<th>Division UPP</th>
<th>Seed UPP</th>
<th>UPMC Clinical Trials</th>
<th>Total Department</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supplies</strong></td>
<td>410,429</td>
<td>1,814,002</td>
<td>32,357</td>
<td>6,101,582</td>
<td>1,408,671</td>
<td>5,399,271</td>
<td>178,462</td>
<td>42,722</td>
<td>15,387,496</td>
</tr>
<tr>
<td><strong>Rent</strong></td>
<td>5,784,421</td>
<td>70,904</td>
<td>21,251</td>
<td>-</td>
<td>946,305</td>
<td>3,509,346</td>
<td>-</td>
<td>-</td>
<td>10,332,229</td>
</tr>
<tr>
<td><strong>Maintenance &amp; Repairs</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>136,405</td>
<td>43,361</td>
<td>5,085</td>
<td>184,851</td>
<td></td>
</tr>
<tr>
<td><strong>Utilities and Telephone</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>284,768</td>
<td>1,439</td>
<td>52</td>
<td>286,259</td>
<td></td>
</tr>
<tr>
<td><strong>Purchased Services-All Other</strong></td>
<td>272,757</td>
<td>1,025,107</td>
<td>4,193</td>
<td>11,197,457</td>
<td>1,103,909</td>
<td>1,058,283</td>
<td>44,644</td>
<td>522,732</td>
<td>15,229,082</td>
</tr>
<tr>
<td><strong>Travel and Business</strong></td>
<td>270,333</td>
<td>921,538</td>
<td>20,393</td>
<td>745,769</td>
<td>219,127</td>
<td>893,420</td>
<td>13,768</td>
<td>10,833</td>
<td>3,095,181</td>
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<tr>
<td><strong>Financial Aid</strong></td>
<td>46,054</td>
<td>164,303</td>
<td>-</td>
<td>266,244</td>
<td>-</td>
<td>-</td>
<td>476,601</td>
<td>476,601</td>
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</tr>
<tr>
<td><strong>Other Expense</strong></td>
<td>917,702</td>
<td>396,820</td>
<td>(1,232,864)</td>
<td>587,149</td>
<td>105,416</td>
<td>2,085,966</td>
<td>5,036,898</td>
<td>232,376</td>
<td>8,119,433</td>
</tr>
<tr>
<td><strong>Capital Equip. and Renovations</strong></td>
<td>136,935</td>
<td>728,936</td>
<td>-</td>
<td>1,084,572</td>
<td>73,378</td>
<td>-</td>
<td>2,023,821</td>
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<tr>
<td><strong>Transfers</strong></td>
<td>(235,421)</td>
<td>(36,777)</td>
<td>(1,300)</td>
<td>-</td>
<td>353,662</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>80,164</td>
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<tr>
<td><strong>Stepdown/Overhead</strong></td>
<td>4,920,350</td>
<td>-</td>
<td>-</td>
<td>342,240</td>
<td>5,708,423</td>
<td>169,066</td>
<td>59,989</td>
<td>11,200,068</td>
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</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td>12,523,560</td>
<td>5,074,833</td>
<td>(1,155,970)</td>
<td>19,982,773</td>
<td>4,552,708</td>
<td>19,075,904</td>
<td>5,487,638</td>
<td>873,789</td>
<td>66,415,235</td>
</tr>
</tbody>
</table>

**Total Expenses**  

<table>
<thead>
<tr>
<th></th>
<th>Hard Money</th>
<th>Restricted</th>
<th>Self Support</th>
<th>Research</th>
<th>Vascular Medicine</th>
<th>Division UPP</th>
<th>Seed UPP</th>
<th>UPMC Clinical Trials</th>
<th>Total Department</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supplies</strong></td>
<td>410,429</td>
<td>1,814,002</td>
<td>32,357</td>
<td>6,101,582</td>
<td>1,408,671</td>
<td>5,399,271</td>
<td>178,462</td>
<td>42,722</td>
<td>15,387,496</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td>21,567,443</td>
<td>12,969,233</td>
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<td>54,810,391</td>
<td>130,412,599</td>
<td>6,497,399</td>
<td>2,767,194</td>
<td>239,983,166</td>
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<tr>
<td><strong>Financial Aid</strong></td>
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<td>41,232</td>
<td>-</td>
<td>524,894</td>
<td>3,724,366</td>
<td>1,197,122</td>
<td>1,668,458</td>
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</tbody>
</table>

Source: Department of Medicine, UPMC and University of Pittsburgh General Ledgers  
Prepared by: Department of Medicine Finance

[http://www.dom.pitt.edu](http://www.dom.pitt.edu)
## DEPARTMENT OF MEDICINE

### Fiscal Year 2017 Final Report of Financial Activity

#### Division of Cardiology

### Revenue:

<table>
<thead>
<tr>
<th>Description</th>
<th>Hard Money</th>
<th>Restricted</th>
<th>Self Support</th>
<th>Research</th>
<th>Other University Support</th>
<th>Vascular Medicine Institute</th>
<th>VA</th>
<th>Division UPP Bus. Unit</th>
<th>Seed UPP Bus. Unit</th>
<th>UPMC Clinical Trials</th>
<th>Total Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Patient Service Revenue</td>
<td>$</td>
<td>-</td>
<td>-</td>
<td>$</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>School of Medicine - ECU</td>
<td>$ -</td>
<td>-</td>
<td>-</td>
<td>$</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>School of Medicine - Other</td>
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<td>$</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<td>-</td>
<td>$ 474,673</td>
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<tr>
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<td>$</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
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<td>-</td>
<td>$ 1,866,015</td>
</tr>
<tr>
<td>Direct Grants</td>
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<td>-</td>
<td>-</td>
<td>$</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Gifts</td>
<td>$ -</td>
<td>$ 30,071</td>
<td>-</td>
<td>-</td>
<td>$</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$ 30,071</td>
</tr>
<tr>
<td>Investment Income</td>
<td>$ -</td>
<td>-</td>
<td>-</td>
<td>$</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$ 17,882</td>
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<tr>
<td>Endowment Income</td>
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<td>-</td>
<td>-</td>
<td>$</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$ 311,709</td>
</tr>
<tr>
<td>UPMC Corporate Support</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>$</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$ 55,509</td>
</tr>
<tr>
<td>UPP Academic Support</td>
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<td>-</td>
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<td>-</td>
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<td>$ 16,109</td>
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<td><strong>$ 5,560,424</strong></td>
<td><strong>$ 5,560,424</strong></td>
<td><strong>$ 5,560,424</strong></td>
<td><strong>$ 5,560,424</strong></td>
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### Salary and Fringe Expenses:

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<th>Research</th>
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<th>VA</th>
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<th>Seed UPP Bus. Unit</th>
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<th>Total Division</th>
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<td>Medical Faculty Salary</td>
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<td><strong>$ 557,855</strong></td>
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<td><strong>$ 3,149,324</strong></td>
<td><strong>$ 3,149,324</strong></td>
<td><strong>$ 3,149,324</strong></td>
<td><strong>$ 3,149,324</strong></td>
<td><strong>$ 3,149,324</strong></td>
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<th>Seed UPP Bus. Unit</th>
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<tr>
<td>Fringe Benefits (Faculty &amp; Staff)</td>
<td>$ 75,214</td>
<td>$ 169,522</td>
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<td>$ 888,196</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>$ 1,132,932</td>
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<tr>
<td><strong>Total Fringe Benefits</strong></td>
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<td><strong>$ 169,522</strong></td>
<td><strong>$ 888,196</strong></td>
<td><strong>$ 888,196</strong></td>
<td><strong>$ 888,196</strong></td>
<td><strong>$ 888,196</strong></td>
<td><strong>$ 888,196</strong></td>
<td><strong>$ 888,196</strong></td>
<td><strong>$ 888,196</strong></td>
<td><strong>$ 1,132,932</strong></td>
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<table>
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<th>Research</th>
<th>Other University Support</th>
<th>Vascular Medicine Institute</th>
<th>VA</th>
<th>Division UPP Bus. Unit</th>
<th>Seed UPP Bus. Unit</th>
<th>UPMC Clinical Trials</th>
<th>Total Division</th>
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<tbody>
<tr>
<td><strong>Total Salaries and Fringe Benefits</strong></td>
<td><strong>$ 316,618</strong></td>
<td><strong>$ 727,347</strong></td>
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<td><strong>$ 4,037,520</strong></td>
<td><strong>$ 4,037,520</strong></td>
<td><strong>$ 4,037,520</strong></td>
<td><strong>$ 4,037,520</strong></td>
<td><strong>$ 4,037,520</strong></td>
<td><strong>$ 4,037,520</strong></td>
<td><strong>$ 5,081,485</strong></td>
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## DEPARTMENT OF MEDICINE

### Fiscal Year 2017 Final Report of Financial Activity

#### Division of Cardiology

**Hard Money**

<table>
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<tr>
<th>Category</th>
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<th>Research</th>
<th>Other University Support</th>
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<th>VA</th>
<th>Division UPP Bus. Unit</th>
<th>Seed UPP Bus. Unit</th>
<th>UPMC Clinical Trials</th>
<th>Total Division</th>
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<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$1,071,162</td>
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<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
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<td>$-</td>
<td>$-</td>
</tr>
<tr>
<td>Utilities and Telephone</td>
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<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
</tr>
<tr>
<td>Professional Services &amp; Subcontracts</td>
<td>$4,530</td>
<td>$42,953</td>
<td>$-</td>
<td>$751,081</td>
<td>$-</td>
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<td>$-</td>
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<td>$798,564</td>
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<td>Travel and Business</td>
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<td>$2,450</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$29,220</td>
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<td>Transfers(b)</td>
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<td>$(560,597)</td>
<td>$-</td>
<td>$(752,064)</td>
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<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$752,064</td>
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<tr>
<td>Total Operating Expenses</td>
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<td>$(2,884,924)</td>
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<td>$-</td>
<td>$-</td>
<td>$-</td>
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<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$-</td>
<td>$1,260,651</td>
</tr>
</tbody>
</table>

(a) Rent includes step-down and external rent costs.

(b) Mostly represents transfers between funds within the DOM.

**Source:** Department of Medicine, UPMC and University of Pittsburgh General Ledgers

**Prepared by:** Division of Cardiology Finance Staff

---

| Department of Medicine | http://www.dom.pitt.edu | FY 2016-2017 |
# TABLE 6 – DEPARTMENT BUDGET

**SCHOOL OF MEDICINE AND UNIVERSITY OF PITTSBURGH PHYSICIANS**  
**DEPARTMENT OF MEDICINE**

**Fiscal Year 2018 Budget of Financial Activity**

<table>
<thead>
<tr>
<th>Department</th>
<th>Vascular Division</th>
<th>Seed Medicine</th>
<th>UPP</th>
<th>UPP UPMC</th>
<th>Total</th>
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<tbody>
<tr>
<td></td>
<td>Hard Money</td>
<td>Restricted</td>
<td>Self Support</td>
<td>Research</td>
<td>Institute</td>
</tr>
<tr>
<td>Revenue:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Net Patient Service Revenue</td>
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<td>-</td>
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<td>8,003,741</td>
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<td>Grant Indirect Cost Recovery</td>
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<td>-</td>
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<td>-</td>
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<td>UPP Academic Support</td>
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<td>304,962</td>
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<tr>
<td>Total Revenue</td>
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<td>18,701,240</td>
<td>304,962</td>
<td>57,313,658</td>
<td>10,201,817</td>
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<table>
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<th>Expenses:</th>
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<th>Research</th>
<th>Institute</th>
<th>Bus. Unit</th>
<th>Bus. Unit</th>
<th>Clinical Trials</th>
<th>Department</th>
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</thead>
<tbody>
<tr>
<td>Salaries and Fringe:</td>
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<td>4,541,179</td>
<td>104,390,358</td>
<td>749,242</td>
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<td>17,267,439</td>
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<td>418,663</td>
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<td>12,502,675</td>
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<td>958,896</td>
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<td>191,701,659</td>
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Department of Medicine  
http://www.dom.pitt.edu
## DEPARTMENT OF MEDICINE

**Fiscal Year 2018 Budget of Financial Activity**

### Total Department (a)

<table>
<thead>
<tr>
<th>Operating Expenses:</th>
<th>Hard Money</th>
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<th>Self Support</th>
<th>Research</th>
<th>Vascular Medicine</th>
<th>UPP</th>
<th>Seed UPP</th>
<th>UPP Clinical</th>
<th>UPP Trials</th>
<th>Total Department</th>
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<tbody>
<tr>
<td>Supplies and Minor Equipment</td>
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<td>181,345</td>
<td>5973</td>
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<td>Step-down/Overhead</td>
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<td>-</td>
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<td><strong>Total Expenses</strong></td>
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<td>20,018,362</td>
<td>304,962</td>
<td>57,313,686</td>
<td>10,133,365</td>
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<td>7,021,419</td>
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**Excess/(deficit) of revenue over expenses:**

- (1,317,122) - - 68,422 (1,733,307) (4,880,778) 1,191,837 (6,670,948)

**Source:** Department of Medicine, UPMC and University of Pittsburgh General Ledgers

**Prepared by:** Department of Medicine Finance

[http://www.dom.pitt.edu](http://www.dom.pitt.edu)
### TABLE 7 — COST RESEARCH EXPENDITURES

**UNIVERSITY OF PITTSBURGH–DEPARTMENT OF MEDICINE**

Total Direct Cost Research Expenditures (a)  
Fiscal Years 2015-2017

<table>
<thead>
<tr>
<th>Division</th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>$12,797,018</td>
<td>$10,259,291</td>
<td>$12,223,026</td>
<td>19%</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>1,813,113</td>
<td>1,418,103</td>
<td>1,267,992</td>
<td>-10.5%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>2,797,016</td>
<td>2,665,905</td>
<td>2,932,571</td>
<td>10%</td>
</tr>
<tr>
<td>General Medicine</td>
<td>15,227,841</td>
<td>14,945,291</td>
<td>16,330,413</td>
<td>9%</td>
</tr>
<tr>
<td>Geriatric Medicine</td>
<td>1,468,613</td>
<td>2,326,460</td>
<td>3,019,770</td>
<td>30%</td>
</tr>
<tr>
<td>Hematology/Oncology</td>
<td>14,780,260</td>
<td>14,166,254</td>
<td>14,463,991</td>
<td>2%</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>8,566,425</td>
<td>8,832,607</td>
<td>9,339,363</td>
<td>5.7%</td>
</tr>
<tr>
<td>Other</td>
<td>1,005,924</td>
<td>100,068</td>
<td>54,330</td>
<td>-46%</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>14,509,974</td>
<td>16,264,723</td>
<td>17,966,306</td>
<td>10.4%</td>
</tr>
<tr>
<td>Renal-Electrolyte</td>
<td>4,284,727</td>
<td>5,023,144</td>
<td>5,542,247</td>
<td>10%</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>4,510,005</td>
<td>3,576,961</td>
<td>3,320,739</td>
<td>-7%</td>
</tr>
<tr>
<td>Vascular Medicine Institute</td>
<td>7,510,745</td>
<td>8,051,528</td>
<td>8,385,342</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$89,271,661</td>
<td>$87,630,336</td>
<td>$94,846,091</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Indirects</strong></td>
<td>$28,171,527</td>
<td>$29,522,172</td>
<td>$32,426,789</td>
<td>9.8%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>$117,443,188</td>
<td>$117,152,509</td>
<td>$127,272,880</td>
<td>8.6%</td>
</tr>
</tbody>
</table>

*(g) Amounts do not agree with the respective amounts in Table 5 due to the inclusion of UPMC Hillman Cancer Center (Hematology/Oncology) directs and indirects within Table 8 on this page.*

**Source:** University of Pittsburgh RPAR Report, VAPHS, UPMC Clinical Trials  
**Prepared by:** Department of Medicine, Research Administration

http://www.dom.pitt.edu
### TABLE 8 — DIRECT COST RESEARCH EXPENDITURES BY TYPE

**UNIVERSITY OF PITTSBURGH—DEPARTMENT OF MEDICINE**

Total Direct Cost Research Expenditures by Type  
Fiscal Year 2015-2017

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$11,969,946</td>
<td>$9,371,362</td>
<td>$10,613,553</td>
<td>13 %</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>140,418</td>
<td>12,780</td>
<td>41,063</td>
<td>221 %</td>
</tr>
<tr>
<td>Other</td>
<td>686,654</td>
<td>875,150</td>
<td>1,568,410</td>
<td>79 %</td>
</tr>
<tr>
<td><strong>Subtotal Cardiology</strong></td>
<td>$12,797,018</td>
<td>$10,259,291</td>
<td>$12,223,026</td>
<td>19%</td>
</tr>
<tr>
<td>Endocrinology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$945,858</td>
<td>$886,708</td>
<td>$736,731</td>
<td>-17%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>279,189</td>
<td>3,266</td>
<td>0</td>
<td>___</td>
</tr>
<tr>
<td>Other</td>
<td>588,066</td>
<td>528,128</td>
<td>531,261</td>
<td>0.60%</td>
</tr>
<tr>
<td><strong>Subtotal Endocrinology</strong></td>
<td>$1,813,113</td>
<td>$1,418,103</td>
<td>$1,267,992</td>
<td>-10.5%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$1,337,408</td>
<td>$1,431,690</td>
<td>$1,995,783</td>
<td>39%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>685,509</td>
<td>503,089</td>
<td>539,841</td>
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</tr>
<tr>
<td>Other</td>
<td>774,099</td>
<td>396,948</td>
<td>531,261</td>
<td>-45.7%</td>
</tr>
<tr>
<td><strong>Subtotal Gastroenterology</strong></td>
<td>$2,797,016</td>
<td>$2,665,905</td>
<td>$2,932,572</td>
<td>10%</td>
</tr>
<tr>
<td>General Medicine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$11,093,253</td>
<td>$11,269,666</td>
<td>$11,944,745</td>
<td>6%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>3,785</td>
<td>1,566</td>
<td>114,880</td>
<td>7,23%</td>
</tr>
<tr>
<td>Other</td>
<td>4,130,803</td>
<td>3,674,060</td>
<td>4,270,788</td>
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</tr>
<tr>
<td><strong>Subtotal General Medicine</strong></td>
<td>$15,227,841</td>
<td>$14,945,291</td>
<td>$16,330,413</td>
<td>9%</td>
</tr>
<tr>
<td>Geriatric Medicine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$921,876</td>
<td>$1,744,861</td>
<td>$2,383,605</td>
<td>37%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>10,611</td>
<td>56,110</td>
<td>40,392</td>
<td>-28%</td>
</tr>
<tr>
<td>Other</td>
<td>536,126</td>
<td>525,489</td>
<td>595,773</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Subtotal Geriatric Medicine</strong></td>
<td>$1,468,613</td>
<td>$2,326,460</td>
<td>$3,019,770</td>
<td>29.8%</td>
</tr>
</tbody>
</table>
### Key Stats FY 2016-2017

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>%Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hematology/Oncology</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$7,940,523</td>
<td>$7,192,572</td>
<td>$6,945,064</td>
<td>-3.4%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>3,575,855</td>
<td>3,900,714</td>
<td>3,891,450</td>
<td>-0.23%</td>
</tr>
<tr>
<td>Other</td>
<td>3,263,882</td>
<td>3,072,969</td>
<td>3,627,477</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Subtotal Hematology/Oncology</strong></td>
<td><strong>$14,780,260</strong></td>
<td><strong>$14,166,254</strong></td>
<td><strong>$14,463,991</strong></td>
<td><strong>2%</strong></td>
</tr>
<tr>
<td><strong>Infectious Diseases</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$5,095,338</td>
<td>$5,316,331</td>
<td>$5,778,569</td>
<td>9%</td>
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<tr>
<td>Pharmaceutical</td>
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<td>342,859</td>
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<td>32%</td>
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<tr>
<td>Other</td>
<td>2,764,798</td>
<td>3,173,418</td>
<td>3,109,491</td>
<td>-2%</td>
</tr>
<tr>
<td><strong>Subtotal Infectious Diseases</strong></td>
<td><strong>$8,566,425</strong></td>
<td><strong>$8,832,607</strong></td>
<td><strong>$9,339,363</strong></td>
<td><strong>6%</strong></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$987,321</td>
<td>$100,162</td>
<td>$49,518</td>
<td>-51%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>___</td>
</tr>
<tr>
<td>Other</td>
<td>18,595</td>
<td>-95</td>
<td>4,812</td>
<td>___</td>
</tr>
<tr>
<td><strong>Subtotal Other</strong></td>
<td><strong>$1,005,924</strong></td>
<td><strong>$100,068</strong></td>
<td><strong>$54,330</strong></td>
<td><strong>-45%</strong></td>
</tr>
<tr>
<td><strong>Pulmonary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$11,193,251</td>
<td>$12,543,723</td>
<td>$13,678,462</td>
<td>9%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>1,296,845</td>
<td>1,031,002</td>
<td>1,300,358</td>
<td>26%</td>
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<tr>
<td>Other</td>
<td>2,019,878</td>
<td>2,689,997</td>
<td>2,987,485</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Subtotal Pulmonary</strong></td>
<td><strong>$14,509,974</strong></td>
<td><strong>$16,264,723</strong></td>
<td><strong>$17,966,305</strong></td>
<td><strong>10%</strong></td>
</tr>
<tr>
<td><strong>Renal-Electrolyte</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$3,778,813</td>
<td>$4,430,913</td>
<td>$4,898,245</td>
<td>11%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>31,190</td>
<td>35,909</td>
<td>1,768</td>
<td>-95%</td>
</tr>
<tr>
<td>Other</td>
<td>474,724</td>
<td>962,398</td>
<td>642,234</td>
<td>-33%</td>
</tr>
<tr>
<td><strong>Subtotal Renal-Electrolyte</strong></td>
<td><strong>$4,284,727</strong></td>
<td><strong>$5,023,144</strong></td>
<td><strong>$5,542,247</strong></td>
<td><strong>10%</strong></td>
</tr>
<tr>
<td><strong>Rheumatology</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$2,571,895</td>
<td>$1,817,928</td>
<td>$1,753,205</td>
<td>-3.5%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>1,315,965</td>
<td>796,635</td>
<td>646,815</td>
<td>-19%</td>
</tr>
<tr>
<td>Other</td>
<td>622,145</td>
<td>962,398</td>
<td>920,719</td>
<td>-4.3%</td>
</tr>
<tr>
<td><strong>Subtotal Rheumatology</strong></td>
<td><strong>$4,510,005</strong></td>
<td><strong>$3,576,961</strong></td>
<td><strong>$3,320,739</strong></td>
<td><strong>-7%</strong></td>
</tr>
</tbody>
</table>

Department of Medicine  
http://www.dom.pitt.edu
### Key Stats FY 2016-2017

**Department of Medicine**

http://www.dom.pitt.edu

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(h) Amount does not agree with the respective amount on Table 5 due to the inclusion of UPMC Hillman Cancer Center, Hematology/Oncology, UPMC Clinical Trials, and CTSI directs and indirects within Table 9 on this page.

Source: University of Pittsburgh RPAR Report, VAPHS, UPMC Clinical Trials

Prepared by: Department of Medicine, Research Administration

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vascular Medicine Institute</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$2,644,182</td>
<td>$3,423,096</td>
<td>$4,312,801</td>
<td>26%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>89,782</td>
<td>280,217</td>
<td>554,068</td>
<td>98%</td>
</tr>
<tr>
<td>Other</td>
<td>4,776,781</td>
<td>4,348,216</td>
<td>3,518,473</td>
<td>-19%</td>
</tr>
<tr>
<td><strong>Subtotal VMI</strong></td>
<td>$7,510,745</td>
<td>$8,051,528</td>
<td>$8,385,342</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$60,479,664</td>
<td>$59,529,010</td>
<td>$65,090,281</td>
<td>9%</td>
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<td>Pharmaceutical</td>
<td>8,135,446</td>
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</tr>
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<td>20,656,551</td>
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<td>5%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$89,271,661</td>
<td>$87,630,336</td>
<td>$94,846,091</td>
<td>8%</td>
</tr>
</tbody>
</table>

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(b) (b)
### TABLE 9 – DEPARTMENT RESEARCH ACTIVITY SUMMARY BY DIVISION

**UNIVERSITY OF PITTSBURGH–DEPARTMENT OF MEDICINE**

Summary of Direct and Indirect Awarded Research by Division
Fiscal Year 2016-2017

<table>
<thead>
<tr>
<th>DIRECT COSTS BY DIVISION</th>
<th>PHS</th>
<th>FEDERAL</th>
<th>VA</th>
<th>STATE</th>
<th>SOC&amp;FDN</th>
<th>INDUSTRY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>$9,688,527</td>
<td>$400,151</td>
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<td>$751,108</td>
<td>$952,440</td>
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<tr>
<td>Endocrinology and Metabolism</td>
<td>$958,749</td>
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<td></td>
<td></td>
<td>$264,023</td>
<td>$26,930</td>
<td>$1,249,702</td>
</tr>
<tr>
<td>Gastroenterology, Hepatology &amp; Nutrition</td>
<td>$2,465,599</td>
<td>$200,112</td>
<td></td>
<td></td>
<td>$220,873</td>
<td>$1,282,480</td>
<td>$4,169,064</td>
</tr>
<tr>
<td>General Internal Medicine</td>
<td>$10,838,172</td>
<td>$129,048</td>
<td>$2,916,657</td>
<td>$7,375</td>
<td>$2,512,754</td>
<td>$61,683</td>
<td>$16,465,689</td>
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<td>Geriatric Medicine</td>
<td>$3,490,184</td>
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<td>$14,700</td>
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<td>$204,182</td>
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<td>$3,712,297</td>
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<td>$1,294,310</td>
<td>$2,154,530</td>
<td>$15,661,329</td>
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<td>Infectious Disease</td>
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<td>$1,679,420</td>
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<td>Pulmonary, Allergy and Critical Care Med</td>
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<td></td>
<td>$1,302,813</td>
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<td>Renal-Electrolyte</td>
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<td>$60,245</td>
<td>$5,781,045</td>
<td></td>
<td>$5,781,045</td>
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<td>$1,993,187</td>
<td>$4,702,468</td>
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<tr>
<td>Vascular Medicine Institute</td>
<td>$5,403,459</td>
<td>$243,712</td>
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<td>$3,187,949</td>
<td>$10,187,647</td>
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<td></td>
</tr>
<tr>
<td>Other</td>
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<td></td>
<td>$5,722</td>
<td></td>
<td>$59,978</td>
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<tr>
<td><strong>Totals</strong></td>
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<td>$2,263,688</td>
<td>$2,931,357</td>
<td>$1,301,685</td>
<td>$11,766,687</td>
<td>$25,244,665</td>
<td>$114,572,978</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDIRECT COST BY DIVISION</th>
<th>PHS</th>
<th>FEDERAL</th>
<th>VA</th>
<th>STATE</th>
<th>SOC&amp;FDN</th>
<th>INDUSTRY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>$4,643,052</td>
<td>$70,584</td>
<td></td>
<td></td>
<td>$86,066</td>
<td>$345,955</td>
<td>$5,145,657</td>
</tr>
<tr>
<td>Endocrinology and Metabolism</td>
<td>$363,835</td>
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<td></td>
<td></td>
<td>$82,424</td>
<td>$7,337</td>
<td>$453,596</td>
</tr>
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<td>Gastroenterology, Hepatology &amp; Nutrition</td>
<td>$1,032,246</td>
<td>$81,197</td>
<td></td>
<td></td>
<td>$18,026</td>
<td>$345,383</td>
<td>$1,476,852</td>
</tr>
<tr>
<td>General Internal Medicine</td>
<td>$2,974,704</td>
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<td>$885</td>
<td>$877,192</td>
<td>$15,421</td>
<td>$3,918,988</td>
</tr>
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<td>Geriatric Medicine</td>
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<td>$55,325</td>
<td>$808</td>
<td>$1,321,165</td>
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<td></td>
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<tr>
<td>Hematology/Oncology</td>
<td>$3,436,542</td>
<td>$114,188</td>
<td>$257,764</td>
<td>$499,081</td>
<td>$3,897,127</td>
<td>$8,268,072</td>
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<tr>
<td>Infectious Disease</td>
<td>$3,319,060</td>
<td>$165,644</td>
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<td></td>
<td>$29,322</td>
<td>$499,081</td>
<td>$4,013,107</td>
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<tr>
<td>Pulmonary, Allergy and Critical Care Med</td>
<td>$6,131,777</td>
<td>$70,007</td>
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<td>$122,440</td>
<td>$265,795</td>
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<td>Renal-Electrolyte</td>
<td>$2,101,123</td>
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<td>$73,413</td>
<td>$14,037</td>
<td>$2,188,573</td>
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<tr>
<td>Rheumatology and Immunology</td>
<td>$1,153,712</td>
<td>$31,996</td>
<td></td>
<td>$633,594</td>
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<tr>
<td>Vascular Medicine Institute</td>
<td>$2,394,089</td>
<td>$98,046</td>
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<td>$443,071</td>
<td>$385,899</td>
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<tr>
<td>Other</td>
<td>$26,088</td>
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<td></td>
<td>$26,088</td>
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<tr>
<td><strong>Totals</strong></td>
<td>$28,841,260</td>
<td>$650,452</td>
<td>$0</td>
<td>$258,649</td>
<td>$2,381,726</td>
<td>$6,410,439</td>
<td>$38,542,526</td>
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### TABLE 10 – EDUCATIONAL CREDIT UNITS

**UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MEDICINE**

ECUs Earned in 2017 and Allocated in 2018 Budget

<table>
<thead>
<tr>
<th>Department</th>
<th>Total ECUs</th>
<th>ECU dollars</th>
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<tbody>
<tr>
<td>Chair (including Clinical Pharmacology)</td>
<td>983.2</td>
<td>88,641</td>
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<tr>
<td>Endocrinology</td>
<td>627.2</td>
<td>56,546</td>
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<tr>
<td>Gastroenterology</td>
<td>858.3</td>
<td>77,381</td>
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<tr>
<td>General Medicine</td>
<td>15,574.0</td>
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<tr>
<td>Geriatric Medicine</td>
<td>726.8</td>
<td>65,525</td>
</tr>
<tr>
<td>Hematology/Oncology</td>
<td>1,430.5</td>
<td>128,968</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>1,515.8</td>
<td>136,658</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>2,369.4</td>
<td>213,615</td>
</tr>
<tr>
<td>Renal</td>
<td>2,038.2</td>
<td>183,755</td>
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<tr>
<td>Rheumatology</td>
<td>1,289.0</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>27,412.4</strong></td>
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<tr>
<td>Cardiology</td>
<td>1,479.5</td>
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<tr>
<td><strong>Grand Total</strong></td>
<td><strong>28,891.9</strong></td>
<td><strong>2,604,771</strong></td>
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### TABLE 11 – U.S. NEWS & WORLD REPORT RANKINGS BY DIVISION

**U.S. NEWS & WORLD REPORT**  
UPMC Rankings and Reputation Scores 2016-2017

**Nationally Ranked Medical Specialties**  
Department of Medicine

<table>
<thead>
<tr>
<th>UPMC Specialty Rankings</th>
<th>2017 Ranking</th>
<th>2016 Ranking</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honor Roll</td>
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<td>12</td>
<td>2</td>
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<tr>
<td>Specialty Areas</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cancer</td>
<td>35</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>Cardiology &amp; Heart Surgery</td>
<td>20</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>Diabetes &amp; Endocrinology</td>
<td>8</td>
<td>32</td>
<td>24</td>
</tr>
<tr>
<td>Gastroenterology &amp; GI Surgery</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>11</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Nephrology</td>
<td>35</td>
<td>33</td>
<td>2</td>
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<tr>
<td>Pulmonology</td>
<td>5</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>11</td>
<td>9</td>
<td>2</td>
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</table>

Source: Methodology: U.S. News & World Report Best Hospitals 2017-2018  
Prepared by: UPMC Strategic Planning
# TABLE 12 – ASCI AND AAP MEMBERSHIP BY DIVISION

THE AMERICAN SOCIETY FOR CLINICAL INVESTIGATORS (ASCI) & ASSOCIATION OF AMERICAN PHYSICIANS (AAP)

FY 2016-2017 Current Members
Department of Medicine

<table>
<thead>
<tr>
<th>ASCI MEMBERS</th>
<th>AAP MEMBERS</th>
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</thead>
<tbody>
<tr>
<td><strong>Cardiology</strong></td>
<td><strong>General Internal Medicine</strong></td>
</tr>
<tr>
<td>Stephen Y. Chan</td>
<td>Michael J. Fine</td>
</tr>
<tr>
<td>Steven Reis</td>
<td>Wishwa Kapoor</td>
</tr>
<tr>
<td>Flordeliza Villanueva</td>
<td></td>
</tr>
<tr>
<td><strong>Endocrinology and Metabolism</strong></td>
<td><strong>Hematology/Oncology</strong></td>
</tr>
<tr>
<td>Frederick DeRubertis</td>
<td>John Kirkwood</td>
</tr>
<tr>
<td><strong>Gastroenterology, Hepatology and Nutrition</strong></td>
<td><strong>Infectious Diseases</strong></td>
</tr>
<tr>
<td>David C. Whitcomb</td>
<td>John Mellors</td>
</tr>
<tr>
<td><strong>General Internal Medicine</strong></td>
<td><strong>Miscellaneous Medicine</strong></td>
</tr>
<tr>
<td>Michael J. Fine</td>
<td>Arthur S. Levine</td>
</tr>
<tr>
<td>Wishwa Kapoor</td>
<td></td>
</tr>
<tr>
<td><strong>Infectious Diseases</strong></td>
<td><strong>Pulmonary, Allergy and Critical Care Medicine</strong></td>
</tr>
<tr>
<td>Lee Harrison</td>
<td>Mark Gladwin</td>
</tr>
<tr>
<td><strong>Miscellaneous Medicine</strong></td>
<td>Rama Mallampalli</td>
</tr>
<tr>
<td>Siamak Adibi</td>
<td>Steven D. Shapiro</td>
</tr>
<tr>
<td>Robert Branch</td>
<td>Sally Wenzel</td>
</tr>
<tr>
<td>Arthur Levine</td>
<td></td>
</tr>
<tr>
<td><strong>Pulmonary, Allergy and Critical Care Medicine</strong></td>
<td><strong>Renal-Electrolyte</strong></td>
</tr>
<tr>
<td>Mark Gladwin</td>
<td>Thomas Kleyman</td>
</tr>
<tr>
<td>Janet S. Lee</td>
<td></td>
</tr>
<tr>
<td>Rama Mallampalli</td>
<td></td>
</tr>
<tr>
<td>Alison Morris</td>
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<tr>
<td>Steven D. Shapiro</td>
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<tr>
<td>Yutong Zhao</td>
<td></td>
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<tr>
<td><strong>Renal-Electrolyte</strong></td>
<td></td>
</tr>
<tr>
<td>Thomas Kleyman</td>
<td></td>
</tr>
<tr>
<td><strong>Rheumatology and Clinical Immunology</strong></td>
<td></td>
</tr>
<tr>
<td>Larry W. Moreland</td>
<td></td>
</tr>
</tbody>
</table>
MEDICAL EDUCATION

MELISSA MCNEIL MD MPH
Professor of Medicine, Obstetrics, Gynecology and Reproductive Sciences
Vice Chair, Education

JENNIFER CORBELLI MD MS
Assistant Professor of Medicine
Program Director, Internal Medicine Residency

FRANK J. KROboth MD
Professor of Medicine, Division of General Internal Medicine
Assistant Dean for Graduate Medical Education

WISHWA N. KAPOOR MD MPH
Distinguished Service Professor and Falk Professor of Medicine
Professor of Health Policy and Management and Clinical and Translational Science
Director, Institute for Clinical Research Education
Co-Director, RAN-University of Pittsburgh Health Institute
Associate Director, Clinical and Translational Science Institute

Mission and Overview

Education is one of the major missions of the Department of Medicine (DOM). The chief areas of activity are medical student teaching, resident teaching, fellow teaching, advanced degree education, and continuing medical education. These areas are described below. Some areas are also described elsewhere in this report.

MEDICAL STUDENT TEACHING

The DOM provides extensive leadership and teaching of medical students, both in the preclinical years and in the clinical years. All subspecialty divisions are major contributors to the problem-based learning curriculum that comprises the first two years of medical school. A review of the curriculum reveals that DOM faculty members direct three of the five major blocks and 17 of the 29 courses. Thirty-one percent of all education credit units (ECUs) generated by the clinical departments for medical school teaching activity are generated by the DOM.

In the clinical years, all Divisions of the DOM are active. The Division of General Internal Medicine directs the Adult Inpatient Medicine Clerkship (AIMC), the Combined Ambulatory Medicine and Pediatrics Clerkship (CAMPC), and the Acting Internship in Internal Medicine, while members of the Division of Pulmonary, Allergy, and Critical Care Medicine direct the Medical Intensive Care Unit Clerkship. The AIMC eight-week inpatient rotation is the longest inpatient experience of the clinical curriculum, and it is considered the cornerstone of the medical students’ clinical education in the School of Medicine. The CAMPC eight-week block, which includes four weeks of pediatrics, reflects the importance placed on ambulatory experiences. The DOM provides a majority of the faculty for the CAMPC. Between the AIMC and the internal medicine component of the CAMPC, students spend 25% of the basic clerkship year in internal medicine. In their fourth year, most students take advantage of the DOM’s acting internships in inpatient internal medicine and the medical intensive care unit. In addition, every subspecialty offers elective experiences. These electives include varying amounts of inpatient, consultative, and ambulatory experiences.
With regard to research education, the DOM faculty members are actively involved in the Clinical Scientist Training Program (CSTP) and teach most of the courses in clinical and translational sciences. DOM faculty members are also actively involved as mentors for the required medical student research projects, and they participate in relevant MD and PhD education projects.

In addition to teaching, DOM members have major leadership roles in the School of Medicine. Many of the originators and earliest members of the Academy of Master Educators were from the DOM. The chairs and major advisers to the Student Promotions Committee, Student Honors Committee, Curriculum Committee, Student Health Advocacy Resource Program (SHARP), Honor Council, Humanism Honor Society, and Alpha Omega Alpha Honor Society are from the DOM. In addition, members of the DOM direct the majority of the Area of Concentration Programs (Women’s Health, Global Health, and Humanities). Finally, DOM members serve as an advisory Dean, Medical Director of the Standardized Patient Program and Assistant Dean for Global Health.

RESIDENCY EDUCATION AND TRAINING PROGRAM

The DOM invests great effort in the education of residents. While the centerpiece of this effort is the Internal Medicine Residency Program, the DOM also supports three other outstanding residency programs: the Medicine-Pediatrics Residency Program, the Preliminary Program, and the Transitional Program. In addition, it supports the training of residents from other specialties, such as emergency medicine, neurology, and anesthesiology, as well as residents who rotate from UPMC community hospitals.

The Internal Medicine Residency Program serves as an educational model for providing breadth and depth of educational opportunities. The program is well recognized for its ability to provide individualized training for each future physician while maintaining a focus on core knowledge and skills development. The program does this with career tracks in global health, women’s health, general internal medicine, geriatrics, and research tracks that include clinical scientist training, international scholar training, and a dedicated research pathway for physician-scientists. The track system is enhanced by an advising program that pairs each resident with a faculty mentor who is also a member of the clinic precepting team.

The newest initiative in the residency is the development of the Medical Education Certificate. This is a two-year program that provides residents interested in enhancing their teaching abilities to receive additional focused training on educational theory and skills. Residents enrolled in the certificate meet monthly and have additional opportunities to teach medical students and fellow residents; they also develop educational portfolios. The program has been hugely successful with 22 PGY2s and PGY3s participating.

The residency program’s approach to medical education combines expertise in systems-based practice, educational methodology, and direct patient care. The redesign of residency training is based on two principles—the first of which is to sustain the highly successful scientific curriculum, and the second is to add new areas of training for physicians to be successful in 21st-century health care.

The DOM provides strong support for clinical and educational innovation and improvement in terms of faculty and resources. Residents continue to excel in research, with the assistance of our subspecialty and general internal medicine mentors. The programs in place that have helped to support the research include the Clinical Scientist Track, the International Scholars Track, and the American Board of Internal Medicine (ABIM) Research Pathway (fast track), and the required research commitment for all residents through the LEAD (Leadership and Discovery) Program.

LEAD, an initiative begun in 2012 to enhance residents’ scholarly activities, is supported by the DOM leadership and includes salary support for a director and co-directors. The program is led by a clinical researcher and has an executive committee that includes co-directors in each of the following areas: basic science research, medical education
research, quality improvement, ethics, and humanities. Support from the DOM Division directors includes the identification of a resident research point person in each Division and the development of a catalog of projects suitable for resident participation. Significantly larger proportions of post-LEAD, compared with pre-LEAD, categorical residents presented at a scientific conference (48% vs 29%, p = .03) and presented at a conference and published a peer review paper (23% vs 10%, p = 0.05). Post-LEAD residents also had a larger mean number of presentations and/or publications than pre-LEAD residents (1.3 vs 0.7, p = .02). Because of increased involvement in research, the DOM supports a separate evening event to showcase resident research projects. This event has become part of the Annual DOM Resident Research Day and will continue with oral presentations, posters, and a keynote address.

The Subspecialty Education Coordinators (SEC) Committee has enhanced subspecialty education across teaching venues. New electives have been created to highlight the breadth of opportunities within each subspecialty. Committee members have been instrumental in recruitment and mentoring, and they have also been helping to devise core content curriculum for the Internal Medicine Residency Program to ensure that it is graduating well-rounded, competent internists. The SECs have served as advisors and liaisons for the residents to find mentors, educational opportunities, and fellowships. This year, the SEC group helped to redesign inpatient evaluations in an evidence-based way and have developed curricula including use of MKSAP questions on their subspecialty rotations.

The DOM continues to have an active Diversity and Inclusion Committee, which draws members from the residency, fellowships and faculty throughout the Department. The committee seeks to foster acceptance and to celebrate diversity, and to recruit, support and retain trainees of diverse backgrounds and experiences. Its focus also includes life in Pittsburgh, networking, mentorship, and professional support.

The residency program is attracting increasingly outstanding and diverse candidates from highly regarded institutions around the world. Applicants indicate that they have been most impressed by the relationships between the residents and faculty, including the multiple opportunities for mentoring through formal mentoring programs as well as informal mentoring from preceptors, hospitalists, research mentors, and consultant attending physicians. Applicants have also been impressed by the support and involvement of the DOM chair and vice chairs in promoting outstanding educational experiences within one of the top health care systems in the country where training is focused on developing physician leaders committed to lifelong inquiry in the field of medicine.

**FELLOWSHIP TRAINING PROGRAMS**

The DOM offers fellowship training in all subspecialties of medicine in Accreditation Council for Graduate Medical Education (ACGME) accredited and non-accredited programs. This academic year, 129 fellows are in training in 15 accredited programs as well as in some non-accredited programs. The fellowship programs are highly competitive and enroll outstanding fellows.

In addition to excellent clinical care, the fellows are highly productive in research. In AY 2017, accredited fellows alone produced 85 publications, delivered 81 scientific presentations, and were awarded 40 teaching honors or grants. The General Medicine Fellowship (non-accredited) produced an additional 31 presentations, 14 publications, and 11 awards. Traditionally, half of the medical center’s T32-sponsored fellows are in the DOM. Of our graduates for 2017, 47% obtained faculty appointments, and 22% obtained advanced specialty fellowships. Historically, more than one-third of our graduates stay at UPMC; this year, we retained 49% of our graduates.

We now have 15 ACGME-accredited fellowship programs, including programs in palliative care, hepatology, and advanced heart failure. In addition, the DOM sponsors well-established non-accredited fellowship programs (in general internal medicine, transplant pulmonary medicine, transplant nephrology, transplant infectious diseases, advanced endocrinology, cardiac imaging, advanced cardiac electrophysiology, advanced interventional cardiology and hospice and palliative medicine). These programs offer post subspecialty-level expertise available only in a select number of
major departments of medicine. There are also a number of fellows engaged in one or more years of research before or after their formal training years.

DOM faculty members are active in faculty development efforts at the departmental and institutional levels. The program directors are formally organized into the Common Fellowship Curriculum Committee (CFCC), which meets bimonthly to share and disseminate best educational practices for the fellowships. Examples of our fellowships' academic products, shared with the committee, include milestone development, an electronic portfolio system, an electronic subspecialty library, and two divisions' versions of next-generation procedural competency assessment tools. The CFCC serves as a model for fellowship committees in other departments. The Fellowship Program Coordinators Committee was formed to ensure optimal synchrony of directors’ and coordinators’ efforts. The results of the last RRC accreditation visits to 12 fellowships attest to the effectiveness of our committee’s work. We have now entered the Next Accreditation System, the components and requirements of which are occupying our CFCC and are influencing our faculty development efforts. Site visits are infrequent, but there is vigorous institutional surveillance, and survey data are collected yearly from fellows and faculty. The survey results are collated and shared annually at CFCC as a basis for continual improvement.

DOM faculty members also teach in courses that are offered to fellows in other departments. For example, they teach in the pediatrics core fellowship curriculum in which pediatrics fellows join the basic research course offered by the Division of Pulmonary, Allergy, and Critical Care Medicine. In addition, the efforts at measuring fellowship program outcomes and organizing fellowships within the DOM are shared by other departments and centers through the assistant dean for graduate medical education, who is from the DOM. There are five other departments with similar fellowship committees.

The DOM fellowships were poised for new growth, but now face a future of uncertain government funding and institutional restraint. While the CFCC continues to develop best practices for all our fellowships, the DOM and the University will assess the outcomes of each program, and some, such as the Division of Cardiology, are even reducing their size in response to national workforce indicators.

ADVANCED DEGREE AND CAREER DEVELOPMENT

In addition to the clinical fellowships offered through the medical center’s graduate medical education programs, the DOM has established a variety of research training and education opportunities for fellows and other individuals who are completing extra years of training to conduct research. Many of these programs offer a separate degree or certification through the Institute for Clinical Research Education (ICRE).

The ICRE, under the direction of Wishwa Kapoor, MD, MPH, brings all of the clinical and translational research education efforts under one organizational structure and into one physical space. The ICRE’s mission is to offer the highest caliber of training and education in clinical and translational research—to all levels of trainees in the Schools of the Health Sciences and to enhance collaboration among clinical research trainees and researchers from multiple disciplines. With funding from the Clinical and Translational Science Institute (CTSI), the ICRE is the home of the Research Education and Career Development Core of the CTSI. The ICRE provides training and career development for clinical and translational scientists at each stage, ranging from brief research experiences to participation in doctoral degree programs. While ICRE’s leadership and core faculty are primarily from the Department of Medicine, other faculty and mentors are from all disciplines and from all six Schools of the Health Sciences. Details about the ICRE can be found at www.icre.pitt.edu.

The ICRE training and career development programs are customized to meet the needs of students who are from diverse training backgrounds and are conducting research in a variety of areas. Mentor-mentee training, research-in-progress presentations, and special seminars are used to enhance the students’ careers.
Degree Programs

- **PhD Program in Clinical and Translational Science (CTS).** The PhD program is a rigorous training program designed to teach advanced knowledge of concepts needed to conduct independent and innovative research.

- **MS and Certificate Programs in Clinical Research (CLRES).** The MS and certificate programs are for students who want intense training in design and implementation of high-quality clinical research involving human subjects. The MS program also teaches grant proposal writing and contains four tracks: clinical trials research, health services research, comparative effectiveness research, and translational research.

- **MS and Certificate Programs in Medical Education (MEDEDU).** These programs provide a combination of clinical research courses and curriculum in medical education. Students complete a research or curriculum development project as part of their program.

- **Certificate Program in Comparative Effectiveness Research (CER).** This program is a multidisciplinary, comprehensive, and individualized training program designed for individuals who want additional, specialized training in CER. Trainees take the 8-credit CER core curriculum and select the remaining 7 credits from 16 elective courses. These elective offerings provide each trainee with the flexibility to focus on the particular method that is most relevant to his or her research interests.

Career Development Programs

- **Clinical Scientist Training Program (CSTP).** Medical students in the CSTP take an additional year for training to earn an MS or certificate and attend longitudinal seminars. The program provides medical students with a structured didactic and mentored experience in clinical and translational research.

- **Clinical Scientist Track (CST) and International Scholars Track (IST) for Residents.** Residents in the CST devote time during their residency to obtaining core training in clinical research and to conducting clinical research. Residents in the IST are accepted into the program at the time of the resident match.

- **Career Education and Enhancement for Health Care Research Diversity (CEED) Program.** This program is designed to support medical students, postdoctoral fellows, and faculty from underrepresented minority groups by providing them with the early mentoring and training needed for successful research careers.

- **Clinical Research Scholars Program (CRSP).** This flagship program, initially funded by the National Institutes of Health (NIH) Roadmap Initiative through the K12 mechanism, provides career development awards to faculty pursuing a research career.

- **RAMP to K Program.** This is a one-year program, offered every other year, to help senior postdoctoral fellows and junior faculty write a competitive career development award. Participants benefit from career development seminars as well as CLRES 2071 and 2072, the research design and development (grant writing) course. There was one participant this year.
• **Training Early Academic Mentors (TEAM) Program.** This one-year program is designed to increase the knowledge, skills, and practice of mentoring among new mentors, most of whom are junior or early-mid career faculty members. There were eight participants this year.

• **Patient-Centered Outcomes Research (PCOR) K12 Scholars Program.** The PCOR Program is a multidisciplinary, comprehensive, individualized career development K12 program funded by the Agency for Healthcare Research and Quality. The program provides training in comparative effectiveness research (CER) and PCOR, multidisciplinary mentoring, career guidance, and experiences in the conduct of CER and PCOR.

• **Research Education in Advancing Investigative Careers for Housestaff and Fellows (REACH) Program.** REACH is an intensive eight-week program designed to teach fundamental skills of clinical research to physicians in UPMC-affiliated residency and fellowship programs.

• **Expanding National Capacity in PCOR through Training (ENACT) Program.** ENACT forms collaborations with minority-serving institutions and provides basic, advanced, and experimental training in PCOR methods. The program sponsors a one-year fellowship to immerse fellows in a multidisciplinary environment; it enhances long-term PCOR infrastructure at partnering institutions by developing a leadership circle with former ENACT fellows.

**Goals for Fiscal Year 2017-2018**

• Successfully compete for the renewal of the Clinical and Translational Science Award education core, KL2, and TL1

• Successfully offer our summer core courses online and expand this model to other courses

• Expand programs for underrepresented minorities to further diversity the workforce
# RESIDENTS AND CLINICAL FELLOWS BY DIVISION

## RESIDENTS

<table>
<thead>
<tr>
<th>Department</th>
<th>Length of Program</th>
<th>FY 2003 (a)</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
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</thead>
<tbody>
<tr>
<td>Residents - UPMC PUH/SHY</td>
<td>3 years</td>
<td>132</td>
<td>115</td>
<td>160</td>
<td>154</td>
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<tr>
<td>Residents - UPMC Med/Peds</td>
<td>4 years</td>
<td>-</td>
<td>16</td>
<td>16</td>
<td>16</td>
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<tr>
<td>Residents - UPMC PUH</td>
<td>1 year</td>
<td>-</td>
<td>23</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Residents - UPMC SHY</td>
<td>3 years</td>
<td>70</td>
<td>36</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Residents - UPMC SHY (Fully Integrated)</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>202</strong></td>
<td><strong>196</strong></td>
<td><strong>205</strong></td>
<td><strong>195</strong></td>
</tr>
</tbody>
</table>

**(a)** Includes Residents from St. Francis Health System Program.

## FELLOWS

<table>
<thead>
<tr>
<th>Fellowships by Division (c)</th>
<th>Length of Program</th>
<th>FY 2014</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>3 years</td>
<td>32</td>
<td>29</td>
<td>28</td>
<td>27</td>
</tr>
<tr>
<td>Interventional and Advanced Interventional Electrophysiology and Advanced Electrophysiology Heart Failure and Transplant</td>
<td>1 year</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>2 years</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Gastroenterology</td>
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<td>Renal-Electrolyte</td>
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</table>

**Total** 157 154 151 148

**(a)** Includes Residents from St. Francis Health System Program.

**(b)** Includes both UPMC Presbyterian and UPMC Shadyside Fellows.

**(c)** Excludes Cardiology Fellows.

Prepared by: Department of Medicine, Office of Education

www.dom.pitt.edu/training.html
### EDUCATIONAL CREDIT UNITS BY DIVISION

ECUs Earned in 2017 and Allocated in 2018 Budget

<table>
<thead>
<tr>
<th>Division</th>
<th>Total ECUs</th>
<th>ECU dollars</th>
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<tr>
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<tr>
<td>Endocrinology</td>
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<td>Gastroenterology</td>
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<td>Cardiology</td>
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<td><strong>Grand Total</strong></td>
<td><strong>28,891.9</strong></td>
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# MEDICINE HOUSESTAFF – 2016-2017

## Chief Medical Residents

<table>
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<tr>
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<tbody>
<tr>
<td>D’Avella</td>
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<tr>
<td>Duca</td>
<td>Nicholas Drexel University College of Medicine</td>
</tr>
<tr>
<td>Fisher</td>
<td>Molly University of Colorado Denver School of Medicine</td>
</tr>
<tr>
<td>Macpherson</td>
<td>Nicholas Northwestern University The Feinberg School of Medicine</td>
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**VA Chief Resident for Quality and Safety**

<table>
<thead>
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<th>Name</th>
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<tbody>
<tr>
<td>Sprague</td>
<td>Benjamin University of Pittsburgh School of Medicine</td>
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## PGY 1 - Categorical

<table>
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<tbody>
<tr>
<td>Abraham</td>
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</tr>
<tr>
<td>Ahn</td>
<td>Brian University of Pittsburgh School of Medicine</td>
</tr>
<tr>
<td>Ahn</td>
<td>Michelle University of Pittsburgh School of Medicine</td>
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<tr>
<td>Bashline</td>
<td>Michael Temple University School of Medicine</td>
</tr>
<tr>
<td>Belecanech</td>
<td>Ryan Cooper Medical School of Rowan University</td>
</tr>
<tr>
<td>Bhamidipati</td>
<td>Divya Baylor College of Medicine</td>
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<tr>
<td>Black</td>
<td>John University of Pittsburgh School of Medicine</td>
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<tr>
<td>Canterbury (Pacenta)</td>
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<tr>
<td>Carulli</td>
<td>Alexis University of Michigan Medical School</td>
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<tr>
<td>Chablani</td>
<td>Sumedha Icahn School of Medicine at Mount Sinai</td>
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<td>Chodoff</td>
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<tr>
<td>Ertem</td>
<td>Furkan Istanbul Universitesi, Istanbul Tip Fakultesi,Erciyes Universitesi Tip Fakultesi</td>
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<tr>
<td>Finin</td>
<td>Peter University of Michigan Medical School</td>
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<tr>
<td>Fleshner</td>
<td>Michelle Tulane University School of Medicine</td>
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<tr>
<td>Fujita</td>
<td>Ayako Wendy Emory University School of Medicine</td>
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<tr>
<td>Gavigan</td>
<td>Colleen University of Virginia School of Medicine</td>
</tr>
<tr>
<td>Gibbs (Allison)</td>
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<td>Harter</td>
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<td>Iyer</td>
<td>Krishna University of Iowa Roy J. and Lucille A. Carver College of Medicine</td>
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<tr>
<td>Jun</td>
<td>Joshua Eastern Virginia Medical School</td>
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<tr>
<td>Klar</td>
<td>Natalie Albany Medical College</td>
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<tr>
<td>Kuntz</td>
<td>Aaron Northeast Ohio Medical University</td>
</tr>
<tr>
<td>LaRosa (Luetmer)</td>
<td>Anna University of Wisconsin School of Medicine and Public Health</td>
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<tr>
<td>Name</td>
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<tr>
<td>Lehmann</td>
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<tr>
<td>Li</td>
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<tr>
<td>Lipkin</td>
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<tr>
<td>McQuade</td>
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</tr>
<tr>
<td>Nieves</td>
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**PGY 1 - Preliminary**

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### PGY 1 – Neurology - Preliminary

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<tr>
<td>Burke</td>
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<tr>
<td>Gangloff</td>
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<tr>
<td>Korsmo</td>
<td>Tulane University School of Medicine</td>
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### PGY 1 – Transitional, Presbyterian (PUH)

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<td>Kuhn</td>
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<td>Vu</td>
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### PGY 1 – Internal Medicine, Pediatrics

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## PGY 2 – Categorical

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<tr>
<td>Andreev</td>
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<tr>
<td>Apostolidis</td>
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<td>Bahagry</td>
<td>East Virginia Medical School</td>
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<tr>
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<tr>
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<tr>
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<tr>
<td>Name</td>
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<tr>
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<td>Samberg</td>
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<td>Teng</td>
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<tr>
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**PGY 2 – Internal Medicine, Pediatrics**

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**PGY 3 – Categorical**

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<td>Venkata Andhra Medical College</td>
</tr>
<tr>
<td>Arnold</td>
<td>Jonathan Mount Sinai School of Medicine</td>
</tr>
<tr>
<td>Arnold</td>
<td>Sarah Wayne State University School of Medicine</td>
</tr>
<tr>
<td>Bagenski</td>
<td>Amy Albany Medical College</td>
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<tr>
<td>Camiolo</td>
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</tr>
<tr>
<td>Chang</td>
<td>Woody Stanford University School of Medicine</td>
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<tr>
<td>Chen</td>
<td>Hui-Wei Doris University of Pittsburgh School of Medicine</td>
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<tr>
<td>Dhamija</td>
<td>Avnish The University of Toledo College of Medicine</td>
</tr>
<tr>
<td>Grace</td>
<td>Jon University of California - San Diego School of Medicine</td>
</tr>
<tr>
<td>Guhl</td>
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<tr>
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<tr>
<td>Jacobs</td>
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<tr>
<td>Kanth</td>
<td>Shreya University of Virginia School of Medicine</td>
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<tr>
<td>Kassim</td>
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<tr>
<td>Kennedy</td>
<td>Amy University of Washington School of Medicine</td>
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<tr>
<td>Lin</td>
<td>Pennsylvania State University College of Medicine</td>
</tr>
<tr>
<td>Lu</td>
<td>University of Pittsburgh School of Medicine</td>
</tr>
<tr>
<td>Machin</td>
<td>University of New England College of Osteopathic Medicine</td>
</tr>
<tr>
<td>Maciak</td>
<td>Philadelphia College of Osteopathic Medicine</td>
</tr>
<tr>
<td>Manzo</td>
<td>Loyola University Chicago Stritch School of Medicine</td>
</tr>
<tr>
<td>Marino</td>
<td>George Washington University School of Medicine and Health Sciences</td>
</tr>
<tr>
<td>Metter</td>
<td>University of Wisconsin School of Medicine and Public Health</td>
</tr>
<tr>
<td>Moghe</td>
<td>University of Pittsburgh School of Medicine</td>
</tr>
<tr>
<td>Mosch</td>
<td>The College of Medicine</td>
</tr>
<tr>
<td>Murali</td>
<td>Northeast Ohio Medical University</td>
</tr>
<tr>
<td>Patel</td>
<td>The Chicago Medical School at Rosalind Franklin University of Medicine and Science</td>
</tr>
<tr>
<td>Pessu</td>
<td>Howard University College of Medicine</td>
</tr>
<tr>
<td>Puri</td>
<td>University of South Alabama College of Medicine</td>
</tr>
<tr>
<td>Rahman</td>
<td>Philadelphia College of Osteopathic Medicine</td>
</tr>
<tr>
<td>Rajagopal</td>
<td>Columbia University College of Physicians and Surgeons</td>
</tr>
<tr>
<td>Riad</td>
<td>University of Chicago Division of the Biological Sciences The Pritzker School of Medicine</td>
</tr>
<tr>
<td>Rossiter</td>
<td>University of Pittsburgh School of Medicine</td>
</tr>
<tr>
<td>Rush</td>
<td>The University of Texas School of Medicine at San Antonio</td>
</tr>
<tr>
<td>Sakona</td>
<td>Jefferson Medical College of Thomas Jefferson University</td>
</tr>
<tr>
<td>Sands</td>
<td>Northwestern University, The Feinberg School of Medicine</td>
</tr>
<tr>
<td>Shaikh</td>
<td>Vanderbilt University School of Medicine</td>
</tr>
<tr>
<td>Shoff</td>
<td>Georgetown University School of Medicine</td>
</tr>
<tr>
<td>Sommerfeld</td>
<td>University of Florida College of Medicine</td>
</tr>
<tr>
<td>Vachon</td>
<td>University of Chicago Division of the Biological Sciences The Pritzker School of Medicine</td>
</tr>
<tr>
<td>Varano</td>
<td>Columbia University College of Physicians and Surgeons</td>
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<tr>
<td>Veet</td>
<td>Jefferson Medical College of Thomas Jefferson University</td>
</tr>
<tr>
<td>Wolfe</td>
<td>Vanderbilt University School of Medicine</td>
</tr>
<tr>
<td>Yecies</td>
<td>University of Pittsburgh School of Medicine</td>
</tr>
<tr>
<td>Zhang</td>
<td>Peking Union Medical University</td>
</tr>
<tr>
<td>Zupetic</td>
<td>University of Pittsburgh School of Medicine</td>
</tr>
</tbody>
</table>

**PGY 3 – Internal Medicine, Pediatrics**

<table>
<thead>
<tr>
<th>Name</th>
<th>Medical School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agonafer</td>
<td>UCLA/Drew Medical Education Program</td>
</tr>
<tr>
<td>Akshintala</td>
<td>Andhra Medical College</td>
</tr>
<tr>
<td>Arnold</td>
<td>Mount Sinai School of Medicine</td>
</tr>
<tr>
<td>Arnold</td>
<td>Wayne State University School of Medicine</td>
</tr>
</tbody>
</table>

Department of Medicine

[www.dom.pitt.edu/training.html](http://www.dom.pitt.edu/training.html)
**PGY 4 – Internal Medicine, Pediatrics**

<table>
<thead>
<tr>
<th>Name</th>
<th>Medical School</th>
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</thead>
<tbody>
<tr>
<td>Hensley</td>
<td>University of Kentucky College of Medicine</td>
</tr>
<tr>
<td>Mackell</td>
<td>University of Cincinnati College of Medicine</td>
</tr>
<tr>
<td>Pacheco</td>
<td>Meharry Medical College</td>
</tr>
<tr>
<td>Stygles</td>
<td>University of Virginia School of Medicine</td>
</tr>
</tbody>
</table>
## DEPARTING MEDICAL RESIDENTS – 2016-2017

### Chief Medical Residents

<table>
<thead>
<tr>
<th>Name</th>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>D'Avella</td>
<td>Christopher Hematology/Oncology Fellowship, Fox Chase, Temple</td>
</tr>
<tr>
<td>Duca</td>
<td>Nicholas Academic General Internal Medicine Faculty, Penn State Hershey</td>
</tr>
<tr>
<td>Fisher</td>
<td>Molly General Internal Medicine Fellowship, UPMC</td>
</tr>
<tr>
<td>Macpherson</td>
<td>Nicholas Cardiology Fellowship, UT Southwestern</td>
</tr>
</tbody>
</table>

**VA Chief Resident for Quality and Safety**
Sprague Benjamin Hospitalist, UPMC

### Internal Medicine Residents

<table>
<thead>
<tr>
<th>Name</th>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agonafer</td>
<td>Etsemaye Chief Medical Resident, UPMC</td>
</tr>
<tr>
<td>Arnold</td>
<td>Jonathan General Internal Medicine Research Fellowship, UPMC</td>
</tr>
<tr>
<td>Arnold</td>
<td>Sarah Hospitalist, UPMC Shadyside</td>
</tr>
<tr>
<td>Bagenski</td>
<td>Amy Hematology/Oncology Fellowship, University of Rochester</td>
</tr>
<tr>
<td>Cashion</td>
<td>Winn Nephrology Fellowship, UPMC</td>
</tr>
<tr>
<td>Chang</td>
<td>Woody Geriatrics Fellowship, UPMC</td>
</tr>
<tr>
<td>Chen</td>
<td>Hui-Wei Doris Gastroenterology Fellowship, UPMC</td>
</tr>
<tr>
<td>Dhamija</td>
<td>Avnish Hospitalist, Christinna Care</td>
</tr>
<tr>
<td>Grace</td>
<td>Jon Pulmonology Fellowship, University of Michigan</td>
</tr>
<tr>
<td>Guhl</td>
<td>Emily Cardiology Fellowship, UPMC</td>
</tr>
<tr>
<td>Heiss</td>
<td>Brian Hematology/Oncology Fellowship, University of Chicago</td>
</tr>
<tr>
<td>Jacobs</td>
<td>Zachary Hospital Medicine Fellowship, UCSF</td>
</tr>
<tr>
<td>Kanth</td>
<td>Shreya Critical Care Fellowship, NIH</td>
</tr>
<tr>
<td>Kassim</td>
<td>Natasha Cardiology Fellowship, Washington University in St. Louis</td>
</tr>
<tr>
<td>Kennedy</td>
<td>Amy Chief Medical Resident, UPMC</td>
</tr>
<tr>
<td>Khalil</td>
<td>Ramy Internist, Mt. Lebanon Internal Medicine at St. Clair Hospital</td>
</tr>
<tr>
<td>Klein</td>
<td>Andrew Chief Medical Resident, UPMC</td>
</tr>
<tr>
<td>Kota</td>
<td>Karthik Geriatrics Fellowship, UPMC</td>
</tr>
<tr>
<td>Kuang</td>
<td>Chaoyuan Charlie Hematology/Oncology Fellowship, UPMC</td>
</tr>
<tr>
<td>Kumar</td>
<td>Smita Endocrinology Fellowship, Northwestern</td>
</tr>
<tr>
<td>Ladejobi</td>
<td>Adetola Tola Cardiology Fellowship, Mayo Clinic</td>
</tr>
<tr>
<td>Lang</td>
<td>Christopher Hospitalist, St. Clair Hospital</td>
</tr>
<tr>
<td>Lima</td>
<td>Bruno Cardiology Fellowship, Emory</td>
</tr>
<tr>
<td>Lin</td>
<td>Judith Rheumatology Fellowship, Yale</td>
</tr>
<tr>
<td>Lontos</td>
<td>Konstantinos Hematology/Oncology Fellowship, UPMC</td>
</tr>
<tr>
<td>Lu</td>
<td>Amy Chief Medical Resident, UPMC</td>
</tr>
<tr>
<td>Name</td>
<td>Current Position</td>
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</tr>
<tr>
<td>Machin</td>
<td>Nicoletta T32 Fellowship Hematology/Oncology, University of Pittsburgh</td>
</tr>
<tr>
<td>Maciak</td>
<td>Ryan Hospitalist, UPMC Hamot</td>
</tr>
<tr>
<td>Manzo</td>
<td>Carl Gastroenterology Fellowship, Penn State</td>
</tr>
<tr>
<td>Marino</td>
<td>Amy Cardiology Fellowship, UPMC</td>
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<tr>
<td>Merkhofer</td>
<td>Cristina Hematology/Oncology, University of Washington</td>
</tr>
<tr>
<td>Metter</td>
<td>Robert Academic Hospitalist, University of Colorado</td>
</tr>
<tr>
<td>Miller</td>
<td>Jaime Hematology/Oncology Fellowship, UPMC</td>
</tr>
<tr>
<td>Moghe</td>
<td>Akshata Gastroenterology Fellowship, UPMC</td>
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<tr>
<td>Mosch</td>
<td>Brennan Hospitalist, Regional West Medical Center</td>
</tr>
<tr>
<td>Murali</td>
<td>Priya Hospice &amp; Palliative Medicine Fellowship, Henry Ford</td>
</tr>
<tr>
<td>Nasrazadani</td>
<td>Adadeh Hematology/Oncology Fellowship, UPMC</td>
</tr>
<tr>
<td>Patel</td>
<td>Arisha Hematology/Oncology Fellowship, UPMC</td>
</tr>
<tr>
<td>Pessu</td>
<td>Orighomisan Misan Hospitalist, Anne Arundel Medical Center</td>
</tr>
<tr>
<td>Puri</td>
<td>Shruti Infectious Disease Fellowship, Medical University of South Carolina</td>
</tr>
<tr>
<td>Rahman</td>
<td>Zahra T32 Fellowship Hematology/Oncology, University of Pittsburgh</td>
</tr>
<tr>
<td>Rajagopal</td>
<td>Padma Sheila Hematology/Oncology Fellowship, University of Pittsburgh</td>
</tr>
<tr>
<td>Riad</td>
<td>Fady Cardiology Fellowship, Case Western</td>
</tr>
<tr>
<td>Rossiter</td>
<td>Brianna General Internal Medicine Women's Health Fellowship, UPMC</td>
</tr>
<tr>
<td>Rush</td>
<td>Jonathan Hospitalist, VA Pittsburgh</td>
</tr>
<tr>
<td>Sakona</td>
<td>Ashlyn Infectious Disease Fellowship, UCLA</td>
</tr>
<tr>
<td>Sands</td>
<td>Roger Warren Gastroenterology Fellowship, UPMC</td>
</tr>
<tr>
<td>Shaikh</td>
<td>Fyza Hematology/Oncology Fellowship, John Hopkins</td>
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<tr>
<td>Shoff</td>
<td>Christopher Hospitalist, VA Pittsburgh</td>
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<tr>
<td>Sommerfeld</td>
<td>Alex Cardiology Fellowship, Emory</td>
</tr>
<tr>
<td>Vachon</td>
<td>Ashley Gastroenterology Fellowship, Colorado</td>
</tr>
<tr>
<td>Varano</td>
<td>Paul Hospitalist, VA Pittsburgh</td>
</tr>
<tr>
<td>Veetl</td>
<td>Clark Chief Medical Resident, UPMC</td>
</tr>
<tr>
<td>Wolfe</td>
<td>Jonathan Hospitalist, Missouri Baptist BJC</td>
</tr>
<tr>
<td>Yecies</td>
<td>Emmanuelle General Internal Medicine Women's Health Fellowship, UPMC</td>
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<tr>
<td>Zhang</td>
<td>Peng Pulmonology Fellowship, Cleveland Clinic</td>
</tr>
<tr>
<td>Zupetic</td>
<td>Jill Pulmonology Fellowship, UPMC</td>
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</table>

**Internal Medicine, Pediatric Residents**

<table>
<thead>
<tr>
<th>Name</th>
<th>Current Position</th>
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</thead>
<tbody>
<tr>
<td>Hensely</td>
<td>Matthew Pulmonology Fellowship, University of Michigan</td>
</tr>
<tr>
<td>Mackell-Iimming</td>
<td>Christina Pediatrics Hospitalist and Complex Care Team - Children's Hospital of Pittsburgh</td>
</tr>
<tr>
<td>Pacheco</td>
<td>Carlos Critical Care Medicine Fellowship, UPMC</td>
</tr>
<tr>
<td>Stygles</td>
<td>Nicholas Hospitalist, UPMC St. Margaret's</td>
</tr>
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</table>
## Preliminary Year Residents

<table>
<thead>
<tr>
<th>Name</th>
<th>Current Position</th>
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<tbody>
<tr>
<td>Gabet</td>
<td>Joelle UPMC - PM&amp;R</td>
</tr>
<tr>
<td>Hac</td>
<td>Nicholas Northwestern, IL - Neurology</td>
</tr>
<tr>
<td>Halenda</td>
<td>Kevin Augusta U - Medical College of Georgia - Ophthalmology</td>
</tr>
<tr>
<td>Jiao</td>
<td>Jamie Emory, GA - PM&amp;R</td>
</tr>
<tr>
<td>Lehman</td>
<td>David Emory, GA - Anesthesia</td>
</tr>
<tr>
<td>Manfredo</td>
<td>Anthony Sinai Hospital, Baltimore, MD - PM&amp;R</td>
</tr>
<tr>
<td>Markos</td>
<td>Steven Rutgers JFK-Johnson, NJ - PM&amp;R</td>
</tr>
</tbody>
</table>

## Neurology Preliminary Year Residents

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Aziz</td>
<td>Yasmin UPMC Neurology</td>
</tr>
<tr>
<td>Barron</td>
<td>Adam UPMC Neurology</td>
</tr>
<tr>
<td>Brandes</td>
<td>Lauren UPMC Neurology</td>
</tr>
<tr>
<td>Burke</td>
<td>Devin UPMC Neurology</td>
</tr>
<tr>
<td>Gangloff</td>
<td>Steven UPMC Neurology</td>
</tr>
<tr>
<td>Korsmo</td>
<td>Michael UPMC Neurology</td>
</tr>
<tr>
<td>Su</td>
<td>Xiaowei Bill UPMC Neurology</td>
</tr>
</tbody>
</table>

## Transitional Year Medical Residents, Presbyterian (PUH)

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Eseonu</td>
<td>Amarchi John Hopkins, Dermatology</td>
</tr>
<tr>
<td>Khalaf</td>
<td>Alexander Stanford, Radiology</td>
</tr>
<tr>
<td>Kilbridge</td>
<td>Matthe UPMC, Radiology</td>
</tr>
<tr>
<td>Kuhn</td>
<td>Julia UPMC, Ophthalmology</td>
</tr>
<tr>
<td>McDermott</td>
<td>Sean UPMC, Anesthesiology</td>
</tr>
<tr>
<td>Mortensen</td>
<td>Peter UPMC, Ophthalmology</td>
</tr>
<tr>
<td>Nicolay</td>
<td>Michael Dusty AHN, Anesthesiology</td>
</tr>
<tr>
<td>Smith</td>
<td>Colin UPMC, Radiology</td>
</tr>
<tr>
<td>Vu</td>
<td>Nicholas UPMC, Radiology</td>
</tr>
<tr>
<td>Williams</td>
<td>Andrew UPMC, Ophthalmology</td>
</tr>
</tbody>
</table>
MEDICAL RESIDENTS’ SCHOLARLY ACTIVITIES

Awards and Honors

Chen HW, Josbeno DA, Schmotzer AR, Tevar AD, Landsittel DP, Dunn MA. Trajectory of Physical Performance Measured by Gait Speed Indicates Risk for Adverse Outcomes in Liver Transplant Candidates, UPMC DOM Research Day, Clinical Research Award (Poster Presentation), May 2017


Lontos K, ASH Honors Award, Semaphorin4D in Multiple Myeloma, July 2016-June 2017, Total Cost: $7,000

Moghe A, American Association for the Study of Liver Diseases (AASLD) Resident Ambassador 2016-2017


Presentations

Abstracts and Clinical Vignettes


Chen HW, Josbeno DA, Schmotzer, AR, Tevar AD, Landsittel DP, Dunn MA. Trajectory of Physical Performance Measured by Gait Speed Indicates Risk for Adverse Outcomes in Liver Transplant Candidates, AASLD in Boston, MA, November 2016

Ehrenberger KA. Food as Medicine: The History of Medicine & the BRAT Diet, Children's Hospital of Pittsburgh of UPMC Pediatric Residency Noon Conference, June 2017


**Hamilton, P**, Radomski, T. Balancing the Risks that are in Plain Sight- Vision Sparing Surgery During Acute Coronary Syndrome. Society of General Internal Medicine, Washington, DC, April 2017

**Kakar S.** Liver Transplant Outcomes: The Incidence of Renal Insufficiency in the NASH population. UPMC DOM Research Day, Oral Presentation, May 2017


**Lehmann HI.** Noninvasive Ablation of Atrial Fibrillation: A Reality? 10th Annual Western Atrial Fibrillation Symposium, Invited Oral Presentation, Park City, UT, Feb. 2017

**Lehmann HI.** Carbon Beam Ablation of Cardiac Arrhythmias. Invited Oral Presentation, Heart Rhythm Society Scientific Sessions, Chicago, IL, May 2017


McQuade CN, Kohli A. Breaking the Mold: Metastatic Cervical Cancer Initially Diagnosed as Pulmonary Histoplasmosis, Society of General Internal Medicine Annual Meeting, April 2017

Nicolay MD, Cladis FP. Institutional Comparative Study of Post-Operative Hyponatremia in Pediatric Craniofacial Surgery Patients, American Society of Anesthesiologists Conference, October 2017


Rossiter B. The Bedside Swap: Assessing Medical Students Response to Perspective-Taking for Difficult Patients on the Wards, Society of General Internal Medicine, October 2016


Poster Presentations

Agonafer E. Training Internal Medicine Residents to Act on Social Determinants of Health using the Social Determinants of Health Fast Facts, University of Pittsburgh School of Medicine Medical Education Conference, September 2016

Ajayi-Fox. Perceptions of Strength of Social Support Amongst Patients with Decompensated Alcohol-related Cirrhosis, UPMC DOM Research Day, Poster Presentation, May 2017

Arnold J. Provider Interest in Lifestyle Tracking within the EHR: Data from the MAINTAIN-pc Study. UPMC DOM Research Day, Poster Presentation, May 2017

Bagenski A. Effect of Influenza Vaccination in the Severity of Illness in Hospitalized Transplant Recipients with Laboratory-Confirmed Influenza, American Transplant Congress Conference, Chicago, IL, April 2017

Bagenski A. Effect of Influenza Vaccination in the Severity of Illness in Hospitalized Transplant Recipients with Laboratory-Confirmed Influenza. UPMC Department of Medicine Research Day, May 2017


Chen HW, Josbeno DA, Schmotzer, AR, Tevar AD, Landsittel DP, Dunn MA. Trajectory of Physical Performance Measured by Gait Speed Indicates Risk for Adverse Outcomes in Liver Transplant Candidates, UPMC DOM Research Day, May 2017

Cheng A, Kohli A. Make Me Lose My Breath: Submassive Pulmonary Embolism and Ancillary Diagnostics, Society of General Internal Medicine 2017 Annual Meeting

Cheng D. Patterns between Multi-Year Steroid Use in Patients with Inflammatory Bowel Disease and Quality of Life, Disease Severity, Healthcare Utilization, UPMC DOM Research Day, Poster Presentation, May 2017


Ehrenberger KA. The Dainty and the Delicious: Where Historical Research and Personal Experience Overlap, National Conference for Physician-Scholars in the Social Sciences and Humanities, Harvard University, Cambridge, MA, April 2017

Ertem F. What is the Expected Incidence of Interval Colorectal Cancer (CRC) for an Endoscopist in Active Clinical Practice? UPMC DOM Research Day, Poster Presentation, May 2017
Fox S, Effects of Free Clinic Attendance and Continuity of Care on Emergency Department Visits, UPMC DOM Research Day, Poster Presentation, May 2017


Jacobs Z. An E-learning Module on Chronic Low Back Pain in Older Adults: Effect on Medical Resident Attitudes, Confidence, Knowledge, and Practice Patterns, UPMC DOM Research Day, Poster Presentation, May 2017


Kakar S. The Incidence of Allograft Cirrhosis in Patients Undergoing Transplantation for Nonalcoholic Steatohepatitis, UPMC DOM Research Day, Poster Presentation, May 2017


Kennedy AJ, Lyons A, Belsches T, Robertson T, Kensler C, Demetria E, Veldkamp P. Use of Ultrasound in a Primary Care Clinic in Mozambique, Consortium of Universities for Global Health Conference, April 8, 2017


Kensler C. Free Clinic Utilization and Patient Perceptions on Medicaid Expansion Under the Affordable Care Act within Allegheny County, PA, UPMC DOM Research Day, Poster Presentation, May 2017

Klar N, Kakar S, Kholi A. Mollaret’s Meningitis: An Atypical Presentation with Hypoglycorrhachia. 1st Annual Society of Hospital Medicine-Pittsburgh Chapter: Research, Innovation and Clinical Vignette Poster Competition, Pittsburgh, PA, Poster session, runner-up, Jan.19, 2017

Klar N, Kakar S, Kholi A. Mollaret’s Meningitis: An Atypical Presentation with Hypoglycorrhachia, Society of General Internal Medicine, Washington, DC, April 21, 2017


Kota K. cfDNA Mutation Frequency in Early Stage Breast Cancer, UPMC DOM Research Day, Poster Presentation, May 2017

Kota K. Three Habits of Highly Effective Residents in Outpatient Clinic, UPMC DOM Research Day, Poster Presentation, May 2017

Kota K. Do Internal Medicine Residents Know How to Deprescribe? UPMC DOM Research Day, Poster Presentation, May 2017

Kurin M. Clinical Characteristics of Inflammatory Bowel Disease (IBD) Patients Requiring Long-Term Parenteral Nutrition Support in the Present Era of Immunomodulator and Biologic Therapy, UPMC DOM Research Day, Poster Presentation, May 2017


Li A. Comparison of Circulating Tumor DNA (ctDNA) Sequencing and Tumor-Based Genotyping for Detection of EGFR Mutations in Non-Small Cell Lung Cancer (NSCLC), UPMC DOM Research Day, Poster Presentation, May 2017


Lu AD, Stern J. Let’s Take a Pause: A Case of Severe Vasovagal Syncope. Society of General Internal Medicine Annual Meeting, Washington, DC, April 2017


McQuade CN, Kohli A. Breaking the Mold: Metastatic Cervical Cancer Initially Diagnosed as Pulmonary Histoplasmosis. Society for General Internal Medicine, 2017


Moghe A, Ramanujam VMS, Desnick RJ, Anderson KE. Harderoporphyria: Clinical, Biochemical and Molecular Features in an Adult Male. International Congress on Porphyrins and Porphyrias 2017, Bordeaux, France, June 2017


Mortensen P. Regression of Choroidal Neovascularization In Exudative Age-Related Macular Degeneration Following Postinjection Endophthalmitis. ARVO Conference, May 2017

Murali P. Are Residents Prepared to Work with People Living with Dementia? UPMC DOM Research Day, Poster Presentation, May 2017


Nieves R. Comparison of Extra Cardiac Tracer Activity Between Standard Regadenoson (StdReg) and Regadenoson on the Treadmill (ExReg) Stress Protocols, UPMC DOM Research Day, Poster Presentation, May 2017


Pacheco C. Rothman Index at Hospital Admission Has Good Predictive Value for Mortality in a Large Academic Medical Center, UPMC DOM Research Day, Poster Presentation, May 2017

**Patel K.** Hiding in Plain Sight: Recognition and Management of Obesity in NAFLD Patients by Primary Care Physicians and Gastroenterologists. UPMC DOM Research Day, Poster Presentation, May 2017


**Robertson T.** HIV Infection Is an Independent Risk Factor for Decreased Six Minute Walk Test Distance. UPMC DOM Research Day, Poster Presentation, May 2017


**Rush J.** The Effect to Therapy on High Grade B-Cell Lymphoma, NOS and Outcomes in Comparison with Double Hit Lymphoma, American Society of Hematology Meeting on Heme Malignancies, September 2016

**Rush J.** The Effect to Therapy on High Grade B-Cell Lymphoma, NOS and Outcomes in Comparison with Double Hit Lymphoma, American Society of Hematology Annual Meeting, September 2016


**Shoff C.** IL-6 and CRP Levels Are Directly Associated with Monocytic-Myeloid Derived Suppressor Cell Frequencies in HIV(+) Individuals on ART. UPMC DOM Research Day, Poster Presentation, May 2017

**Thant M.** Overcoming Barriers to Hepatitis C Treatment in HIV/HCV Coinfected Patients. UPMC DOM Research Day, Poster Presentation, May 2017

**Umakanthan S.** Low Dietary Fiber Intake in Inflammatory Bowel Disease Is Associated with Active Disease and Poor Quality of Life. UPMC DOM Research Day, Poster Presentation, May 2017

**Varano P.** The Evaluation of the Reduction of Nitrite to Nitric Oxide via Carbonic Anhydrase. UPMC DOM Research Day, Poster Presentation, May 2017

**Waheed A.** The Differential Effects of Gender on Mood Symptoms, Health-related Quality of Life, Social Support, and Disease Severity Among Patients with Systolic Heart Failure. UPMC DOM Research Day, Poster Presentation, May 2017

**Waheed A.** Letters-to-the-Editor: A Novel Scholarly Activity in Residency. UPMC DOM Research Day, Poster Presentation, May 2017

**Wolfe JD.** Hickey GW, Althouse AD, Sharbaugh MS, Pasupula DK, Kliner DE, Mathier M, Soman P. Pulmonary Vascular Resistance Predicts Mortality in End-Stage Renal Disease Patients with Pulmonary Hypertension. UPMC Department of Medicine Research Day. Pittsburgh, PA, May 2017

**Wolfe JD.** Levin W. Dramatic Leukocytosis in Polycythemia Vera: Not Always Vera Rubra. Society of Hospital Medicine Pittsburgh Chapter Annual Meeting 2017, award winner, Pittsburgh, PA


**Senior Talks**

**Agonafer, Etsemaye.** Diversity in Medicine: A Physicians’ Perspective. Feb. 22, 2017

**Arnold, Jonathan.** Clinical Decision Support Systems. March 9, 2017

**Arnold, Sarah.** The Epidemic of Depression and Suicidal Ideation in Medical Residents. Nov. 9, 2016

**Bagenski, Amy.** Know Thyself; Precision Medicine and Your Patient. Jan. 25, 2017


**Chen, Hui-Wei.** Sarcopenia and Frailty: A Weakness that Deserves Intervention. April 20, 2017
Dhamija, Avnish. LGBT / What does it mean to be transgender? March 1, 2017


Hensley Matthew. ABCs of ECMO. March 28, 2017

Heiss, Brian. Hematology and Oncology Emergencies. June 14, 2017

Imming, Christina. Travel Medicine. May 9, 2017


Kanth, Shreya. Clearing the Smoke on Medical Marijuana. March 8, 2017

Kassim, Natasha. Food Insecurity, Adverse Health Outcomes and What We Can Do About It. April 19, 2017


Kota, Karthik. Medication Reconciliation: Meeting Medical Marks Requires Regular Review. April 6, 2017

Kumar, Smita. Practicing Medicine in the Age of Dr. Google: A Look into Medicine on the Internet. Feb. 15, 2017

Ladejobi, Adetola. Remote Ischemic Conditioning: Fact or Fiction? June 1, 2017


Lin, Judith. Raynaud’s Phenomenon; When is it Scleroderma? March 22, 2017


Manzo, Carl. Colon Cancer Screening Prevention. May 24, 2017

Marino, Amy. Pregnancy Related Risk Factors and Cardiovascular Disease. Feb. 9, 2017


Moghe, Akshata. To Peg or Not to Peg: Evidence Behind the Dilemma. April 12, 2017


Pacheco, Carlos. Conflict at the End of Life. March 14, 2017

Pessu, Orighomisan. Depression in the Hospitalized Patient: Should We Screen & Treat? May 3, 2017


Rajagopal, Padma. In the Age of Precision Oncology: A Review of Newer Targeted Therapy Agents and Their Benefit in Selected Cancers. April 5, 2017

Riad, Fady. Cardiac Devices, Heart Rhythm Management for the Modern Internist. Feb. 21, 2017


Sakona, Ashlyn. The Infamous Penicillin Allergy. May 17, 2017

Shoff, Christopher. PREP for HIV. Jan. 18, 2017

Sommerfeld, Alex. VA Pittsburgh Heart Failure Initiative: Discoveries and Disparities in Heart Failure Readmission. Dec. 7, 2016

Stygles, Nicholas. Palliative Care in CHF. Nov. 29, 2016


Other Presentations

Eseonu A. Care of a Patient with Divergent Intracranial Hemorrhage Requiring Anticoagulant Consultation Recommendation, Oral Presentation, TY Monthly Education Meeting, November 2016

Khalaf A. Care of ICU Patient with End-stage Liver Disease and Delayed Palliative Care Consultation, TY Monthly Education Meeting, September 2016

Kilbridge M. Radiology Imaging Ordering, TY Monthly Education Meeting, February 2017

Kuhn J, Ocular Surface Disease in the ICU. TY Monthly Education Meeting, December 2016

Ladejobi A, Olafiranye O, Wayne M, Martin-Gill C, Toma C. Impact of Pre-Hospital Remote Ischemic Peri-Conditioning on In-Hospital Clinical Heart Failure And Brain Natriuretic Peptide in Patients with ST-Segment Elevation Myocardial Infarction. Association of Black Cardiologists Annual Fellows Program, Chicago, IL, April 2016

McDermott S. Acess in CKD Patients. TY Monthly Education Meeting, January 2017

Mortensen P. Care of a Patient with Delayed Diagnosis of Stroke. TY Monthly Education Meeting, August 2016

Nicolay MD. ED Sedation QI Project. TY Monthly Education Meeting, June 2017

Smith C. What Are and Which Patients Are at Risk of Complications from Bedside Nasogastric Tube Placement? TY Monthly Education Meeting, October 2016

Vu N. Utilizing MRI with Gadolinium Contrast and Dialysis to Reduce Their Risk of Adverse Effects. TY Monthly Education Meeting, March 2017

Vu N, Kohli A. Reversing Opiates in a Flash: Intranasal Naloxone-Induced Pulmonary Edema. Society of General Internal Medicine Annual Meeting, April 2017

Vu N. Morbidity and Mortality Conference, May 2017

Williams AM. Routine Use of Echocardiography for Patients with Stroke or TIA. TY Monthly Education Meeting, April 2017

Publications


CARDIOLOGY

JOON SUP LEE MD
Division Chief
Co-Director, UPMC Heart and Vascular Institute
Associate Professor, Department of Medicine

During Fiscal Year 2017, the cardiology program achieved continued success in the Heart and Vascular Institute (HVI). The HVI is an integrated service line that provides patients with world-class cardiovascular services, including cardiology, cardiac surgery, and vascular surgery. This collaboration solidifies the HVI as the strongest provider of heart and vascular services in western Pennsylvania. We offer unparalleled quality, service, and efficiency. HVI’s FY 2017 achievements include:

Quality and operational improvement initiatives:

- Ongoing comprehensive cardiac quality program
- Received Pulmonary Hypertension (PH) Program Accreditation (one of 30 programs in US; one of 3 in PA)
- First in region/state over last five years in leadless pacemaker insertion, transcatheter aortic valve replacement, transcatheter mitral valve repair, left atrial appendage closure, and subcutaneous defibrillator
- Established Hypertrophic Cardiomyopathy Center
- Our collaboration with the Division of Cardiac Surgery demonstrated advancement in the treatment and therapies for Advanced Heart Failure.
- Development of the HVI Clinical Biostatistics Core (CBC) to consolidate and coordinate ongoing clinical data collection and reporting, clinical outcomes analysis, and consistent research biostatistical analysis
- Developed and launched HVI Telemonitoring Program for Advanced Heart Failure therapy
- Development of Center of Excellence for Atrial Fibrillation

Our partnership with marketing has generated increased visibility and awareness of our services in the Western Pennsylvania market. It has also helped to identify additional areas of opportunity, enabling HVI to improve its strategic planning.

FY 2017 new faculty appointments include:

- George Aromatorio, MD  Director, Cath Lab, UPMC, Jameson
- Fred Crock, MD  Director of Inpatient Cardiology, UPMC Presbyterian
- Eric Dueweke, MD  Medical Director, Cardiac Services, UPMC Northwest
- Elizabeth Piccione, MD  VP of Medical Affairs, UPMC Jameson
- Shiv Dev Rao, MD  Executive Vice President, UPMC Enterprises
- Catalin Toma, MD  Director, Interventional Cardiology, UPMC Presbyterian
- Raveen Bazaz, MD  Director, EP lab, UPMC Presbyterian
- William Barrington, MD  Chief, Cardiology, UPMC Shadyside
- Matthew Harinstein, MD  Chief Cardiology, UPMC McKeesport
- Matthew Harinstein, MD  Director, Echo Lab, UPMC Shadyside
- Chelcie Constabile, MD  Director, Echo Lab, UPMC East
- Michael Curren, MD  Chief, Cardiology, UPMC St. Margaret
Cardiology  

FY 2016-2017

- John Pensock, MD  Chief, Cardiology, Uniontown Hospital
- Evan Adelstein, MD  Director, Heart Station, UPMC Presbyterian

FY17 Faculty Promotions

- Michael Mathier, MD, to Professor of Medicine in the Department of Medicine, School of Medicine
- Dennis Bruemmer, MD, PhD, awarded tenure and appointed to the rank of Associate Professor in the Department of Medicine, School of Medicine

FY17 Faculty Acknowledgements

- Ure Mezu-Chukwu, MD, was selected as recipient of the Pennsylvania Medical Society’s (PAMED’s) Physician 40 under 40 Award, an award to honor early career physician leaders
RESEARCH

HVI researchers continue to employ new cutting-edge technologies and treatments for our patients. Our researchers also actively seek research funding from federal, industry, and foundation sources. The major strengths of the research program center on translational genetics, heart failure, sudden death, molecular imaging, and outcomes research. In addition, there are robust and active cardiology clinical trials that include sponsor-initiated drug trials and IDE trials.

HVI physicians presented at multiple national and international cardiology meetings, including the American Heart Association, the American College of Cardiology, the Heart Rhythm Society, the American Society of Echocardiography, the American Society for Nuclear Cardiology, Heart Failure Society of America, Transcatheter Cardiovascular Therapeutics and the International Society for Heart and Lung Transplantation. Additionally, HVI researchers and physicians published important manuscripts in top cardiovascular journals, such as The New England Journal of Medicine, Circulation Research, Circulation, and the Journal of the American College of Cardiology. Representatives from the HVI continue to hold prominent roles in national and international cardiovascular organizations.

Research awards and other activities include:

- The Division of Cardiology welcomed the Molecular Imaging Lab, headed by Carolyn Anderson, PhD, which moved from the Department of Radiology. The Molecular Imaging Lab specializes in radionuclide probe development for nuclear-based molecular imaging (PET, SPECT). This translational research group has world-class radiochemists who have innovated PET imaging probes and platforms for interrogating molecular markers in cancer and inflammation, as well as optical probes for image-guided photodynamic cancer therapeutics. The group has multiple collaborators at the University of Pittsburgh Cancer Institute and the Vascular Medicine Institute, and provides core expertise for a state-of-the-art, small-animal molecular imaging facility at the Hillman Cancer Center. The Cardiology Division already houses the Center for Ultrasound Molecular Imaging and Therapeutics, which comprises a multidisciplinary group of clinicians, biologists, engineers, chemists, and physicists developing novel acoustically-based approaches for molecular and functional imaging. This group has pioneered microbubble and nanoparticle molecular probes for ultrasound and photoacoustic imaging as well as new transducer designs for acoustic tissue characterization. Directed by Liza Villanueva, MD, this center also creates dual-function microbubble agents for targeted non-viral gene delivery and sonothrombolysis, mediated and image-guided by ultrasound, in cancer and cardiovascular applications (theranostics).

- Dr. Anderson’s lab has been very successful in obtaining outside funding. Among the lab’s current awards are:
  - Image Guided Immunotherapy and Targeted Radionuclide Therapy of Metastatic Melanoma, (R01), Carolyn Anderson, PhD
  - PET Probes Targeting Immune Cells for Imaging Tuberculosis, (R01), Carolyn Anderson, PhD
  - Multimodal (PET/MR/NIR) Imaging Supported Drug Delivery in Inflammatory Diseases, (R21), Carolyn Anderson, PhD
The Division of Cardiology also welcomed Delphine Gomez, PhD. Following her arrival in February, Dr. Gomez has focused on establishing her laboratory, recruiting lab members, and learning the details of conducting research at Pitt. Dr. Gomez comes from the University of Virginia Robert M. Berne Cardiovascular Research Center where she completed her postdoctoral fellowship in 2015. Previously, she completed her Bachelor, Master, and Doctoral degrees at University Paris 7, France. Her current research projects include: control of smooth muscle cell differentiation and lineage memory; epigenetics/slide muscle cell plasticity and atherosclerosis; and epigenetic and inflammation in atherosclerosis. She holds an AHA Scientific Development Grant and has publications in prominent journals, such as Circulation Research and Nature Medicine.

Dr. Gomez joined the group of new VMI/HVI faculty members on the recently renovated 17th floor of the Biomedical Science Tower. This group has shown remarkable success in securing external funding. A sampling of current projects include:

- Mechanical Stress in Calcific Aortic Valve Disease: The Role of Ectonucleotidase Activity and Adenosine Receptor Signaling in Disease Initiation, Cynthia St. Hilaire, PhD
- Collection of Plasma Samples from Pulmonary Arterial Hypertension (PAH) Patients, Steven Chan, MD, PhD
- Effect of Diabetes on Myelopoiesis and Atherosclerosis, (R00), Partha Dutta, PhD
- Epigenetic Regulation of Inflammatory Gene Expression by Telomerase, (R01), Dennis Bruemmer, MD
- The Role of Nox1, EBP50, and Ask 1 in Right Ventricular Hypertrophy, (AHA Scientist Development Grant), Imad Al Ghouleh, PhD

VMI/HVI Fellows Research Retreat: The Division of Cardiology, in conjunction with the VMI, held its third annual fellows retreat, which featured a keynote presentation by Dr. Joseph Hill of UT Southwestern Medical Center. As a result of focused presentations by research faculty, the new fellows were introduced to potential areas of research while also afforded the opportunity to develop mentor-mentee relationships outside of an academic setting. New cardiology trainees had the opportunity to formally present their work and interests, as well as informally socialize with other trainees and faculty during dinner, bowling, and skiing. The Feb. 8-10 retreat, held at Seven Springs, sought to develop a spirit of cooperation and familiarity among the VMI and HVI fellows and faculty, highlighting the general collaborative spirit of the University of Pittsburgh medical community.

Seven new HVI Fellows Grant applications have been funded in FY17. These fellows will present their research at the FY18 VMI/HVI Research Retreat to be held in February 2018.

- Stephen D’Auria MD, Sonothrombolysis of Arterial Thrombus utilizing Microbubbles Containing Tissue Plasminogen Activator (tPA) (Mentor John Pacella MD)
- Sebhat Erqou MD, Change in Endothelial Function and Risk of Adverse Cardiovascular Outcomes (Mentor Steven Reis MD)
- Michael Genuardi MD, Cardiovascular Outcomes and Mortality in Patients with Obstructive Sleep Apnea and Pulmonary Hypertension (Mentors Sanjay Patel MD, Jared Magnani MD and Stephen Chan MD, PhD)
- Jeff Lee MD, Molecular Mechanisms of Pulmonary Vein Endothelial Cells Harvested from Balloon Catheters in the Setting of Pulmonary Hypertension (Mentors Stephen Chan MD, PhD, and Samir Saba MD)
- Ahmad Masri MD, Establishing a Patient-Care Algorithm for Screening of Cardiac Amyloidosis Using Pyrophosphate (PYP) Scintigraphy (Mentor Prem Soman MD)
- Polakit Teekakirikul, MD, Identifying Genetic Etiology of Familial Atrial Septal Defect in a Five Generation Pedigree (Mentor Cecilia W. Lo PhD)
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- Natalie Domenick, MD, RIP-CEA (Remote Ischemic Preconditioning for Carotid End Arterectomy), (Mentors Efthimios Avgerinos MD, Oladipupo Oladfranye MD, Edith Tzeng MD and Robert Friedlander MD).

- Four new Innovator applications were funded in FY17.
  - Iain Scott, PhD, and Charles McTiernan, PhD, Adropin: A Potential Treatment for Mitochondrial Metabolic Dysfunction in Diabetic Cardiomyopathy
  - Cynthia St. Hilaire, PhD, and Thomas Gleason, MD, Role of Mechanical Stress in Ectonucleotidase Activity and Adenosine Receptor Signaling in Calcific Aortic Valve Disease
  - John Pacella, MD, and Francois Yu, PhD, Sonoreperfusion for Microvascular Obstruction: Effects of Nox Inhibition
  - Dennis Bruemmer, MD, and Marc Simon, MD, Endothelial Cell Telomerase Function in Pulmonary Arterial Hypertension

Other new awards Include:

- Francis Belmonte, PhD, received funding from the University of Pittsburgh Medical Center for the project, PIF1 Helicase Ablation Causes Mitochondrial Complex I Deficiency and Obesity.
- Joao Cavalcante, MD, received funding from Medtronic for a project titled Multicenter Prospective Core Valve Study Using Cardiac MRI for Assessment of Paravalvular Aortic Regurgitation and its Impact on LV Reverse Remodeling and Cardiovascular Outcomes.
- John Gorcsan, MD, and Sandeep Jain, MD, were named Co-Investigators on a R34 funded by NHLBI for a project titled Junctional AV Ablation in CRT Patients with Atrial Fibrillation.
- Filip Istvanic, a medical student, received a Howard Hughes Medical Institute Medical Research Fellowship Award.
- Brett Kaufman, PhD, and Dennis McNamara, MD, were named Co-Investigators on a research award from Bayer Corp. for a project titled Cyb5R3 and cGMP Signaling.
- Kang Kim, PhD, was named a Co-Investigator on two new research awards funded by the National Science Foundation. The project titles are NRI: Maneuverable Feedback-Controlled Micro Swimming Drone for Biomedical Applications and CPS: Synergy: Collaboration Research, Closed-loop Hybrid Exoskeleton Utilizing Wearable Ultrasound Imaging Sensors for Measuring Fatigue.
- Jaren Magnani, MD, lead UPMC’s efforts in INVESTED-Influenza Vaccine to Effectively Stop Cardio Thoracic Events in Decompensated Heart Failure, which is funded by the NHLBI through Brigham and Women’s Hospital
- Charles McTiernan, PhD, was named a Co-Investigator on a DOD-funded project titled Four New Ideas to Protect Special Forces from the Stress of High Altitude.
- Matt Muldoon, MD, was named a Co-Investigator on a DOD-funded project titled Omega-3 Polyunsaturated Fatty Acid Status, Microglial Activation, Stress Resilience and Cognitive Performance.
- Steven Reis, MD, was named Co-Investigator on a NIA-funded project titled Connectomics of Brain Aging and Dementia.
- Guy Salama, PhD, received funding from Novartis Pharmaceuticals, Inc., for a proposal titled Time and Concentration of Relaxin Needed to Reverse Fibrosis and Suppress Arrhythmias in SHR Hearts.
- Iain Scott, PhD, received a R56 award from NHLBI for a project titled Regulation of Fuel Utilization by Lysine Acetylation in the Failing Heart.
- Marc Simon, MD, received funding from AADi, LLC, for a proposal titled Phase 1 Clinical Trial of ABI-009, an mTOR Inhibitor for Patients with Severe Arterial Hypertension.
- A.J. Conrad Smith, MD, was named a Co-Investigator on the project, Serotonin Transporter Gene Polymorphisms, Platelet Aggregation, and Clinical Outcomes in ACS Patients Concomitantly Treated with SSRIs and Dual Antiplatelet Therapy, which is funded by the American Heart Association.
• Prem Soman, MD, received funding from Astellas Pharma US for a project titled, The Simultaneous Assessment of Invasive Fractional Flow Reserve and SPECT Myocardial Ischemia Using Regadenoson in the Catheterization Laboratory

• Catalin Toma, MD, received funding from Rutgers University for his role on the project, Myocardial Ischemia and Transfusion (MINT) CCC.

• Flordeliza Villanueva, MD, lead the first year of the Cardiology T32, Training Program in Imaging Science in Translational Cardiovascular Research.

Clinical Trials

FY 2017 clinical trials included:

• ABSORB III/IV: Prospective, randomized (1:1, Absorb BVS to XIENCE), single-blind, multicenter clinical evaluation of Absorb BVS (the Everolimus Eluting Bioresorbable Vascular Scaffold) in the treatment of subjects with de novo native coronary artery lesions. Purpose is to evaluate the incidence of angina occurring within one year and to evaluate long-term clinical outcomes of Absorb BVS compared to XIENCE in the treatment of subjects with ischemic heart disease.

• AMI MultiStem®: Phase II prospective, randomized, double-blind, sham-controlled, parallel-group, multicenter trial designed to assess the safety of AMI MultiStem® in subjects with NSTEMI. AMI MultiStem® vial product is a cell therapy investigational product originating from adherent adult stem cells taken from the bone marrow of a non-related donor and expanded ex-vivo. MultiStem® will be delivered by a micro-infusion catheter into the adventitial layer of the target vessel following successful PCI.

• ALIVE: Clinical Study of the BioVentrix Revivent TC™ System for Treatment of Left Ventricular Aneurysms: A prospective, multicenter, dual-arm pivotal study of 126 patients with 2:1 study (84 patients treated with the investigational device) vs. active concurrent control group (42 patients). The Revivent TC™ System is indicated for patients referred for surgical treatment of left ventricular aneurysm or anterior scar that is contiguous, and includes both anterior and septal components.

• COAPT: Prospective, randomized, parallel-controlled clinical evaluation of the safety and effectiveness of the MitraClip® System for the treatment of functional mitral regurgitation in symptomatic heart failure subjects who are treated per standard of care and who have been determined by the site’s local heart team as not appropriate for mitral valve surgery. Eligible subjects will be randomized in a 1:1 ratio to the MitraClip® device (device group) or to no MitraClip® device (control group).

• FLARE: Prospective, single-arm, controlled, multicenter study of the FlowTriever® System to evaluate the safety and effectiveness of the FlowTriever® System for use in the removal of emboli from the pulmonary arteries in the treatment of acute pulmonary embolism (PE).

• EVOLVE Short DAPT: Prospective, multicenter, single-arm study designed to assess the safety of three-month dual antiplatelet therapy (DAPT) in subjects at high risk for bleeding undergoing percutaneous coronary intervention (PCI) with the SYNERGYTM Everolimus-Eluting Platinum Chromium Coronary Stent System (SYNERGY Stent System).

• AdaptResponse: Clinical study testing the hypothesis that market -released CRT devices, which contain the AdaptivCRT® (aCRT) algorithm, have a superior outcome compared to standard CRT devices in CRT indicated patients with normal atrio-ventricular (AV) conduction and left bundle branch block (LBBB).
- **Leadless II**: Study evaluating the safety and effectiveness of the leadless pacemaker system in treating patients with a slow heart rate or irregular heartbeats. This study is intended to help reduce certain complications associated with traditional pacemakers.

- **ADMIRE – HCM**: Prospective, observational cohort study of all patients with hypertrophic cardiomyopathy undergoing clinical cardiac MRI at UPMC Presbyterian. Participants will undergo research blood draw as well as additional research MRI imaging at the time of the study. Participants will be followed longitudinally to determine the association between imaging findings and heart outcomes such as rhythm disturbance and mortality. If selected, eligible participants will be potentially eligible for follow-up cardiac MRI (and/or other imaging), the costs of which will be covered by research funding.

- **aMAZE (Left Atrial Appendage Ligation with the LARIAT® Suture Delivery System as Adjunctive Therapy to Pulmonary Vein Isolation for Persistent or Longstanding Persistent Atrial Fibrillation)**: Prospective, multicenter, randomized (2:1) controlled study to evaluate the safety and effectiveness of the LARIAT® Suture Delivery System to ligate the left atrial appendage (LAA) in adjunct with a planned PVI to treat patients with symptomatic persistent or longstanding persistent atrial fibrillation.

- **A Randomized, Parallel-Group, Placebo-Controlled Subject and Investigator Blinded Study to Assess the Safety, Tolerability, Pharmacokinetics and Efficacy Of QCC374 in the Treatment of Pulmonary Arterial Hypertension**

- **A Phase 2, Open-Label, Extension Study to Evaluate the Long-Term Safety and Efficacy Of Ubenimex in Patients with Pulmonary Arterial Hypertension (WHO Group 1)**

- **A Randomized Parallel-Group, Placebo-Controlled, Double-Blind, Event-Driven, Multi-Center Pivotal Phase III Clinical Outcome Trial of Efficacy and Safety of the Oral sGC Stimulator Vericiguat in Subjects With Heart Failure With Reduced Ejection Fraction (HFrEF) - VerICiguaT Global Study in Subjects With Heart Failure With Reduced Ejection Fraction (VICTORIA)**

- **Clinical Study of the BioVentrix Revivent TC™ System for Treatment of Left Ventricular Aneurysms (ALIVE)**

- **A Prospective, Multicenter, Single-Arm Study Designed to Assess the Safety of 3-Month Dual Antiplatelet Therapy (DAPT) in Subjects at High Risk for Bleeding Undergoing Percutaneous Coronary Intervention (PCI) with the SYNERGYTM Everolimus-Eluting Platinum**

- **Chromium Coronary Stent System (SYNERGY Stent System)**

- **Left Atrial Appendage Ligation with the Lariat Suture Delivery System as Adjunctive Therapy to Pulmonary Vein Isolation for Persistent or Long Standing Persistent Atrial Fibrillation (aMAZE)**

- **Symplicity AF**

- **AMPLATZER™ Amulet™ Left Atrial Appendage Occluder Randomized Controlled Trial**

Finally, the Division of Cardiology welcomes Toren Finkel MD, PhD, a physician-scientist renowned for his research on the basic science of aging. Dr. Finkel has been named Director of the UPMC-University of Pittsburgh Aging Institute and a Professor of Medicine in the Division of Cardiology. The Division also looks forward to the recruitment of a distinguished amyloidosis investigator who will lead basic science research efforts focused on amyloidosis causes and interventions.
Faculty Research Interests

Evan Adelstein MD
Dr. Adelstein’s research interests include the role of cardiac resynchronization therapy in patient populations not studied in large-scale clinical trials, the electromechanical effects of anti-arrhythmic drug therapy, and the use of the wearable cardioverter-defibrillator.

Aryan Aiyer MD
Dr. Aiyer's academic interests focus on preventive cardiology with a special interest on novel cardiac risk factors and the use of coronary calcium scoring in the assessment of subclinical atherosclerosis. He is a Co-Investigator on the Heart SCORE study and also serves as a Co-Investigator on U01 grant funded by the NIH.

Imad Al Ghouleh PhD
Dr. Al Ghouleh’s lab studies pulmonary hypertension, a devastating disease that currently has no treatment. An area of particular focus is defining the mechanisms that underlie right ventricular phenotypic changes in this disease. As pulmonary hypertension progresses, extensive remodeling occurs in the blood vessels that comprise the pulmonary circulation, which leads to progressive increases in pulmonary vascular resistance. In turn, this causes pressure overload on the heart’s right ventricle (RV), which undergoes remodeling as a result. Initially, RV remodeling is adaptive, but it eventually becomes maladaptive and leads to RV failure. There is very little known about the pathways that drive this process, a fact that Dr. Al Ghouleh’s lab wants to change through its research. Their preliminary findings identified a signaling cascade involving the protein ERM binding phosphoprotein 50 (EBP50), also called NHE regulatory factor 1 (NHERF1), in this process. Current research is designed to test this pathway in the RV following pressure overload challenge—and to delineate the upstream and downstream molecules involved. The long-term goal is to translate mechanistic insights into therapeutic strategies aimed at the RV.

William Barrington MD
Dr. Barrington's interests involve clinical cardiology and electrophysiology. He participates in a variety of clinical studies examining the role of new pharmacologic agents, devices or therapies in the treatment of cardiac arrhythmias.

Raveen Bazaz MD
Dr. Bazaz is initiating innovative animal research with the goal of linking cardiac anatomy, histology, and pathology to function. He is focusing his current efforts on studying the atria (upper chambers of the heart) but has plans to study the more complex ventricular chambers.

Kathryn Berlacher MD MS
Dr. Berlacher's primary research interest focuses on medical education, specifically innovative curriculum development and outcome-based program development. In addition, she conducts research related to women's cardiology.

Susan Brode MD
Dr. Brode's research focus has been the evaluation of the efficacy and accuracy of newer tools, such as device programmers, on the follow-up of patients implanted with cardiac devices.

Dennis Bruemmer MD PhD
Dr. Bruemmer’s research program centers on the basic investigation of mechanisms underlying tissue remodeling during atherosclerosis and neointima formation. His laboratory is currently investigating the role of telomerase and telomere attrition in obesity, diabetes, and cardiovascular disease. Specifically, he is seeking to determine the transcriptional mechanisms by which telomere biology impacts cell proliferation and inflammation in diabetes and cardiovascular disease.
João Cavalcante MD
Dr. Cavalcante’s research interests include outcomes research in valvular disease; the interplay of aortic stenosis and comorbidities, including amyloidosis and pulmonary hypertension; and the use of CMR for valvular disease.

Stephen Chan MD PhD FAHA
Dr. Chan leads a basic science and translational research group that is studying the molecular mechanisms of pulmonary vascular disease and pulmonary hypertension (PH) – an example of an enigmatic disease where reductionist studies have focused primarily on end-stage molecular effectors. To capitalize on the emerging discipline of network medicine, the group’s research uses a combination of network-based bioinformatics and unique experimental reagents derived from genetically altered rodent and human subjects to accelerate systems-wide discovery in PH. The group’s published findings were among the first to identify the systems-level functions of microRNAs (miRNAs), which are small, non-coding RNAs that negatively regulate gene expression, as a root cause of PH. Dr. Chen’s lab developed novel in silico approaches to analyzing gene network architecture coupled with in vivo experimentation. The results now offer methods to identify persons at risk for PH and to develop therapeutic RNA targets. This work is the cornerstone of the lab’s evolving applications of network theory to the discovery of RNA-based origins of human diseases, in general.

Xucai Chen PhD
Dr. Chen’s research interests focus on three areas: ultrasound imaging, ultrasound mediated therapy, and ultra-high-speed digital microscopy. Within ultrasound imaging, he focuses on (1) Ultrasound molecular imaging of angiogenesis using vascular endothelial growth factor-conjugated microbubbles and ischemic memory imaging with targeted microbubbles; (2) Novel intravascular ultrasound system (IVUS) for contrast-enhanced imaging of coronary vasa vasorum for quantification of plaque neovascularization during atherosclerosis progression; and (3) Stem cell imaging with ultrasound to track the trafficking of mesenchymal stem cells by uptake of the microbubbles. Regarding ultrasound mediated therapy, Dr. Chen studies ultrasound-assisted gene and drug delivery and therapy for cancer and cardiovascular diseases, such as hypertrophic cardiomyopathy. He also investigates sonoreperfusion and microvascular reperfusion therapy by using ultrasound and microbubbles to resolve microvascular obstruction post-percutaneous coronary intervention of acute myocardial infarction (AMI).

A High-Speed Digital Microscopy Laboratory has been developed to support the functions of the Pittsburgh Center for Ultrasound Molecular Imaging and Therapeutics. The center houses the fastest multi-frame digital microscopy laboratory (UPMC Cam, 25 million frames per second, 128 frames) in North America dedicated to biomedical research. When combined with the Acoustics Laboratory, researchers can observe microbubble oscillations when they are exposed to ultrasound energy as well as their interactions with biological cells at very high temporal resolutions. This system is used to investigate mechanisms of ultrasound mediated bioeffects, such as sonoporation for drug delivery and gene transfection for cancer therapy, sonothrombolysis for reperfusion therapy for microvascular obstruction, and the phase transition phenomena for photoacoustic imaging and contrast ultrasound imaging.

Peter Counihan MD
Dr. Counihan investigates the efficacy and safety of erythropoetin and darbopoetin in animal models of ischemia and reperfusion. This research may lead to further therapies in humans to improve clinical outcomes.

Frederick Crock MD
Dr. Crock is involved in research pertaining to the use of echocardiography in percutaneous treatment of valvular disease and atrial fibrillation. (TAVR, MitraClip. Watchman, Lariat, Amplatz devices).
**Partha Dutta DVM PhD**
Dr. Dutta researches cardiovascular disease, which is the leading cause of death in developed countries. Inflammation aggravates outcome of cardiovascular disease, including atherosclerosis and infarct healing after myocardial infarction (MI). During progression of atherosclerosis, myeloid cells destabilize lipid-rich plaques in the arterial wall and cause their rupture, thus triggering myocardial infarction and stroke. Survivors of acute coronary syndromes have a high risk of recurrent events for unknown reasons.

Another area of research interest is the differentiation of hematopoietic stem and progenitor cells in cardiovascular disease. Hematopoietic stem cells get activated after acute or chronic inflammation and give rise to exaggerated myelopoiesis. However, most hematopoietic stem cells (HSC) are quiescent, and it is currently unknown whether they respond to ischemic organ injury. We identified a CCR2+HSC subset, which has a four-fold higher proliferative rate than CCR2-HSC, as the most upstream contributor to myelopoiesis after myocardial infarction. CCR2+HSC display bias toward the myeloid lineage and dominate the migratory HSC population after myocardial infarction and in steady-state. These data shed new light on the regulation of emergency hematopoiesis after ischemic injury and identify novel therapeutic targets to modulate leukocyte output after myocardial infarction.

**William Follansbee MD**
Dr. Follansbee's career focus has been as a clinician-educator, but he has also participated actively in research. Early in his career, his research focused on cardiac involvement in systemic diseases, particularly systemic sclerosis. His research interests in nuclear cardiology centered on the application of the technologies to study pathophysiology of diseases. In more recent years, his participation in research has been in facilitating projects of colleagues and particularly younger faculty members. The initiative in medical decision making has resulted in multiple national presentations by younger faculty members in the last couple years.

**Rabindra Girdhar MD**
Dr. Girdhar’s research interests focus on optimal cardiology management. He is a sub investigator of the following trials: Regulate PCI, Tigris, Absorb III, Excel, Translate, TAO and Silver AMI.

**John Gorcsan MD**
Dr. Gorcsan has a special interest in quantifying cardiac function using novel echocardiographic imaging technologies and heart failure patients. He has published extensively in the scientific literature and has been supported by awards from the National Institutes of Health as Principal Investigator. He serves as International Associate Editor of the *European Heart Journal* and Associate Editor of the *Journal of Cardiac Failure*. He serves on the Editorial Board of the *Journal of the American College of Cardiology*.

**Indrani Halder PhD**
Dr. Halder’s research interests include biobehavioral genetics of cardiovascular disease, mind-body interactions in disease states, the genetic basis for racial differences in cardiovascular disease, genetic admixture analysis and admixture mapping, statistical and population genetics of cardiovascular disease, and genome-wide association studies for cardiovascular disease.

**Matthew Harinstein MD FACC FASE**
Dr. Harinstein's studies acute heart failure syndromes, transcatheter aortic valve replacement outcomes, assessment of right ventricular function in liver transplant candidates, cardiac risk assessment of solid organ transplant candidates, clinical trials studying new pharmacologic agents, and assessment of mechanical dyssynchrony with gated SPECT. He also is a reviewer and Editorial Board member of the American Journal of Cardiology.
Darla Hess MD
Dr. Hess’s researches the expanding application of noninvasive testing to specific groups of patients.

Sandeep Jain MD
Dr. Jain’s research interests comprise novel therapies for atrial fibrillation, such as newer mapping systems and ablation techniques, including the region’s largest cryoballoon experience. He is the site PI for the NIH PCORI AF cohort within the PaTH network. He oversees an atrial fibrillation ablation database from which newer techniques and predictors of response and complications are continually being evaluated.

William Katz MD
Dr. Katz participated in the research study titled Echocardiography to Predict Recurrent IMR after Surgical Mitral Valve Repair, an NIH grant with the University of Pennsylvania (2011-2015). He is currently involved in multiple research studies, including the following TAVR aortic valve trials: CoreValve US Pivotal Trial (2011-present), Medtronic SURTAVI Trial TAVR vs Surgical AVR for Moderate Risk Patients (2013-present), Reprise III Boston Scientific Lotus TAVR valve (2014-present), and the St. Jude Portico TAVR valve study (2014-present).

Among his other studies are COAPT Trial Evaluating MitrClip for Functional Mitral Regurgitation (2014-present) and REATA Trial Mitochondrial Disease. Cardiologist subinvestigator reading echoes and EKGs (2015 to present)

Brett Kaufman PhD
Dr. Kaufman's long-standing research interest is to understand the contribution of mtDNA metabolism to disease progression. For 20 years, he has been investigating the fundamental processes that underlie mitochondrial respiratory deficiency, with a focus on mtDNA stability and copy number control—processes essential for respiratory function and viability. Dr. Kaufman's major research goals are 1) to define the biochemical events responsible for the maintenance of mtDNA content, 2) to understand how distinct pathways influence mtDNA maintenance, and 3) to understand mechanisms of mtDNA damage and resistance to damage in the context of disease.

Kang Kim PhD
Dr. Kim’s laboratory seeks to develop and translate state-of-the-art noninvasive imaging technologies to improve disease diagnosis, guide therapeutic strategies, and to evaluate therapeutic efficacy. Its research emphasis is on the development and application of hybrid ultrasound imaging systems that are based on a fundamental understanding of how sound and light interact with soft tissue, and that are capable of capable of assessing their mechanical, compositional, and biological characteristics. Three independent, but related, imaging technologies are under active investigation:

(1) Ultrasound elasticity imaging (UEI)/shear wave elasticity imaging (SWEI) non-invasively assesses the global and regional mechanical properties of the soft tissues and organs. (2) Ultrasound Thermal Strain Imaging (TSI) strongly contrasts lipids from the surrounding non-lipid tissues.

(3) Photoacoustic Imaging (PAI)/Photoacoustic molecular imaging (PMI) combines laser and ultrasound technologies to detect optical contrast in tissues and to identify specific biomarkers that may enable early detection of disease and its treatment evaluation.

These three imaging modalities may also be combined to provide a more complete characterization of disease. Noninvasive imaging technologies such as these will also be pivotal for preclinical animal studies, significantly reducing animal numbers, variation between subjects, and shortening the study period. Dr. Kim’s research team envisions a noninvasive hybrid imaging system, integrating all these technologies into a single bed-side ultrasound platform. This will provide a powerful, safe, and cost-effective adjunct to clinical practice by identifying patients at early stages of disease and improving treatment strategies.
Joon Lee MD
Dr. Lee has a specific research interest in the role of gene therapy in cardiovascular disease and has been involved in organizing local and multicenter trials regarding the potential role of these novel therapies in the treatment of coronary disease. Dr. Lee has been active in establishing the Transcatheter Aortic Valve Replacement (TAVR) program at UPMC in conjunction with the cardiac surgical colleagues. UPMC has one of the leading TAVR programs in the country.

Jared Magnani MD MSc
The Magnani Lab focuses on social determinants of health and cardiovascular disease and outcomes. There is tremendous evidence that social factors significantly influence health care access and outcomes. Identifying social determinants of health can provide avenues for community-based interventions and insight regarding the etiologies for disparities. To this end, our health services research uses a smartphone-based relational agent to improve health care utilization and medication adherence in patients with atrial fibrillation. We conduct this study in urban and rural settings with the aim of improving patient-centered outcomes in vulnerable patients with limited social resources and health literacy. We intend to expand these activities to heart failure and secondary prevention of cardiovascular disease. Second, we are using the electronic health record to examine social determinants of cardiovascular diseases, specifically atrial fibrillation and heart failure. These investigations leverage the extensive geography of UPMC and community-level data. Dr. Magnani has led investigations in the Framingham Heart Study, the ARIC Study, and Health ABC, and is supported by a Doris Duke Foundation Clinical Scientist Development Award. He chairs the American Heart Association (AHA) writing group statement on health literacy and cardiovascular disease and serves on the AHA Council Operations Committee.

Michael Mathier MD
Dr. Mathier’s research is directed at clinical studies of emerging therapies in heart failure and pulmonary hypertension patients.

Dennis McNamara MD
Dr. McNamara’s research interests center on the impact of genomics on clinical outcomes, and the use of genetic variation for targeting therapeutic interventions. In addition, he is interested in the use of genetic background and biomarker assessment for predicting myocardial recovery in recent onset non-ischemic cardiomyopathy.

Charles McTiernan PhD
Dr. McTiernan’s laboratory studies the molecular basis of cardiac remodeling in heart failure as well as a the use of cardiac function, cellular, molecular biology, and microscopic techniques. The lab’s publications have appeared in Circulation Research, Circulation, Journal of the American College of Cardiology, Cardiovascular Research, and PNAS, among others. To date, Dr. McTiernan’s research has covered 4 areas: (1) Proinflammatory cytokines in heart failure. His lab demonstrated that transgenic overexpression of TNF generated a heart failure phenotype resembling that observed in human heart failure. Additional studies examined TNF effects on fibrosis and calcium handling. (2) TIMPs and MMPs in cardiac remodeling. Dr. McTiernan’s team reported that a) altered expression of TIMPs and MMPs occurs in failing human hearts, b) is responsive to mechanical unloading by ventricular assist devices, c) MMP-inhibition limits cardiac remodeling in a murine heart failure model, and d) the profile of TIMP and MMP expression varies with heart failure progression.

George Mendenhall MD
Dr. Mendenhall’s research focuses on the analysis of device signals and electrograms for electrocardiogram reconstruction and arrhythmia prediction. He also researches the development of novel cardiac arrhythmia monitoring technology.
Matthew Muldoon MD MPH
Dr. Muldoon conducts clinical research examining the interface of behavioral and biological risk factors for cardiovascular disease. Cardiovascular risk conveyed by hypertension, lipid disorders, insulin resistance and preclinical atherosclerosis are studied in relation to individual differences health behaviors (diet and exercise), cognition (attention, working memory, executive function, and impulsivity) and in mood (depression and anxiety). In addition, Dr. Muldoon has tested interventions to treat or prevent hypertension, including prescribed pharmacotherapies, and nutritional supplements. His most recent work leverages e-health technologies to aid patients in self-management of their hypertension. He has led or co-led investigations using randomized and double-blind trial design, physiologic and ambulatory recordings, automated and bidirectional short-messaging systems, biomarker assessment, genomics and functional brain imaging. The majority of Dr. Muldoon’s research funding has come from competitive grants awarded by the National Institutes of Health (US Public Health Service).

Suresh Mulukutla MD
Dr. Mulukutla has established himself as a well-recognized investigator in the field of cardiovascular outcomes research. His early involvement with the Dynamic Registry has resulted in several high-impact publications. He was a co-author in the 2008 New England Journal of Medicine article entitled A comparison of bare-metal and drug-eluting stents for off-label indications. Dr. Mulukutla has contributed several other papers based upon the Dynamic Registry as first author, senior author, and co-author, which has earned him recognition in the interventional cardiology community. It was primarily this work that led him to be recognized by Cardiovascular Research Technologies (CRT) as one of the nation’s Young Leaders in 2009.

Dr. Mulukutla’s interests in outcomes research and registry-based analyses led to the formation of the Heart and Vascular Institute’s Clinical Biostatistics Core (CBC). The CBC has been responsible for the foundation for several academic and research activities in outcomes across the HVI. In the last one year alone, the CBC, under the direction of Dr. Mulukutla, has published several manuscripts/abstracts using UPMC-specific data. These revolve around areas of clinical decision-making, readmissions in heart failure populations, treatment of complex coronary artery disease, among others.

Now, as Chief of Cardiology at the VA Pittsburgh Healthcare System, Dr. Mulukutla is extending his cardiovascular outcomes efforts to the VA population as well. Dr. Mulukutla serves on several regional and national quality committees and serves as the Governor of the Western PA Chapter of the American College of Cardiology.

Jan Nemec MD
Dr. Nemec’s primary research interest is cardiac electrophysiology.

John Pacella MS MD
Dr. Pacella’s research interests include the development of therapy to optimize microvascular perfusion. He has received NIH R01 funding to develop the technique of sonorepefusion, which is the application of ultrasound to intravascular microbubbles to relieve microvascular obstruction and restore myocardial perfusion in the setting of percutaneous coronary intervention of acute myocardial infarction.

Bin Qin PhD
Dr. Qin’s research interest is the development of a novel targeted drug and gene delivery system for cancer therapy. His current emphasis at the Center for Ultrasound Molecular Imaging and Therapeutics includes development of microbubble platforms for applications of gene therapy, molecular imaging and angiography.
Ravi Ramani MD
Dr. Ramani's studies the mechanisms of myocardial recovery after development of heart failure, through the use of mechanical circulatory support. It focuses on reversible and irreversible alterations in pathways of myocyte hypertrophy and fibrosis, with emphasis on microRNA signatures of recovery potential.

Shivdev Rao MD
Current research interests center around building and studying systems that leverage diverse data to affect provider and patient behavior patterns. Dr. Rao also explores large-scale population health analytics for systems and quality improvement. Previously, his research focused on African American cardiovascular risk factor stratification.

Steven Reis MD
Dr. Reis' research interests include cardiovascular health and heart disease in women, racial disparities in cardiovascular disease, microvascular angina, endothelial function, and cardiovascular risk. Dr. Reis, who has experience as a volunteer firefighter, has also conducted cardiovascular research on firefighters, a group prone to cardiac arrest given firefighting’s combination of heat, exertion, and dehydration. He and other researchers have explored methods and technologies to regulate body temperature and reduce inflammation and cardiovascular strain on active firefighters.

He is the founding director of the Clinical and Translational Science Institute (CTSI), which improves efficiency and reduces the time it takes to translate biomedical advances into societal health practices. Pitt's CTSI is part of a national consortium of research institutes funded by the National Institutes of Health. CTSI fosters collaborative research that advances new medical therapies and technologies in clinical care while training clinical scientists and ensuring greater access to clinical trials for patients and the public.

Samir Saba MD
Dr. Saba has authored more than 190 manuscripts that were published in peer-reviewed journals and has been issued 3 patents for inventions in the field of cardiac electrophysiology. He has received research grants from the National Institutes of Health, the American Heart Association, the American Heart Foundation, and the American College of Cardiology. His research interests include cardiac device therapy for heart failure and signal processing of intracardiac electrical signals for ischemia detection.

Guy Salama PhD
A central goal of Dr. Salama's laboratory is to elucidate the mechanisms responsible for the initiation and termination of cardiac arrhythmias. To achieve this, they have developed the use of voltage-sensitive dyes and high temporal and spatial resolution optical techniques to map patterns of action potential (AP) propagation and repolarization. These novel methods are used to illuminate of the mechanisms that generate spatial heterogeneities of AP durations and the interplay between dispersion of repolarization (DOR) and anisotropic conduction velocities (CV). Animal models for cardiac arrhythmias include: acute ischemia in the guinea pig heart and 2 rabbit models of the long QT syndrome (LQTS). A number of mechanisms are being investigated as factors that promote arrhythmias in the LQTS: elevation of extracellular K+, sympathetic stimulation, and the role of spontaneous Ca2+ oscillation from the sarcoplasmic reticulum. Mapping spatial heterogeneities of intracellular Ca2+ transients in mammalian hearts using Ca2+ indicator dyes and imaging techniques. Once the normal heterogeneities of Ca2+ are determined, changes in Ca2+ transients will be analyzed in a wide range of physiological conditions to determined parameter that modulate Ca2+ transients. This laboratory has been at the forefront of the investigation of the role of sulfhydryl oxidation-reduction as a mechanisms to regulate Ca2+ release from the sarcoplasmic reticulum (SR).
Erik Schelbert MD MS
Dr. Schelbert’s research interests focus on cardiovascular magnetic resonance (CMR), which is a versatile technology that permits robust characterization of cardiovascular disease. The accuracy of the diagnostic information facilitates matching the patient to the right treatment, thereby streamlining a patient’s care. The ability of CMR to establish the correct diagnosis as well as quantify future risk offers unique advantages compared to other modalities. A particularly useful application of CMR is its ability to detect and quantify disease related to the myocardium that is difficult to otherwise detect. For example, CMR can detect clinically unrecognized myocardial infarction, infiltrative disease related to excess iron, glycosphingolipid, or amyloid protein. Dr. Schelbert’s team has focused on myocardial fibrosis, which results from varying degrees of excess collagen. Myocardial fibrosis appears to be a reversible indicator of myocardial health that is prevalent and predicts adverse events (e.g., mortality or hospitalization for heart failure) in proportion to its severity. Dr. Schelbert is trying to understand its optimal measurement, its association with other conditions, its impact on prognosis, and its response to therapy.

John Schindler MD
Dr. Schindler has participated in multiple national and international clinical trials focused on the ideal treatment of patients with complex cardiovascular conditions. In this role, he has been published in peer-reviewed journals and presented clinical findings at national cardiovascular meetings. His current clinical focus mainly centers around the individualized treatment of patients with valvular heart disease and which minimally invasive therapies are most effective.

Sun Scolieri MD
Dr. Scolieri’s research interests are heart disease in women and coronary artery disease.

Iain Scott PhD
Dr. Scott’s research focuses on the intrinsic mechanisms that regulate mitochondrial protein acetylation, and how this fundamental alteration affects organelle function at the cellular and tissue level. Mitochondria are ubiquitous organelles, playing a vital role in bioenergetics, metabolite biosynthesis, and overall cellular homeostasis. Their activity needs to be tightly regulated, as evidenced by the growing number of pathologies in which mitochondrial dysfunction is a causative factor. Mitochondria are highly susceptible to environmental stresses, with overnutrition being a particular problem in the developed world. A high caloric intake leads to a surge in available acetyl-CoA (the final breakdown product of fats, carbohydrates, and proteins in the mitochondria), which cannot be used for energetic or synthetic purposes. In particular, Dr. Scott’s lab is interested in the coordination between acetylation levels and mitophagy, a quality control mechanism that mediates the removal of dysfunctional mitochondrial organelles. Researchers recently discovered that GCN5L1, a mitochondrial protein that promotes lysine acetylation, regulates the transcriptional machinery of mitophagy. Dr. Scott and his team’s future work will aim to elucidate the pathways that link nutritional inputs, GCN5L1-mediated lysine acetylation, and mitochondrial quality control systems. These findings will then be translated into studies involving metabolically-relevant disease models, such as heart failure and diabetes, to achieve a better understanding of the role played by dysfunctional mitochondria in these processes.

Alaa Shalaby MD
Dr. Shalaby’s research interests include the utilization of implantable devices for and biomarkers of risk for sudden cardiac death as well as utilization of devices for assessment and treatment of congestive heart failure and sleep related breathing disorders.

Sushant Sharma MD
Dr. Sharma focuses on clinical research in emerging therapies in the management of cardiovascular disease.
Saul Silver MD
Dr. Silver is a sub investigator on the Silver AMI, an observational study designed to collect data about the post-AMI recovery period that will be used to generate risk models for older patients with AMI. It is funded by the National Heart, Lung, and Blood Institute (NHLBI) and Yale University. (New Haven, CT.) Among the several other current studies in which he is a sub investigator is ARTEMIS: A prospective, cluster-randomized clinical trial that will evaluate whether patient copayment reduction significantly influences antiplatelet therapy selection and long-term adherence, as well as patient outcomes and overall cost of care after acute myocardial infarction. The study is funded by AstraZeneca and Duke Clinical Research Institute (CRO). (Raleigh/Durham, NC.)

Marc Simon MD
As a translational scientist, Dr. Simon’s research focus is understanding right ventricular (RV) adaptation and eventual failure in heart failure and pulmonary hypertension (PH). His labs focus on 1) advanced analysis of clinical hemodynamics, 2) integration of imaging and hemodynamics to better assess right ventricular function, and 3) early phase clinical trials in pulmonary hypertension and heart failure. His recent projects include a phase II study of inhaled nitrite for pulmonary hypertension (ClinicalTrials.gov NCT01431313), assessment of right ventricular-pulmonary arterial coupling in pulmonary hypertension patients and its relation to outcomes, right ventricular strain analysis by echocardiographic speckle tracking to screen a variety of patients for right ventricular dysfunction, assessment of right ventricular myocardial biaxial biomechanics in a murine model of pressure overload, and phenotyping a nonhuman primate model of HIV-associated pulmonary hypertension. He is involved with multiple clinical trials in pulmonary hypertension and heart failure and he holds several leadership roles, including 1) PI for the clinical core of a translational program project grant in pulmonary vascular disease (PI: Gladwin), 2) overseeing the Advanced Heart Failure and Cardiac Transplantation section’s clinical research portfolio of over 30 protocols with three full time clinical research coordinators, and 3) director of the Montefiore University Hospital Clinical & Translational Research Center, a core lab in the University of Pittsburgh’s Clinical Translational Science Institute that supports over 120 clinical research protocols for investigators. Dr. Simon has received research support from NIH, AHA, the Clinical Translational Science Institute of the University of Pittsburgh, and The Pittsburgh Foundation.

Anson Smith MD
Dr. Smith’s research interests are primarily in the area of analysis of outcomes after percutaneous coronary intervention. As the Director of the Cardiac Catheterization Laboratory, he is overseeing the development of our cath lab database system which will provide a wealth of research potential to evaluate various aspects in interventional cardiology. He has worked with Dr. Dennis McNamara in developing a database of coronary intervention patients in which we are currently evaluating the potential genetic basis of cardiac disease. Dr. Smith also serves as the Governor of the Western Pennsylvania Chapter of the American College of Cardiology where he has the unique opportunity to directly impact the practice of cardiology in this region.

Prem Soman MD PhD FRCP FACC
Dr. Soman’s research focuses on the use of radionuclide-based imaging techniques in cardiac diseases, particularly heart failure. Current interests include the use of myocardial SPECT imaging for left ventricular dyssynchrony assessment, an area in which his group has contributed seminal work (Mati Friehling, Young Investigator Award, ASNC 2010; Saurabh Malhotra, Young Investigator Award, ASNC 2013).

Cynthia St Hilaire PhD
The St. Hilaire lab research program stems from the previous discovery of the genetic disease Arterial Calcification due to Deficiency of CD73 (ACDC), which identified a novel role for the enzyme CD73, and its substrate adenosine, in vascular calcification and vascular remodeling. Moving forward research in the St. Hilaire lab will explore the role of CD73 and adenosine signaling in more complex vascular pathologies such as atherosclerosis, calcific aortic valve disease, and aneurysms using in vitro (primary human and mouse cells and patient-specific induced-pluripotent stem
cells) and in vivo (genetically defined murine models and surgical manipulations), with the goal of translating findings in ACDC to more common vascular diseases and pathologies.

Jeffrey Teuteberg MD
Dr. Teuteberg’s primary research interest is the assessment of risk factors and outcomes for patients who receive mechanical circulatory support or cardiac transplantation. In the field of mechanical support, he is interested in right ventricular function, anticoagulation/thrombosis, and chronic clinical management. In cardiac transplant, his research interests are in novel immunosuppression, desensitization, and antibody mediated rejection.

Catalin Toma MD
Dr. Toma’s research interests are the study of cell therapy for cardiac applications, bioabsorbable vascular scaffolds, intracoronary imaging, and pulmonary embolism.

Krishna Tummalapalli MD
Dr. Tummalapalli's research interests are the benefits of the trans-radial approach for cardiac catheterization, as well as both biodegradable and covered stents. She also participated in the National SAFE-PCI in Women Trial.

Flordeliza Villanueva MD
Dr. Villanueva's research focuses on the development of medical diagnostic and therapeutic strategies based on ultrasound and ultrasound contrast agents (gas-filled microspheres, or microbubbles). Her work has consistently bridged fundamental imaging sciences with translational biomedical research. As an Established Investigator of the American Heart Association, she has been a leader in the development of microbubbles for the assessment of myocardial perfusion, and ultrasound molecular imaging with targeted microbubbles for the detection of inflammatory and angiogenic endothelial markers in pre-clinical models of heart disease. Dr. Villanueva's lab has pioneered the development and application of microbubbles as molecular probes, and acoustic detection strategies for optimizing imaging sensitivity. Her lab group has applied fundamental principles of ultrasound and the physics of microbubble acoustic behaviors to develop novel targeted molecular therapeutics, whereby nucleic acid loaded microbubbles (siRNA, miRNA, plasmid), in the presence of precisely tuned ultrasound, selectively enhance membrane permeability and deliver payloads to the target site. These studies are conducted at the Center for Ultrasound Molecular Imaging and Therapeutics, a translational multidisciplinary research facility which epitomizes the reciprocal relationship between imaging sciences and biomedical translational research.

Andrew Voigt MD
Dr. Voigt's research interests include cryoablation for atrial fibrillation and patterns of cardiovascular implantable electronic device utilization. He was one of the earliest physicians in the United States to implant a leadless pacemaker during a first in human multicenter trial.

Norman Wang MD MS
Dr. Wang’s research interest focuses on the epidemiology of cardiovascular disease, with an emphasis on the interaction between heart rhythm disorders and heart failure. He has a MS in epidemiology from the University of Pittsburgh Graduate School of Public Health.

Timothy Wong MD MS
Dr. Wong's research interests include the comparative effectiveness of cardiovascular imaging modalities, as well as the role of a novel cardiac MRI biomarker of diffuse myocardial fibrosis in cardiovascular diseases, including hypertrophic cardiomyopathy. His work has been published in major scientific journals, including Circulation and the European Heart Journal. He also participates as a site investigator in several multi-center research protocols, while
serving as a scientific reviewer for numerous journals. Dr. Wong is a member of an American Heart Association grant review committee, as well as imaging society working groups.

François Yu PhD
Dr. Yu’s research interests are focused on the use of ultrasound and microbubbles for imaging and therapeutic medical applications. They include sonoreperfusion therapy to address microvascular obstruction, ultrasound targeted drug delivery using microbubbles and liposomes, high frequency contrast ultrasound imaging for plaque vasa-vasorum imaging, and ultrasound tissue characterization using high frequency spectral domain analysis.

Jianhui Zhu MD PhD
Dr. Zhu’s research interests focus on ultrasound mediated gene/drug delivery in the treatment of tumors and cardiovascular diseases as well as the role of intracellular signaling pathways in mediating mitochondrial biogenesis and dynamics. He also studies the implication of autophagy-lysosome dysfunction in mitochondrial homeostasis and cell survival.

Faculty Research & Other Scholarly Activities

Evan Adelstein MD
- Active database of patients who have received cardiac resynchronization devices, 2013-present

Carolyn Anderson PhD
- Associate Editor, Journal of Nuclear Medicine, 2016-present
- Associate Editor, Molecular Imaging and Biology, 2015-present
- Editorial Board, Cancer Therapy and Radiopharmaceuticals, 1999-present
- Editorial Board, American Journal of Nuclear Medicine and Molecular Imaging, 2011-present
- Editorial Board, Molecular Imaging, 2017-present
- Grant Reviewer, Cancer Prevention and Research Institute of Texas, 2010-present
- Sub-Chair for programming, Society of Nuclear Medicine and Molecular Imaging Annual Meeting, 2017

William Barrington MD
- Chief, Section of Cardiology at UPMC Shadyside, 2016-present
- Director, UPMC Heart and Vascular Electrophysiology Program, UPMC Shadyside, 2005-2016
- Member, UPMC Cardiology Fellowship/Education Committee, 2001-present
- Program Director, UPMC Clinical Cardiac Electrophysiology Training Program, 2002-2017
- Member, Cardiology Cabinet (Leadership Committee), UPMC Shadyside, 2005-present

Raveen Bazaz MD
- Primary Investigator, AMPLLATZER Cardiac Plug: ACP Trial (St. Jude Medical), University of Pittsburgh Medical Center, 2013-present
- Association for Advancement of Medical Instrumentation Technical Working Group 2: Taskforce, Development of International Standards for Lead Testing: Consortium of FDA, NIST, Biotronik, Boston Scientific, Medtronic, Sorin and St. Jude Medical: Primary Investigator, Human Use Condition Study (Study Design/Pre-contract Phase), 2013-present

Kathryn Berlacher MD
- A Faculty Development Task Force, American College of Cardiology Foundation, 2012-present
- ABIM Competency Based Pilot Program, American College of Cardiology, 2013-present
- ABIM Pilot Study, American College of Cardiology Foundation, 2012 to present
- Laennec and Postgraduate Education Committee, American Heart Association, June 2014 to present
- Laennec Committee, American Heart Association, 2014-present
- Women’s Health in Emergency Medicine and Beyond, UPMC MWH, 2012-present
- Participant, Medical Documentation Task Force, 2012-present
- Co-Director, CardioTalk (pilot study on teaching communication skills to fellows and faculty in the CICU), 2013-present
- Fellow, American College of Cardiology, 2008-present
- UPSOM Admissions Interviewing Committee, 2012-present
- Participant, Medical Documentation Technology Development, 2012-present
- Fellows’ Research Day, American Heart Association, 2014-present
- Volunteer, UPMC COACH events, in association with various organizations, including the American Heart Association, 2009-present

João L Cavalcante MD
- Invited question writer, ACC Nuclear Cardiology Self-Assessment Program - Radiation Safety Module, 2014
- Reviewer, Expert Review of Cardiovascular Disease, 2009-present
- Reviewer, Heart Failure Reviews, 2010-present
- Reviewer, Journal of the American College of Cardiology (JACC), 2010-present
- Reviewer, JACC Cardiovascular Imaging, 2011-present
- Reviewer, Heart (BMJ), 2011-present
- Reviewer, Circulation, 2012-present
- Reviewer, European Heart Journal (BMJ), 2013-present
- Reviewer, Journal of Cardiac Computed Tomography, 2013-present
- Reviewer, Circulation: Cardiovascular Imaging, 2013-present
- Reviewer, American Journal of Cardiology, 2013-present
- Reviewer, Echocardiography, 2014-present
- Reviewer, International Journal of Cardiovascular Imaging, 2014-present

Frederick Crock MD
- Echo Interpreter, Abiomed Sponsor, Right Heart Impella Study, 2013-present
- Echo Interpreter, Surgical Treatment of Aortic Stenosis With a Next Generation, Rapid Deployment Surgical Aortic Valve, Sponsor Edwards LifeScience, 2014-present
- Echo Interpreter, Aastrom, Phase 2 Trial of Autologous bone marrow cells injected into the myocardium using endocardial mapping with the NOGA System, 2012-present
- Echo Interpreter, Multiport Pacing with Quadrupolar LV Lead System, St JUDE sponsor, 2013-present
- Echo Interpreter, Phase III trial of stem cell injections into myocardium for chronic ischemia, Sponsor by Baxter, 2012-present
- Echo Interpreter, A Multinational Trial To Evaluate The Parachute Implant System, 2013-present

Partha Dutta PhD
- Reviewer, multiple journals, (Atherosclerosis, Molecular Imaging and Biology, The Journal of Pathology, Circulation Research, Mediators of Inflammation, Circulation Research), 2016
• HVI/VMI Fellow Award, 2016
• Grant reviewer, K Grant Writing Workshop, Department of Medicine, University of Pittsburgh, 2016
• Grant reviewer, Pilot Project Program in Hemostasis and Vascular Biology, Vascular Medicine Institute, University of Pittsburgh, 2016
• Grant reviewer, HVI/VMI Innovator Award, Vascular Medicine Institute, University of Pittsburgh, 2016

Michael Fallert MD
• Best Doctors, Pittsburgh Magazine, 2012-2016

William Follansbee MD
• Best Doctors, Pittsburgh Magazine, 2010-2016

John Gorcsan MD
• Ad Hoc Reviewer, NIH Grants, NHLBI, NIH, 2006-present
• Associate Editor, Lead in Imaging, Journal of Cardiac Failure, 2015-present
• International Associate Editor, European Heart Journal, 2012-present
• Editorial Board, Journal of the American College of Cardiology, 2006-present
• Editorial Board, Journal of the American Society of Echocardiography, 2006-present
• Guest Editor, Journal of the American College of Cardiology, 2004-present
• Appointments and Promotions Committee, University of Pittsburgh, 2013-2016
• Abstract Reviewer, American Heart Association National Meeting, 2012-2016
• Abstract Reviewer, American College of Cardiology National Meeting, 2012-2016
• Abstract Reviewer, American Society of Echocardiography National Meeting, 2012-2016
• National Nomination Committee, American Society of Echocardiography, 2013-2016
• Invited Teaching Faculty Member, American Society of Echocardiography National Meeting, 2013-2016
• Invited Teaching Faculty Member, European Society of Echo International Meeting, 2013-2016
• Invited Teaching Faculty Member, European Society of Cardiology International Meeting, 2013-2016
• Medical Student Selection Committee, University of Pittsburgh, 2014-2016
• Grant Recipient as PI: Systolic Stretch to Predict Response to Cardiac Resynchronization Therapy in Patients with Intermediate ECG Criteria: Medtronic, Inc., 2015-2016
• Grant Recipient as Echo Core Lab Director and CO-Investigator: Randomized Evaluation of VAD InterVEntion before Inotropic Therapy (REVIVE-IT) NHLBI, National Institutes of Health, 2016-2017
• Grant Co-Investigator, Developing Goal Directed Perfusion Therapy in Subarachnoid Hemorrhage Neurocardiac Injury NHLBI, National Institutes of Health 2014-2017
• Grant as Co-Investigator, Genomic Analysis of Enhanced Response to Heart Failure Therapy in African Americans, NHLBI, National Institutes of Health 2014-2017
• Reviewer, New England Journal of Medicine, 2013-2015

Indrani Halder PhD
• Primary Investigator, Biobehavioral Genetics of CVD Risk, NHLBI, 2009-present
• Melanopsin Photosensitivity and Psychopathology, 2014-present
Matthew Harinstein MD
- Reviewer, American Journal of Cardiology, 2012-present
- Fellow, American College of Cardiology, 2013-present
- Fellow, American Society of Echocardiography, 2013-present
- Editorial Board, American Journal of Cardiology, 2014-present
- Member, Membership Committee, American Society of Nuclear Cardiology, 2015-present
- Member, Education Committee, American Society of Nuclear Cardiology, 2016-present
- Program Committee Member, ASNC Scientific Sessions, 2013, 2017
- Writing Committee, Nuclear Cardiology Knowledge Self-Assessment Program, Viability Module, 2015-2016
- Certification Board of Nuclear Cardiology Exam Writing Committee, 2016
- Medical Director, CCAC Cardiac Sonography Program, 2015-present
- Chief, Cardiology, UPMC McKeesport, 2015-present
- Co-Director, Noninvasive Imaging, UPMC Shadyside, 2016-present

Gavin Hickey MD
- Chair, VA CHF Committee, 2015-present
- Member, VA ECMO Committee, 2015-present
- Member, UPMC Heart Transplant Selection Committee, 2015-present
- Member, UPMC Post-Heart Transplant Immunosuppression Committee, 2015-present
- Member, UPMC VAD Committee, 2015-present

Kang Kim PhD
- Editorial Board, International Journal of Medical Engineering and Informatics, 2008-present
- Grant Reviewer, NIH CSR, Member of Medical Imaging (ZRG1 SBIB-T (10)), 2011-present
- Study Section Reviewer, National Institute of Health, 2009-present
- Reviewer, application materials and interview applicants, Medical Scientist Training Program (MSTP, MD/PhD) and Physician Scientist Training Program (PSTP, MD), 2010-present
- Reviewer, application materials and interview applicants, for PhD, Graduate Program, Department of Bioengineering, 2010-present

William Katz MD
- Clinical Director, Echocardiography Laboratory, 2004-present
- Reviewer, American Journal of Cardiology, 1999-present
- Reviewer, European Heart Journal, 2006-present
- Nominating Committee, SE, 2017
- Abstract Grader, ACC 2016
- Fellowship Committee, UPMC, 2015-present

Oscar Marroquin MD
- Vice President, Clinical Analytics, UPMC Health Services Division, 2014-present
- Assistant Professor, Clinical and Translational Science, 2013-present
- IT Board of Visitors, 2012-present
- Data Governance Council, 2012-present
- Associate Director, Heart and Vascular Center for Quality, Outcomes, and Clinical Research (CQOR), 2011-present
- Member, Quality Patient Care Committee (QPCC), UPMC’s Center for Quality Improvement and Innovation, 2010-present
- Assistant Professor, Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh, 2008-present
- Associate Director for Research, Cardiology Fellowship Program, University of Pittsburgh Medical Center, 2008-present
- Chair, Adjudications Committee, NHLBI Dynamic Registry, 2007-present
- Associate Director, LHAS Women’s Heart Center, University of Pittsburgh Medical Center, 2004-present
- Assistant Professor of Medicine, University of Pittsburgh, 2003-present

Michael Mathier MD
- Reviewer, multiple journals (Annals of Internal Medicine, Journal of the American College of Cardiology, Circulation Research, Coronary Artery Disease, Journal of Cardiac Failure, Cardiovascular Research), 1997-present
- Abstract Reviewer, AHA Scientific Sessions, 2000-present
- Abstract Reviewer, ACC Scientific Sessions, 2000-present
- Abstract Grader, American Heart Association Scientific Sessions, 2000-present
- Abstract Grader, ACC Scientific Sessions, 2000-present
- Medical School Applicant Interviewing, University of Pittsburgh, 2002-present
- Fellowship Committee, University of Pittsburgh, 2002-present
- Fellow, American College of Cardiology, 2003-present
- Director, Pulmonary Hypertension Program, 2005-present
- Graduate Medical Education Committee, 2006-present
- Pulmonary Hypertension Association Scientific Leadership Council, 2006-present
- Pulmonary Hypertension Association PAH Symposium, Six City Tour Steering Committee, 2006-present
- Founder and Director, Cardiology Free Clinic, subspecialty clinic of the Birmingham Free Clinic, Program for Healthcare to Underserved Populations, University of Pittsburgh, 2009-present
- Member, Board of Directors. Program for Healthcare to Underserved Populations, University of Pittsburgh, 2010-present
- Chairman, PHA Online University, 2011-present
- Medical Director, Community Outreach and Cardiovascular Health (COACH), 2011 - present
- Best Doctors, Pittsburgh Magazine, 2012-present
- Section Head, Heart Failure and Pulmonary Hypertension, 2013-present
- Associate Director of Cardiology, Heart and Vascular Institute, 2015-present
- Associate Director, Cardiovascular Fellowship Program, 2015-present
- Cardiology Medical Director, UPMC HVI Canterbury Post-Acute Care Facility, 2016-present
- Program Director, Advanced Heart Failure and Transplant Cardiology Fellowship Program, 2016-present
- Course Director, UPMC HVI Online Board Review Course, 2016-present
- Professor of Medicine, University of Pittsburgh School of Medicine, 2016-present
- Medical Director, Outpatient Cardiology Clinic, 2016-present

Dennis McNamara MD
- Ad Hoc Grant Reviewer, NIH, 2005-present
- Abstract Grader, American College of Cardiology and Heart Failure Society of America, 2008-present
- Editorial Board, Journal of Cardiac Failure, 2009-present
• Program Committee, American College of Cardiology, 2010-present
• Testing Committee, Heart Failure/Transplant Sub Committee, American Board of Internal Medicine, 2009-present
• Best Doctors, Pittsburgh Magazine, 2016

Charles F. McTiernan PhD
• Ad Hoc Grant Reviewer, NIH, 2004-present

G Stuart Mendenhall MD
• Fellow, American College of Cardiology, 2012-present
• Fellow, Heart Rhythm Society, 2012-present

Oladipupo Olafranye MD
• Reviewer, American Heart Journal, 2016-present
• Reviewer, Cardiac Catheterization and Intervention, 2015-present
• Reviewer, Journal of Clinical Chemistry and Laboratory Medicine, 2012-present
• Reviewer, Journal of Cardiovascular Disease Research, 2012-present

John Pacella MD
• Task Force, Fellow’s Research Day, Pennsylvania Affiliate, American Heart Association, 2011-present
• Fellow, American College of Cardiology, 2000-present
• Fellow, American Heart Association (Council on Clinical Cardiology), 2006-present
• Fellow, Society for Coronary Angiography and Intervention, 2007-present
• American Medical Association 1994-present
• American Society of Echocardiography 2009-present
• International Contrast Ultrasound Society (ICUS) 2009-present

Steven Reis MD
• Ad Hoc Grant Reviewer, NIH, 2005-present
• Editorial Boards, Journal of Women’s Health and Gender Based Medicine, Current Controlled Trials in Cardiovascular Medicine, 1999-present
• Member, American Society for Clinical Investigation, 1999-present
• CTSA Editor, Clinical and Translational Science, 2008-present
• Member, NIH National Clinical and Translational Science Award Programs, 2008-present
• Member, Consortium Oversight Committee, Executive Committee, Consortium Steering Committee, 2006-present
• Member, External Advisory Boards, Washington University Institute of Clinical and Translational Sciences, 2008-present
• Member, Harvard Clinical and Translational Science Center, 2008-present
• Member, The North Carolina Translational and Clinical Sciences Institute, 2008-present
• Best Doctors, Pittsburgh Magazine, 2010-2016
• Member, National CTSA Steering Committee, 2013-present
Samir Saba MD
- Director, UPMC Cardiac Electrophysiology Laboratory, 2004-present
- Chief, Cardiac Electrophysiology Section, 2005-present
- Associate Chief for Clinical Affairs, Division of Cardiology, 2015-present
- Fellow, American Heart Association, 2000-present
- Fellow, American College of Cardiology, 1998-present
- Fellow, Heart Rhythm Society, 2000-present
- Massachusetts Medical Society, 1993-present
- Editorial Board, Heart Rhythm Journal, 2010-present
- Grants Reviewer, American Heart Association, 2009-present
- Task Force Member, American Heart Association Fellows Research Day, 2014-present
- Best Doctors, Pittsburgh Magazine, 2016

Guy Salama PhD
- Promotion Committee, Department of Medicine, University of Pittsburgh, 2013-present

Erik Schelbert MD
- Grant Reviewer, American Heart Association, 2008-present
- Ad Hoc Reviewer, Circulation, Circulation: CV Imaging, 2012-present
- Editorial board, Circulation: Cardiovascular Imaging 2015-present
- Editorial board, Journal of Cardiovascular Magnetic Resonance, 2016-present

John Schindler MD
- SIMPLICITY HTN-3 Medtronic Cardiovascular, Renal Denervation in Patients with Uncontrolled HTN, 2011-2016
- SURTAVI Trial Medtronic Cardiovascular, (SURTAVI), 2012-present
- PORTICO clinical trial Transcatheter Heart Valve and Delivery Systems (Portico) via Transfemoral and Alternative Delivery Methods, 2014-present
- REPRISE III Trial Boston Scientific. 2015-present
- Medtronic Transcatheter Aortic Valve Replacement in Low Risk Patients, 2016

Mark Schmidhofer MD
- Chair, System Pharmacy and Therapeutics Committee, UPMC Health System, 2013-present
- Director, Quality Improvement, Division of Cardiology, University of Pittsburgh Medical Center, 2006-present
- Associate Director, Cardiovascular Fellowship, University of Pittsburgh Medical Center, 2009-present

David Schwartzman MD
- Reviewer, Journal of Cardiovascular Electrophysiology, 2004-present
- Reviewer, Journal of the American College of Cardiology, 2005-present
- Reviewer, Heart Rhythm, 2005-present
- FTSP Fellowship Mentor, 2011-present
- R01HL078839-04 (04/01/09-03/31/19): sub-award from Carnegie Mellon University to develop a robotic device for epicardial interventions, 2013-present
Alaeldin Shalaby MD
- Director, Cardiac Electrophysiology, Pittsburgh VA Healthcare System, 1999-present
- Fellow, American College of Cardiology, 1999-present
- Member, North American Society for Pacing and Electrophysiology 1999-present

Saul Silver MD
- Primary Investigator, EVOLVE short DAPT trial, designed to determine if 3 months of DAPT is adequate using the SYNERGY stent in patients at high risk of bleeding
- Safety Office, Dr. Dan Foreman clinical trial, Oral Nitrates for Older Patients with HfPEF
- Participated in all research at Shadyside Hospital in the Cath Lab

Marc Simon MD
- Member, Committee for Oversight of Research Involving the Dead (CORID), 2006-present
- Member, Cardiovascular Institute (CVI) Research Committee, 2007-present
- Appointed CO-Chair, Task Force, American Heart Association (AHA) Fellows Research Day, 2014-present
- Task Force and Judge, AHA Fellows Research Day, 2012-present
- ACC Pulmonary Hypertension Workgroup, 2014-present
- Review Panel for Bioengineering, Bioeng BSc 4, AHA, 2012-present.
- Abstract reviewer, AHA Scientific Sessions, 2016
- Appointed, 2018 Symposium Planning Committee for ISHLT 38th Annual Meeting, 2017

A J Conrad Smith MD
- Best Doctors, Pittsburgh Magazine, 2015-2016
- Primary Investigator, PLATINUM Diversity Boston Scientific, Stent in Women and Minorities, 2014-present
- Primary Investigator, REDUCE W.L. Gore & Associates, Inc.
- Primary Investigator, EXCEL Trial, 2011-present
- Primary Investigator, COAPT Mitral Clip Evalve, 2011-present
- Co-Investigator, Absorb III - A Clinical Evaluation of Absorb™ BVS, 2012-present
- Co-Investigator, Parachute IV, Cardiokinetix 2012-present
- Co-Investigator, RenalGuard, PLC Medical Systems, Inc., 2016
- Primary Investigator, U.S. Total Trial: Total Occlusion Trial with Angioplasty by Using a Laser Guidewire (TOTAL), 2012-present

Prem Soman MD
- Board of Directors, American Society of Nuclear Cardiology, 2010-present
- President Elect, American Society of Nuclear Cardiology, 2017-2018
- Vice President, American Society of Nuclear Cardiology, 2016-2017
- Chair, Leadership Development Program, 2015-present
- Board of Directors, American Society of Nuclear Cardiology, 2010-present
- Editorial Board and Section Editor, Journal of Nuclear Cardiology, 2009-present
- Board of Directors, Society of Nuclear Medicine, Cardiovascular Council, 2010-present
- Member, ACC Annual Scientific Program Committee, 2010-present
- Board of Directors, Intersocietal Commission for the Accreditation of Nuclear Medicine Laboratories (ICANL), 2010-present
- Associate Editor, Journal of Nuclear Cardiology, 2013-present
• Editorial Board, Journal of the American College of Cardiology, Cardiovascular Imaging, 2014-present
• Chair, American College of Cardiology, Imaging Council, 2014-2016
• Writing Panel, Appropriate Use Criteria for Valvular Heart Disease, American College of Cardiology, 2016
• Writing Panel, Appropriate Use Criteria for Structural Heart Disease, American College of Cardiology, 2016
• Science and Quality Committee, American College of Cardiology, 2016
• Work Group on Prior Authorization, Test Substitution and Clinical Decision Making, American College of Cardiology, 2016
• Member, American College of Cardiology Annual Scientific Program Committee, 2010-present
• Best Doctors, Pittsburgh Magazine, 2016

Ozlem Soran MD
• Reviewer, European Journal of Heart Failure, 2010-present
• Reviewer, Annals of Internal Medicine, 2010-present
• Reviewer, American Journal of Cardiology, 2010-present
• Reviewer, Clinical Cardiology, 2012-present
• Senior IRB Board Member, University of Pittsburgh, 2007-present
• Reviewer, Southern Medical Journal (U.S.A), 2003-present
• Abstract Reviewer, Turkish Society of Cardiology Congress, 2006-present
• Abstract Reviewer, European Society of Cardiology Congress, 2006-present
• Reviewer, European Journal of Echocardiography, 2008-present
• Reviewer, Journal of Cardiac Failure, 2008-present
• Editorial Board, Türkiye Klinikleri Periodicals, 2009-present

Jeffrey Teuteberg MD
• Editorial Board, Journal of Cardiac Failure, 2005-present
• Executive Committee, International Society for Heart & Lung Transplantation, 2014-present
• Board Member, International Society for Heart & Lung Transplantation, 2014-present
• Transplant Executive Counsel, 2013-present
• AST: Chair–Thoracic COP, 2014-present
• ISHLT–MCS Taskforce, 2016
• ISHLT–MCS Taskforce, 2016
• Primary Investigator, Medimacs, NHLBI, 2016
• Primary Investigator, HeartWare Desination Therapy, HeartWare, 2016
• Primary Investigator, REVIVE-IT/REVIVAL, NHLBI, 2016
• Primary Investigator, OA–Gene Expression Profiling Registry, 2016
• ENDURANCE Publication Committee, 2016
• Chair, Program Committee, ISHLT, 2017

Catalin Toma MD
• Ad Hoc Grant Reviewer, NIH, 2008-present
• Director, Interventional Cardiology Research, 2013-present
Flordeliza Villanueva MD
- Ad Hoc Grant Reviewer, NIH, 2008-present
- Grant Reviewer, American Heart Association, 2004-present
- Member, Research Committee, American Heart Association Great Rivers Affiliate, 2007-present
- Member, American Society for Clinical Investigation, and Association of University Cardiologist, 2007-present
- Editorial Board, Journal of the American Society of Echocardiograph—Imaging, 2008-present
- Editorial Board, Circulation—CV Imaging, 2008-present
- Abstract Grading Committee, National Scientific Sessions, American Heart Association, 2003-present
- Abstract Grading Committee, National Scientific Sessions, American Society of Echocardiography, 2004-present
- Committee Member, Pittsburgh Research and Investigation Summer Experience (PRISE), 2012-present
- National Task Forces/Committees, 1998-present
- Interview Committee for Medical School Admissions, University of Pittsburgh, 1993-present
- Junior Scholar Awards Committee, Department of Medicine, 2007-present
- Department of Medicine Mentoring Program for Junior Faculty (mentor faculty members), 2008-present
- Post Doctoral Evaluation Committee (Medical School), 2010-present
- Telemedicine and New Technology Task Force, American Society of Echocardiography, 2014-present
- Extra-Mural Research Committee, American Society of Echocardiography, 2009-present
- Standing member, Study Section BMIT-B (Biomedical Imaging Technology), CSR, NIH, 2017
- Finance Committee, American Society of Echocardiography, 2014-2017
- Executive Leadership Group, Heart and Vascular Institute, University of Pittsburgh Medical Center, 2015-present
- Leader, Grant Writing Workshop (K grants), 2015-present
- Chair, Search Committee for Endowed Richard Caliguirri Chair (Amyloidosis research), 2016-present

Andrew Voigt MD
- Continued Development of AF Catheter Ablation Program at Shadyside University Hospital with Incorporation of New Technology (Cyroablation) and Improvement of Efficiency of Operation, 2013-present
- Expansion of AF Ablation Programs to Patients With Persistent Atrial Fibrillation, with Incorporation of Combined Cyroablation/RFA Approach, 2013-present

Norman C Wang MD
- Fellow, American College of Cardiology, 2012-present
- Fellow, Heart Rhythm Society, 2013-present

Timothy Wong MD
- American Heart Association National Study Section, Radiology and Imaging, 2014-present
- Ad hoc manuscript reviewer, multiple journals, (Circulation: Cardiovascular Imaging, JACC: Cardiovascular Imaging, Hypertension, Journal of the American Heart Association, Journal of Cardiovascular Magnetic Resonance), 2012-present
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<th>PUBLIC HEALTH SERVICE</th>
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<td>PET PROBES TARGETING IMMUNE CELLS FOR IMAGING TUBERCULOSIS</td>
<td>$189,705</td>
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<td>$110,293</td>
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<td>CHAN, STEPHEN Y.</td>
<td>$300,941</td>
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<td>DEFINING THE COMPLEX BIOLOGY OF THE MIR-130/131 FAMILY IN PULMONARY HYPERTENSION</td>
<td>$237,723</td>
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<td>CHAN, STEPHEN Y.</td>
<td>$28,145</td>
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<td>INDUCTION OF ONCOGENIC MICRORNA BY RAPAMYCIN: ROLE IN TSC THERAPY</td>
<td>$50,715</td>
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<td>$157,980</td>
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<td>DEVELOPING GOAL-DIRECTED PERFUSION THERAPY FOR NEUROCARDIAC INJURY IN SUBARACHNOID HEMORRHAGE</td>
<td>$19,632</td>
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<td>GORCSAN, JOHN</td>
<td>$21,791</td>
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<td>GORCSAN, JOHN</td>
<td>Junctional AV Ablation in CRT Patients with Atrial Fibrillation</td>
<td>University of Rochester/NHLBI</td>
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<td>HALDER, INDRANI</td>
<td>Melanopsin Photosensitivity and Psychopathology</td>
<td>NIMH</td>
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<td>JAIN, SANDEEP</td>
<td>Junctional AV Ablation in CRT-D Patients with Atrial Fibrillation (JAVA-CRT TRIAL)</td>
<td>University of Rochester/NHLBI</td>
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<td>KAUFMAN, BRETT A.</td>
<td>Molecular Mechanisms of Mitochondrial DNA Deletion Formation</td>
<td>NIGMS</td>
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<td>KAUFMAN, BRETT A.</td>
<td>The Jackson Laboratory Nathan Shock Center of Excellence in the Basic Biology of Aging</td>
<td>The Jackson Laboratory/NIA</td>
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<td>KAUFMAN, BRETT A.</td>
<td>Signaling Mechanisms by Which Mitochondria Regulates Fibrosis in the Lung</td>
<td>NHLBI</td>
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<td>KIM, KANG</td>
<td>BMP10 in Cardiovascular Development and Hereditary Hemorrhagic Telangiectasia</td>
<td>NHLBI</td>
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<td>KIM, KANG</td>
<td>Phase Resolved ARF Optical Coherence Elastography for Intravascular Imaging</td>
<td>University of California/Irvine/NHLBI</td>
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<td>MAGNANI, JARED</td>
<td>Influenza Vaccine to Effectively Stop Cardio Thoracic Events and Decompensated Heart Failure (Invested)</td>
<td>Brigham and Women's Hospital, Inc./NHLBI</td>
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<td>MCNAMARA, DENNIS M.</td>
<td>Genomic Analysis of Enhanced Response to Heart Failure Therapy in African Americans</td>
<td>NIMHD</td>
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<td>MCNAMARA, DENNIS M.</td>
<td>Precision Approach to Healthcare Enrollment Site (PA CARES)</td>
<td>NIH</td>
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<td>MCTIERNAN, CHARLES F.</td>
<td>Antidote for Inhaled CO Poisoning Based on Mutationally Engineered Neuroglobin</td>
<td>NHLBI</td>
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<td>MCTIERNAN, CHARLES F.</td>
<td>Vascular Subphenotypes of Lung Disease (Project 1)</td>
<td>NHLBI</td>
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<td>MULDOON, MATTHEW F.</td>
<td>Blended Collaborative Care for Heart Failure and Co-Morbid Depression</td>
<td>NHLBI</td>
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<td>MULDOON, MATTHEW F.</td>
<td>Biobehavioral Mechanisms Linking Personality to Health in Midlife</td>
<td>NIA</td>
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<td>MULDOON, MATTHEW F.</td>
<td>Experimental Study of Stress and DNA Damage in Humans: Mediators and Moderators</td>
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<td>Name</td>
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<td>MULDOON, MATTHEW F.</td>
<td>SOCIAL INTEGRATION, DAILY SOCIAL INTERACTION, AND HEALTH RISK PATHWAYS IN MIDLIFE</td>
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<td>PACELLA, JOHN J.</td>
<td>MICROBUBBLE-MEDIATED ULTRASONIC THERAPY FOR CORONARY MICROVASCULAR OBSTRUCTION</td>
<td>NHLBI</td>
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<td>RAMANI, RAVI N.</td>
<td>BLENDED COLLABORATIVE CARE FOR HEART FAILURE AND CO-MORBID DEPRESSION</td>
<td>NHLBI</td>
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<td>REIS, STEVEN</td>
<td>UNIVERSITY OF PITTSBURGH CLINICAL AND TRANSLATIONAL SCIENCE INSTITUTE</td>
<td>NCATS</td>
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<td>REIS, STEVEN E.</td>
<td>EFFECT OF ATORVASTATIN ON ENDOTHELIAL FUNCTION AND RAYNAUD IN DIFFUSE SCLERODERMA</td>
<td>NIAMS</td>
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<td>REIS, STEVEN E.</td>
<td>IMAGING PATHOPHYSIOLOGY IN AGING AND NEURODEGENERATION (PROJECT 2)</td>
<td>NIA</td>
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<td>REIS, STEVEN E.</td>
<td>LATE CARDIOVASCULAR CONSEQUENCES OF SEPTIC SHOCK</td>
<td>NIGMS</td>
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<td>REIS, STEVEN E.</td>
<td>CONNECTOMICS OF BRAIN AGING AND DEMENTIA</td>
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<td>REIS, STEVEN E.</td>
<td>VITAMIN D AND VASCULAR FUNCTION IN OBESE CHILDREN</td>
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<td>REIS, STEVEN E.</td>
<td>ROLE OF MIDLIFE CARDIOVASCULAR DISEASE ON ALZHEIMER'S PATHOLOGY AND CEREBROVASCULAR REACTIVITY IN THE YOUNG-OLD</td>
<td>NIA</td>
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<td>SABA, SAMIR</td>
<td>CARDIAC RESYNCHRONIZATION IN THE ELDERLY: PILOTING PACEMAKER VS. DEFIBRILLATOR THERAPY</td>
<td>NHLBI</td>
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<td>SALAMA, GUY</td>
<td>MECHANISMS/TREATMENTS OF LOWER URINARY TRACT DYSFUNCTION AFTER SPINAL CORD INJURY (CORE A)</td>
<td>NIDDK</td>
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<td>SALAMA, GUY</td>
<td>MECHANISMS/TREATMENTS OF LOWER URINARY TRACT DYSFUNCTION AFTER SPINAL CORD INJURY (PROJECT 1)</td>
<td>NIDDK</td>
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<td>SALAMA, GUY</td>
<td>REGULATION OF THE CARDIAC SODIUM CHANNEL BY SIRTUIN1</td>
<td>UNIVERSITY OF IOWA/ NHLBI</td>
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<tr>
<td>SCHWARTZMAN, DAVID</td>
<td>DYNAMIC FORCE CONTROL OF CARDIAC ABLATION CATHETERS</td>
<td>CARNEGIE- MELLON UNIVERSITY/ NHLBI</td>
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<tr>
<td>Researcher</td>
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<td>SCOTT, IAIN</td>
<td>REGULATION OF MITOCHONDRIAL FUNCTION BY A NOVEL LYSINE ACETYLTRANSFERASE</td>
<td>NHLBI</td>
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<td>SCOTT, IAIN</td>
<td>REGULATION OF FUEL UTILIZATION BY LYSINE ACETYLATION IN THE FAILING HEART</td>
<td>NHLBI</td>
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<td>SIMON, MARC</td>
<td>BLENDED COLLABORATIVE CARE FOR HEART FAILURE AND CO-MORBID DEPRESSION</td>
<td>NHLBI</td>
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<td>UNIVERSITY OF PITTSBURGH CLINICAL AND TRANSLATIONAL SCIENCE INSTITUTE</td>
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<td>SIMON, MARC</td>
<td>NATIONAL BIOLOGICAL SAMPLES AND DATA REPOSITORY FOR PAH</td>
<td>CINCINNATI CHILDREN HOSPITAL / NHLBI</td>
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<td>SIMON, MARC</td>
<td>THERAPEUTIC TARGETING OF VASCULAR SUBPHENOTYPES OF LUNG DISEASE - CORE D</td>
<td>NHLBI</td>
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<td>SIMON, MARC</td>
<td>IMMUNOPATHOGENESIS OF HIV-ASSOCIATED PULMONARY HYPERTENSION</td>
<td>UNIVERSITY OF GEORGIA/ NHLBI</td>
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<td>SIMON, MARC</td>
<td>LONGITUDINAL EVALUATION OF HIV-ASSOCIATED LUNG DISEASE PHENOTYPES</td>
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<td>SIMON, MARC</td>
<td>NITRITE BENEFITS TO MEDIATE FATIGABILITY IN OLDER HFPEF PATIENTS</td>
<td>NIA</td>
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<td>SIMON, MARC</td>
<td>INTERNATIONAL STUDY OF COMPARATIVE HEALTH EFFECTIVENESS WITH MEDICAL AND INVASIVE APPROACHES (ISCHEMIA)</td>
<td>NEW YORK SCHOOL OF MEDICINE/ NHLBI</td>
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<td>ST. HILAIRE, CYNTHIA</td>
<td>REGULATION OF VASCULAR CALCIFICATION BY ADENOSINE SIGNALING</td>
<td>NHLBI</td>
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<td>TEUTEBERG, JEFFREY J.</td>
<td>RANDOMIZED EVALUATION OF VAD INTERVENTION BEFORE INOTROPIC THERAPY (REVIVE-IT) PILOT TRIAL/REGISTRY EVALUATION OF VITAL INFORMATION FOR VADS IN AMBULATORY LIFE (REVIVAL)</td>
<td>UNIVERSITY OF MICHIGAN/ NIH</td>
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<td>TEUTEBERG, JEFFREY J.</td>
<td>SAFETY AND EFFICACY OF INTRAMYOCARDIAL INJECTION OF MESENCHYMAL PRECURSOR CELLS ON MYOCARDIAL FUNCTION</td>
<td>MT. SINAI MEDICAL CENTER/ NHLBI</td>
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<td>Project Description</td>
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<td>Access to the Cardiac Catheterization Laboratory in patients without ST-segment elevation myocardial infarction resuscitated from out-of-hospital ventricular fibrillation cardiac arrest access trial</td>
<td>Tomá, Catalin</td>
<td>University of Minnesota/NHLBI</td>
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<td>Myocardial Ischemia and Transfusion (MINT) CCC</td>
<td>Tomá, Catalin</td>
<td>Rutgers University/NHLBI</td>
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<td>Targeted Drug Delivery Using Liposomes, Microbubbles and Ultrasound</td>
<td>Villanueva, Flordeliza S.</td>
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<td>Specialized Program of Research Excellence Spore - Project 2</td>
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<td>Training Program in Imaging Science in Translational Cardiovascular Research</td>
<td>Villanueva, Flordeliza S.</td>
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<td>Exercise in Genetic Cardiovascular Conditions</td>
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<td>Yale University/NHLBI</td>
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<td>Novel Platform to Achieve High Avidity of Heterodimers for Targeted Cancer Imaging</td>
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<td>Role of Microrna in the Pathogenesis and Treatment of TSC</td>
<td>Chan, Stephen Y.</td>
<td>Brigham and Women's Hospital, Inc./DOD</td>
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<td>Four New Ideas to Protect Special Forces from the Stress of High Altitude</td>
<td>Mctiernan, Charles F.</td>
<td>University of Colorado/DOD</td>
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<td>I-Corps Sites: University of Pittsburgh - Advancing Innovation, Entrepreneurship and Opportunity Commercialization</td>
<td>Mendenhall, George</td>
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Department of Medicine  www.dom.pitt.edu/card
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<td>OMEGA-3 POLYUNSATURATED FATTY ACID STATUS, MICROGLIAL ACTIVATION, STRESS RESILIENCE, AND COGNITIVE PERFORMANCE</td>
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<td>AL GHOULEH, IMAD</td>
<td>THE ROLES OF NOX1, EBP50, AND ASK1 IN RIGHT VENTRICULAR HYPERTROPHY</td>
<td>AMERICAN HEART ASSOCIATION</td>
<td>$70,000</td>
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<td>BAI, MINGFENG</td>
<td>TRANSLOCATOR PROTEIN-TARGETED PHOTODYNAMIC THERAPY FOR OVARIAN CANCER TREATMENT</td>
<td>MAGEE WOMENS RESEARCH INSTITUTE AND FOUNDATION</td>
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<td>BELMONTE, FRANCIS R.</td>
<td>PIF1 HELICASE ABLATION CAUSES MITOCHONDRIAL COMPLEX I DEFICIENCY AND OBESITY</td>
<td>UNIVERSITY OF PITTSBURGH MEDICAL CENTER</td>
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<td>CAVALCANTE, JOAO</td>
<td>MULTICENTER PROSPECTIVE STUDY OF LOW-FLOW LOW-GRADIENT AORTIC STENOSIS (TOPAS STUDY)</td>
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<td>CHAN, STEPHEN Y.</td>
<td>INTERROGATING AN ARGONAUT 2 SWITCH TO REGULATE CIRCULATING MIR-210 AND TO COORDINATE REMOTE ISCHEMIC PROTECTION</td>
<td>AMERICAN HEART ASSOCIATION</td>
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<td>HELFIELD, BRANDON</td>
<td>THE BIOPHYSICS OF ULTRASOUND STIMULATED MICROBUBBLES AS NOVEL, NON-VIRAL GENE DELIVERY VEHICLES FOR THE TREATMENT OF CARDIOVASCULAR DISEASE</td>
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<td>JAIN, SANDEEP</td>
<td>ASPIRIN DOSING: A PATIENT-CENTRIC TRIAL ASSESSING BENEFITS AND LONG-TERM EFFECTIVENESS (ADAPTABLE)</td>
<td>DUKE UNIVERSITY/PCORI</td>
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<td>JAIN, SANDEEP</td>
<td>A PATH TOWARD A LEARNING HEALTH SYSTEM FOR THE MID-ATLANTIC REGION</td>
<td>PATIENT-CENTERED OUTCOMES RESEARCH INSTITUTE</td>
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<td>JURCZAK, MICHAEL</td>
<td>REGULATION OF HEPATIC MITOCHONDRIAL HOMEOSTASIS AND FUEL METABOLISM BY ACETYLATION</td>
<td>AMERICAN DIABETES ASSOCIATION</td>
<td>$7,959</td>
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<td>Kaufman, Brett A.</td>
<td>The Role of Pink1 in Mtdna Integrity and Tumorigenesis</td>
<td>University of Pittsburgh Medical Center</td>
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<td>Kaufman, Brett A.</td>
<td>March of Dimes Center for Prematurity Research at the University of Pittsburgh</td>
<td>University of Pennsylvania</td>
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<td>Kim, Kang</td>
<td>NRI: Maneuverable Feedback-Controlled Micro Swimming Drone for Biomedical Applications</td>
<td>National Science Foundation</td>
<td>$56,693</td>
<td>$22,628</td>
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<td>Kim, Kang</td>
<td>CPS: Synergy: Collaborative Research: Closed-Loop Hybrid Exoskeleton Utilizing Wearable Ultrasound Imaging Sensors for Measuring Fatigue</td>
<td>National Science Foundation</td>
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<td>Magnani, Jared</td>
<td>Atrial Fibrillation Health Literacy Information Technology Trial (AF-LITT)</td>
<td>Doris Duke</td>
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<td>Clycocalyx Pathways Linking Pregnancy Profile with Microvascular Dysfunction Postpartum</td>
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<td>Muldoon, Matthew F.</td>
<td>The Placenta as a Window to Maternal Cardiovascular Risk</td>
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<td>Salama, Guy</td>
<td>The Interplay Between Relaxin and Signaling in Aged Hearts</td>
<td>Samuel and Emma Winters Foundation</td>
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<td>Scott, Iain</td>
<td>Regulation of Hepatic Mitochondrial Homeostasis and Fuel Metabolism by Acetylation</td>
<td>American Diabetes Association</td>
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<td>Simon, Marc</td>
<td>Preclinical Assessment of Dimethyl Fumarate (Tecfidera) as a Novel Therapeutic of SSC-PAH</td>
<td>Boston University/Scieroderma Fdn</td>
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<td>Smith, A.J. Conrad</td>
<td>Serotonin Transporter Gene Polymorphisms, Platelet Aggregation, and Clinical Outcomes in ACS Patients Concomitantly Treated with SSRIS and Dual Antiplatelet Therapy</td>
<td>American Heart Association-National</td>
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<td>St. Hilaire, Cynthia</td>
<td>Mechanical Stress in Calcific Aortic Valve Disease: The Role of Ectonucleotidase Activity and Adenosine Receptor Signaling in Disease Initiation</td>
<td>Samuel and Emma Winters Foundation</td>
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<td>TOMA, CATALIN</td>
<td>Clinical and Economic Assessment of Patients with Acute Coronary Syndrome Managed with Percutaneous Coronary Intervention and Treated with Prasugrel Using Academic Center Databases</td>
<td>MT. Sinai Medical Center</td>
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<td>Glycocalyx Pathways Linking Pregnancy Profile with Microvascular Dysfunction Postpartum</td>
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<td>Wong, Timothy</td>
<td>Cardiovascular Magnetic Resonance Assessment of Diffuse Myocardial Fibrosis in Hypertrophic Cardiomyopathy</td>
<td>American Heart Association</td>
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<td>EFFECTS OF THE SGC STIMULATOR IWP-121 ON PULMONARY HYPERTENSION INDUCED BY HYPOXIA AND SUGEN 5416 IN RATS</td>
<td>Ironwood Pharmaceuticals</td>
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<td>Al Ghouleh, Imad</td>
<td>Development of an Innovative PSMA-Targeted Radionuclide Therapy for Prostate Cancer</td>
<td>Cancer Targeted Technology, LLC</td>
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<td>Therapeutic Efficacy of LU-177-Labeled Albumin-Binding PSMA Analog Compared to LU-177-Labeled PSMA617</td>
<td>Cancer Targeted Technology, LLC</td>
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<td>CAVALCANTE, JOAO</td>
<td>Multicenter Prospective Core Valve Study Using Cardiac MRI for Assessment of Paravalvular Aortic Regurgitation and Its Impact on LV Reverse Remodeling and Cardiovascular Outcomes</td>
<td>Medtronic</td>
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<td>CHAN, STEPHEN Y.</td>
<td>Collection of Plasma Samples From Pulmonary Arterial Hypertension (PAH) Patients</td>
<td>Pfizer Inc.</td>
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<td>GORCSAN, JOHN</td>
<td>Vector Flow Mapping to Characterize Cardiac Mechanics in Heart Failure and Advance Device Therapy</td>
<td>Hitachi ALOKA Medical America, Inc.</td>
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<td>Bayer Corporation</td>
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<td>Systolic Stretch as a Predictor of Response to Cardiac Resynchronization Therapy Additive to QRS Width</td>
<td>Medtronic</td>
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<td>KAUFMAN, BRETT A.</td>
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<td>McNAMARA, DENNIS M.</td>
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<td>SALAMA, GUY</td>
<td>Time and Concentration of Relaxin Needed to Reverse Fibrosis and Suppress Arrhythmias in SHR Hearts</td>
<td>Novartis Pharmaceutical</td>
<td>$137,302</td>
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<td>SIMON, MARC</td>
<td>A Dose Escalation Study to Evaluate the Effect of Inhaled Nitrite on Cardiopulmonary Hemodynamics in Subjects with Pulmonary Hypertension</td>
<td>Aires Pharmaceutical S, Inc.</td>
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<td>Phase 1 Clinical Trial of ABI-009, an MTOR Inhibitor for Patients with Severe Arterial Hypertension (PAH)</td>
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<td>SIMON, MARC</td>
<td>Vernacular Morphological and Mechanical Response to LCZ696</td>
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TEACHING

The HVI provides its fellows with training in state-of-the-art cardiovascular imaging, interventional, and electrophysiological techniques, while remaining grounded in the disciplines of bedside diagnosis. Clinical rotations are performed alongside accomplished faculty valued for their teaching skills and supplemented with an extensive series of conferences covering all areas of traditional cardiovascular medicine, as well as the emerging fields of cardiology. A meaningful research effort is mandated for all fellows and may be taken in any of a number of clinical, basic, translational, educational or health information technology areas. The HVI strives to create a dynamic, well-rounded, and academically challenging program for its fellows. While aspects of the training program’s structure are required for American Board of Internal Medicine certification, elective time allows fellows to pursue individual interests that best align with their career aspirations. Dr. Kathryn Berlacher, MD, MS, serves as the fellowship program director, with Drs. Mark Schmidhofer, MD, Michael Mathier, MD, and Stephen Chan, MD PhD serving as associate fellowship program directors.

The HVI also provides education and training for medical students in the University of Pittsburgh School of Medicine, and residents in the UPMC Internal Medicine, Emergency, and Vascular Surgery departments. The second-year medical school curriculum for the cardiovascular course continues to be one of the top-rated sections. Dr. Jenifer Lee, MD, is the director of the sophomore course. The CCU, Pavilion, and consult rotations remain very highly rated by residents.
Teaching Honors and Awards

William Barrington MD
- Primary lecturer, Topics in Electrocardiography and Diagnosis and Treatment of Super Ventricular and Ventricular Rhythm Abnormalities, Sophomore Cardiovascular Disease Curriculum, University of Pittsburgh School of Medicine, 2002-present
- Workshop facilitator, Sophomore Cardiovascular Disease Curriculum, University of Pittsburgh School of Medicine, 2002-present
- Lecturer for cardiology topics, annual American College of Physicians Midwestern (Chicago) Internal Medicine Board Review Course, 2002-present
- Lecturer for cardiology topics, annual American College of Physicians San Antonio Internal Medicine Board Review Course, 2013-present

Kathryn Berlacher MD
- Facilitator, MS II Cardiovascular course, UPSOM, 2012-present
- Lecturer, MS II Cardiovascular course, UPSOM, 2012-present
- Monthly Lecturer, Fellow EKG conference, UPMC, 2012-present
- Lecturer, UPMC IM Residency noon conferences, 2012-present
- Lecturer, UPMC Women’s Health conferences, 2012-present
- Research mentor of IM residents and cardiac fellows, 2012-present
- Facilitator, Behavioral Medicine MSII Course, UPSOM, 2014-present
- Co-Facilitator, Cardiology Fellows’ Quality Improvement Series, 2013-present
- Creator, Mini-EKG curriculum, UPMC IM MS III rotation, 2013-present
- Director and Facilitator, Cardiology Fellow Journal Club, 2012-present
- Subspecialty Education Coordinator for Cardiology, Dept. of Medicine, 2012-present
- Member, American College of Cardiology Foundation, Faculty Development Committee, 2012-present
- Participant, ABIM Competency Based Pilot Program, American College of Cardiology, 2013-present
- Member, American Heart Association, Laennec and Postgraduate Education Committee, 2014-present
- Co-Founder, CardioTalk, 2013-present
- Co-Facilitator, Cardiology Fellows’ Quality Improvement Series, 2013-present
- Director, Cardiology Journal Club, 2012-present
- Core Leadership Participant, Cardiovascular Fellowship Recruitment, 2012-present
- Facilitator, Cardiology EKG Conference, 2012-present
- Facilitator, Cardiology Journal Club, 2012-present
- Director, Cardiology Fellowship Curriculum Committee, 2012-present
- Cardiology Liaison, Internal Medicine Subspecialty Education Coordinator, 2012-present
- Speaker, Internal Medicine Women’s Health Conference Series, 2013-present
- Cardiology Interviewer, Internal Medicine Recruitment, 2012-present
- Cardiology Co-Leader, Internal Medicine Pavilion Task Force, 2012-present
- Mentor, Internal Medicine Educational Scholarship, 2014-present
- Creator, Mini-EKG curriculum, 2013-present
- Program Director, Cardiovascular Fellowship Program, 2015-present
- Lifelong Learning Committee, American College of Cardiology Foundation, April 2016-present
- Faculty Development Committee, American College of Cardiology Foundation, July 2012-present
ABIM Competency Based Pilot Program, American College of Cardiology, September 2013-present
Laennec and Postgraduate Education Committee, American Heart Association, June 2014-present
Cardiology Fellowship Website Developer, January 2013-present
CardioTalk, Co-Founder, October 2013-present
Cardiology Fellows’ Quality Improvement Series, Co-Facilitator, July 2013-present
Cardiology Journal Club, Director, July 2012-present
Cardiovascular Fellowship Recruitment, Core Leadership Participant, August 2012-present
Facilitator, Cardiology EKG Conference, October 2012-present
Facilitator, Cardiology Journal Club, 2012-present
Director, Cardiology Fellowship Curriculum Committee, July 2012-present
Cardiology Liaison, Internal Medicine Subspecialty Education Coordinator, July 2012-present
Speaker, Internal Medicine Women’s Health Conference Series, January 2013-present
Section Director, Internal Medicine Noon Conference Series, January 2013-present
Cardiology Interviewer, Internal Medicine Recruitment, September 2012-present
Cardiology Co-leader, Internal Medicine Pavilion Task Force, May 2012-present
Internal Medicine Educational Scholarship Mentor, July 2014-present
Creator, Mini-EKG Curriculum, Spring 2013-present

João L. Cavalcante MD
Invited Lecture, Cardiac MRI for TAVR: Whom, How and Why? Society of Cardiovascular Computed Tomography Washington, DC, July 8, 2017
Invited Lecture, Are Cardiac CT and MRI Necessary to Assess TR Structure or Severity? 2017 Transcatheter Valve Therapies, Chicago, IL, June 16, 2017
Invited Lecture, How to Quantify Mitral Regurgitation Using Cardiac MRI, 2017 Transcatheter Valve Therapies, Chicago, IL, June 15, 2017
Invited Lecture, Low Gradient Aortic Stenosis with Normal Ejection Fraction, 2017 American Society of Echocardiography Scientific Sessions, Baltimore, MD, June 4, 2017
Invited Lecture, CMR in the Assessment of Ischemic Heart Disease, 2017 American Society of Echocardiography Scientific Sessions, Baltimore, MD, June 5, 2017
Invited Lecture, Multimodality Imaging Approach for Pericardial Diseases, 2017 American Society of Echocardiography Scientific Sessions, Baltimore, MD, June 5, 2017
Invited Lecture, How to do MR angiography Aorta, PV and coronary imaging, EuroCMR 2017, Prague, Czech Republic, May 25, 2017
Invited Lecture, Risk Profiling and Outcomes in Aortic Stenosis Using Multimodality Imaging, Mayo Clinic Cardiovascular Grand Rounds Rochester, MN, May 3, 2017
Invited Lecture, Risk Profiling and Outcomes in Aortic Stenosis Using Multimodality Imaging, University of Pennsylvania Cardiovascular Grand Rounds, Philadelphia, PA, April 7, 2017
Invited Lecture, Advanced Cardiovascular Imaging Workshop, 2nd Cardiovascular Epidemiology Conference, University of Pittsburgh, April 3, 2017
Invited Lecture, Expanding the Diagnostic Toolbox for Aortic Stenosis, 2017 ACC Scientific Sessions, Washington, DC, March 18, 2017
Invited Lecture, Risk Profiling and Outcomes in Aortic Stenosis Using Multimodality Imaging, 2016 Wuhan Union Hospital International Forum on Ultrasound in Medicine, Wuhan, Republic of China, Nov. 4, 2016
• Invited Lecture, Comprehensive CT Algorithm Before TAVR, 2016 TCT Scientific Sessions, Session: CT Imaging for the Valve and Structural Heart Disease Interventionalist Sponsored by the Society of Cardiovascular Computed, Washington, DC, Nov. 1, 2016
• Invited Lecture, Multi-Modality Imaging In Aortic Valve Disease, Valve Prep for the Boards, ACC Pennsylvania Chapter Meeting, Pittsburgh, PA, Oct. 15, 2016
• Invited Lecture, Risk Profiling and Outcomes in Aortic Stenosis Using Multimodality Imaging, Cardiology Grand Rounds, Henry Ford Hospital, Detroit, MI, Aug. 9, 2016

Partha Dutta MD
• Invited Speaker, Regenerative Cell Therapy Group, University of Pittsburgh Medical Center, Jan. 10, 2017
• Invited Speaker, Experimental Pathology, University of Pittsburgh, March 28, 2017
• Invited Speaker, Transplantation Biology Seminar Series, University of Pittsburgh, March 31, 2017
• Invited Speaker, Sixth Annual Tsinghua University-University of Pittsburgh Joint Symposium: Pathway to Precision Therapeutics, Pittsburgh, PA, May 9, 2017
• Invited Speaker, University of Pittsburgh Senior Vice Chancellor’s Research Seminar, Pittsburgh, PA, May 12, 2017
• Invited Speaker, Basic and Translational Research Seminar Series, University of Pittsburgh, Sept. 19, 2017
• Invited Speaker, Gordon Research Conference in Atherosclerosis, Newry, ME, June 19, 2017
• Instructor, Undergraduate Research, University of Pittsburgh, 2016-2017
• Facilitator, Diversity Workshop, University of Pittsburgh, 2017

John Gorcsan MD
• Invited Teaching Faculty Member, American Society of Echocardiography National Meeting, 2013-2016
• Invited Teaching Faculty Member, European Society of Echo International Meeting, 2013-2016
• Invited Teaching Faculty Member, European Society of Cardiology International Meeting, 2013-2016
• Invited Teaching Faculty Member, American Society of Echocardiography Echo Florida, 2013-2016
• Invited Faculty, Cardiology Grand Rounds, Virginia Commonwealth University, 2016
• Invited Faculty, Cardiology Grand Rounds, Washington University Hospital, St. Louis, 2016
• Invited Faculty, Cardiology Grand Rounds, University of Alabama, Birmingham, 2016

Gavin Hickey MD
• VA MICU Lecture Series, VAPHS, 2015-present
• MS4 Pharmacy in HF, 2015-present
• VA Cardiology Lecture Series, 2016-present
• MS-2 Pathophysiology in Heart Failure, 2016-present

Sandeep Jain MD
• Faculty Speaker, SVTs, Cardiology Bootcamp Lecture Series, 2014-2016, VT storm 2015-2016

William E. Katz MD
• Facilitator, General Cardiology Workshop, August-September 2016
• Facilitator, General Cardiology Workshop, August-September 2016
• RSS Echocardiography Conferences, 2012-2016
• Lecturer, PA ACC Fellows In Training, The Pathoanatomy of Mitral Regurgitation, 2016
Lecturer, Tricuspid Regurgitation: Is This Disease Entity Overlooked? PA ACC Fellows In Training, 2016
Lecturer, The Forgotten Valve: The Tricuspid Valve Revealed, Three Rivers Echo Society’s Biannual Meeting, 2016
Lecturer, Exercise And Mitral Stenosis, ASE Meeting, Baltimore, MD, 2017

Kang Kim PhD
Graduate Student Advisor, Research and Dissertation, 2012-present
Member, PhD Committee Mechanical Engineering and Bioengineering, University of Pittsburgh, 2008-present
Member, PhD Preliminary Exam Committee, PhD Preliminary Exam Committee Bioengineering PhD, University of Pittsburgh, 2011-present
Post-Doctoral Research Fellows Advisor, University of Pittsburgh, 2008-present

Dustin Kliner MD
Lecturer, Pre-Evaluation and Non-Invasive Cardiac Diagnostic Testing, University of Pittsburgh, School of Nursing, 2016
Lecturer, Cardiac Catheterization and Update in Interventional Cardiology, University of Pittsburgh, School of Nursing, 2016
Lecturer, A Complex TAVR Cardiac Catheterization, Conference Heart and Vascular Institute, 2017

Jenifer Lee MD
Course Director, Cardiology Sophomore Course, Body Fluid Homeostasis Block, 2012-present
Course Co-Director, Integrated Workshops Course, Body Fluid Homeostasis Block, 2015-present
Member, Academy of Master Educators, 2015-present
Instructor, Cardiac Heart Sounds Workshop, Advance Physical Examination Course, 2014 and 2016
Lecturer, Cardiology Sophomore Course: Anti-Arrhythmic Medications, 2014-present
Lecturer, Cardiology Sophomore Course: Cardiac Auscultation I Heart Sounds, 2012-present
Lecturer, Cardiology Sophomore Course: Cardiac Auscultation II Murmurs, 2012-present
Facilitator, Physiology Workshops, Body Fluid Homeostasis Block, 2012-present
Lecturer, Cardiology Sophomore Course: Mitral Valve Disease, 2011-present
Lecturer, Cardiology Sophomore Course: Aortic Valve Disease, 2011-present
Lecturer, Cardiology Sophomore Course: Anti-Ischemic Medications, 2006-present
Coordinator, Advanced Physical Exam Course, 2004-present
Clerkship Director, Adult Cardiology (MED 5440), 1996-present
Instructor, Weekly Medical Student ECG Conference, 1996-present
Facilitator, Problem-Based Learning in Cardiovascular Disease, 1996-present

Michael Mathier MD
Facilitator, MS II Cardiovascular Course, University of Pittsburgh School of Medicine, 2001-present
Lecturer, MS II Cardiovascular Course, University of Pittsburgh School of Medicine, 2002-present
Lecturer, University of Pittsburgh School of Nursing, 2001-present
Research Supervisor, undergraduate students, residents, cardiac fellows, 2002-present
Facilitator, Integrated Case Studies Course, University of Pittsburgh School of Medicine, 2014-present
Associate Program Director, Cardiovascular Fellowship, 2015-present
Clinic Preceptor, cardiovascular fellows continuity clinic, 2002-present
Suresh Mulukutla MD
- Fellowship Lecture Series on Interventional Cardiology, 2003-present
- Member, General Cardiology Fellowship Evaluation Committee, 2007-present
- Implementation of the HVI Heart Team (Team-based multidisciplinary approach to decision-making in patients with complex coronary artery disease), 2012-present
- Member of Doctoral Dissertation Committees (Phd Theses) Carrie Hanley 2014-present
- Lecturer, Acute Kidney Injury Meeting – Racial Differences in Biochemical and Vascular Responses to Non-Injurious Ischemia and Reperfusion, Bi-Monthly Conference of Center for Critical Care Nephrology, UPMC Presbyterian, September, 2016
- Lecturer, Nigeria Cardiovascular Symposium: Aortic Valve Disorders, Third Annual Nigeria Cardiovascular Symposium, September 2016
- Lecturer, Nigeria Cardiovascular Symposium: Management of Non-ST Evaluation Acute Coronary Syndromes, Third Annual Nigeria Cardiovascular Symposium, September 2016
- Lecturer, Nigerian Cardiac Society Annual Meeting–Basics of Cardiac Catheterization: Indications, Technique and Complications Pre-Conference Workshop of Nigerian Cardiac Society Annual Meeting, September 2016

John Pacella MD
- Post-Doctoral Fellows Advisor, University of Pittsburgh, 2007-present
- Post-Doctoral Research Fellows Advisor, University of Pittsburgh, 2005-present
- Mentor, CMU Undergraduate Students, 2008-present
- Mentor, CMU Graduate Students, 2011-present
- Medical Student Faculty Advisor, Physician Scientist Training Program, 2010-present
- Medical Student Faculty Advisor, Scholarly Project, University of Pittsburgh, 2011-present
- Lecturer, Microbubble-Mediated Sonoreperfusion with Long Tone Burst Ultrasound for the Treatment of Clinical teacher, graduate and post-graduate medical students (Physiology Workshop-Sophomore Course), 2006-present
- Task Force Member, Fellow's Research Day, American Heart Association Pennsylvania Affiliate 2011-present

P S Reddy MD
- Workshop Facilitator, Sophomore Cardiovascular Disease, University of Pittsburgh School of Medicine, 2014-2016

Guy Salama MD
- Invited Speaker, International Relaxin Meeting, Malaysia, September 2016
- Keynote Speaker Arrhythmia, Brisbane, Australia, July 13-14, 2016
- Chairman, Session 1 Arrhythmia, Brisbane, Australia, July 13-14, 2016
- Invited Speaker, Auckland University, New Zealand, July 17-18, 2016

Marc A Simon MD
- Mentor, Christopher Lacomis, undergraduate student, Echoardiographic assessment of right ventricular function, University of Pittsburgh, 2011-present
- Mentor, Christopher Link MD, medical resident and cardiology fellow, Assessment of Right Ventricular Function by Echocardiographic Speckle Tracking to Predict RV Failure After Mechanical Support of the Left Ventricle, 2011-present
- Facilitator, MS II Body Fluid Homeostasis Cardiovascular Course, Cardiovascular Physiology Workshop, University of Pittsburgh School of Medicine, 2014-present
- Mentor, VMI T32 postdoctoral fellow, 2013-2016
• Career Advisor, Physician Scientist Training Program (PSTP), 2011-present
• PhD Thesis Advisor, University of Pittsburgh Department of Bioengineering, 2014-present

Erik B. Schelbert MD
• Invited Speaker, Cardiomyocyte-Extracellular Matrix Interactions and Outcomes Advanced Imaging Research Center, University of Texas Southwestern Dallas, TX, Jan. 24, 2017
• Invited Speaker, Emerging Clinical Utility of ECV EuroCMR, Prague, Czechoslovakia, May 27, 2017
• Invited Speaker, CMR of the Aging Heart EuroCMR, Prague, Czechoslovakia, May 27, 2017

Mark Schmidhofer MD
• Treatment of Acute Coronary Syndromes, medical residents, UPMC, 2015-2017
• Cardiogenic Shock, Cardiology fellows, UPMC 2015-2017
• Coronary Anatomy, Cardiology fellows, UPMC, 2015-2017
• Anticoagulation in the Traumatic Brain Injury Patient, UPMC Trauma Surgery M&M
• Director, M&M conferences, UPMC Division of Cardiology
• Medical Management of Non-STEMI and Acute Coronary Syndromes, 25th Annual Clinical Update in Geriatric Medicine, University School of Medicine, April 7, 2017
• Central Line Insertion Training, UPMC medical residents, 2015-2017
• ACLS Refresher, UPMC medical residents, 2016-2017

Marc Simon MD
• Mentor, Rebecca Vanderpool, PhD, Hemodynamics of Right Ventricular-Pulmonary Vascular Interaction, T32 (Gladwin), 2013-present
• Mentor, Sebastian Shterental, medical student, University of Pittsburgh, Right Ventricular Hemodynamic Waveform Morphology as Quantified by Area Index and Correlated to Clinical Outcomes, Clinical Scientist Training Program, 2013-present
• Scholarly Project Mentor, Sae Jang, University of Pittsburgh School of Medicine, Class of 2018, Relating RV Biomechanics to RV Diastolic Function Parameter in Rat Analytical Models, 2014-present
• PhD thesis advisor, Timothy Bachman, University of Pittsburgh Department of Bioengineering, Right Ventricular Failure Post-LVAD Implant, 2014-present

A.J. Conrad Smith MD
• Lecturer, Fellow Luncheon series, Mechanical Circulatory Support, September 2016

John Schindler MD
• Fellowship Lecture Series on Interventional Cardiology, 2012-present
• Program Co-Director/Lecturer Transradial Symposium 2015-2016

Prem Soman MD
• Director, Advanced Imaging Fellowship, Division of Cardiology, 2007-present
• Concepts in Nuclear Cardiology, Cardiology Fellowship Lectures, 2008-present
• Facilitator, Drug Treatment of Ischemic Heart Diseases, Clinical Pharmacology Course for MS4, UPSOM, 2015, 2016
• Presenter, Recent Advances in Clinical Nuclear Cardiology and Cardiac CT, American College of Cardiology Educational Programs, Washington, DC, 2014-2016
Ozlem Soran MD
- Instructor, Cardiovascular Treatment of Arrhythmia, Physiology block of the sophomore course, 2014-present
- Instructor, Workshops/Problem-Based Learning Sessions: EKG, Physiology, Cardiac Auscultation, Arrhythmias, Acute Coronary Syndromes, Sophomore Cardiovascular Course Block, Congestive Heart Failure, 2002-present
- Lecturer, Sophomore Cardiovascular Course Block: Pericardial Diseases, 2014-present
- Lecturer, Pericardial Diseases, 2014-present
- EECP Therapy Training for Cardiology Fellows, 2014-present
- Director, EECP Therapy Training for Cardiology Fellows, 2014-present
- Invited Speaker, Onco-Cardiology, Oncology Symposium, Bursa, Turkey, 2016
- Invited Speaker, EECP and Its Mechanism of Action, First Italian EECP Symposium, Rome, Italy, 2016
- Invited Speaker, Onco-Cardiology, Oncology Symposium, Bursa, Turkey, 2016
- Invited Lecturer: Mechanism of EECP Therapy, University of Pittsburgh, School of Engineering, 2015-17

Jeffrey Teuteberg MD
- Lecturer, Advanced Heart Failure, Fellows, 2007-2016

Krisha Tummalapalli MD
- Teacher, cardiology fellows, residents, medical students, nurses and other health care providers, 1990-present
- Instructor, Cardiology fellows assigned to cardiac cath lab, 1990-present
- Course Director, Advanced Annual Transradial Symposium, 2015-present
- Proctor, Hands-on Transradial Access Course at Shadyside Hospital, 2011-present
- Presenter, Interesting Cases, 5th Annual Advanced AIM RADIAL International Masters Conference 2016
- Guest Speaker, various transradial courses and events, 2015-present
- Contributor, CME videos at UPMC physician resources web site, 2012-present

Catalin Toma MD
- Member, General Cardiology Fellowship Evaluation Committee, 2010-present

Flordeliza Villanueva MD
- Advisor, graduate student research and dissertation, 1997-present
- Member, PhD Committee University of Pittsburgh, 2000-present
- Faculty Advisor, medical students, 2001-present
- Advisor, Post-doctoral fellows, University of Pittsburgh, 1999-present
- Research supervisor, undergraduate and post-graduate students, laboratory research, 1993-present
- Research supervisor, undergraduate and post-graduate students, clinical research/multicenter clinical trials, 1994-present
- Research supervisor, undergraduate and post-graduate medical students, clinical teaching, 1992-present
- Course Director, Visualizing the Future of Molecular Imaging, University of Pittsburgh, April 18, 2017
- Invited Speaker, Biophysics of Sonoporation, 31st Annual Advances in Contrast Ultrasound, International Contrast Ultrasound Society, Chicago, IL, September 2016
- Invited Speaker, Molecular Therapeutics Using Ultrasound, Cardiology Grand Rounds, Yale University School of Medicine, New Haven, CT, October 2016
• Invited Speaker, Targeted Therapeutic Delivery Applications in Cancer, in Symposium, Advances in Molecular and Therapeutic Applications, 28th Annual Scientific Sessions, American Society of Echocardiography, Baltimore, MD, June 2017

Andrew Voigt MD
• Mentorship/Teaching, EP fellow two full days per week, 2014-present

Timothy C. Wong MD
• Course Director, CLRES 2108 Patient Registries and Electronic Health Records in CER, Institute for Clinical Research Education, University of Pittsburgh, 2017
• Task Force Member, Fellow’s Research Day, American Heart Association Three Rivers Affiliate, 2014-present
• Invited Speaker, Morristown Medical Center Cardiology Grand Rounds, Cardiac MRI T1 Mapping for the Practicing Cardiologist. 2016
• MS Thesis Committee Member, University of Pittsburgh, 2016
• Facilitator, MS II Body Fluid Homeostasis Cardiovascular Course, University of Pittsburgh School of Medicine, 2013-present
• Lecturer, UPMC Cardiology Fellows Lecture Series: Hypertrophic Cardiomyopathy, Atrial Fibrillation, Preoperative Evaluation, 2014-present

Fellowship Program

<table>
<thead>
<tr>
<th>Current Fellows</th>
<th>Medical School</th>
<th>Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baumgartner</td>
<td>Robert New York University</td>
<td>Tufts Medical Center</td>
</tr>
<tr>
<td>Cater</td>
<td>George Case Western Reserve</td>
<td>UPMC</td>
</tr>
<tr>
<td>Chonde</td>
<td>Meshe George Washington University</td>
<td>Cedars Sinai</td>
</tr>
<tr>
<td>Countouris</td>
<td>Malamo University of Pittsburgh</td>
<td>UPMC</td>
</tr>
<tr>
<td>D'Auria</td>
<td>Stephen University of Pittsburgh</td>
<td>UPMC</td>
</tr>
<tr>
<td>Desai</td>
<td>Aken University of Michigan</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Elliott</td>
<td>Andrea University of Texas at Houston</td>
<td>UPMC</td>
</tr>
<tr>
<td>Erqou</td>
<td>Sebhat Gondar College of Medicine and Health Sciences</td>
<td>UPMC</td>
</tr>
<tr>
<td>Fridman</td>
<td>Yaron University of Pittsburgh</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Friedman</td>
<td>Eli Chicago Medical School</td>
<td>UPMC</td>
</tr>
<tr>
<td>Genuardi</td>
<td>Michael Tuft's University</td>
<td>Mass General</td>
</tr>
<tr>
<td>Huang</td>
<td>Helen Albany Medical College</td>
<td>Cedars Sinai Medical Center</td>
</tr>
<tr>
<td>Johnson</td>
<td>Amber Jefferson Medical College</td>
<td>Johns Hopkins</td>
</tr>
<tr>
<td>Lander</td>
<td>Matthew Drexel University</td>
<td>UPMC</td>
</tr>
<tr>
<td>Lee</td>
<td>Jae In Northwestern University</td>
<td>Emory School of Medicine</td>
</tr>
<tr>
<td>Levenson</td>
<td>Joshua University of Pittsburgh</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Li</td>
<td>Jack University of Michigan</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Masri</td>
<td>Ahmad Jordan University of Science and Technology Faculty of Medicine</td>
<td>Cleveland Clinic</td>
</tr>
<tr>
<td>Name</td>
<td>Affiliation</td>
<td>Institution</td>
</tr>
<tr>
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</tr>
<tr>
<td>Qin Dingxin</td>
<td>Peking Union Medical University</td>
<td>UPMC</td>
</tr>
<tr>
<td>Rhinehart Zachary</td>
<td>University of Pittsburgh</td>
<td>UPMC</td>
</tr>
<tr>
<td>Rodriguez Yasser</td>
<td>University of Miami</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>Senussi Mourad</td>
<td>University of Tripoli Faculty of Medicine</td>
<td>St. Joseph Hospital</td>
</tr>
<tr>
<td>Sriwattanakomen Roy</td>
<td>University of Pittsburgh</td>
<td>Beth Israel Deaconess</td>
</tr>
<tr>
<td>Sun Wei</td>
<td>Peking University Health Science Center</td>
<td>Mt. Auburn Hospital</td>
</tr>
<tr>
<td>Teekakirikul Polakit</td>
<td>Chulalongkorn University Faculty of Medicine</td>
<td>Harvard Medical School/Mt. Auburn Hospital</td>
</tr>
<tr>
<td>Topoll Alicia</td>
<td>Northeast Ohio Medical University</td>
<td>Texas Health Presbyterian Hospital/Dallas Presbyterian Hospital</td>
</tr>
<tr>
<td>Zhang Manling</td>
<td>Shanghai Jiao Tong University</td>
<td>Medstar Good Samaritan</td>
</tr>
</tbody>
</table>

**Interventional Fellowship Program**

<table>
<thead>
<tr>
<th>Current Fellows</th>
<th>Medical School</th>
<th>Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fowler Jeffrey</td>
<td>Lake Erie COM</td>
<td>Cleveland Clinic</td>
</tr>
<tr>
<td>Mulock Michael</td>
<td>Jefferson Medical College</td>
<td>NY Presby</td>
</tr>
</tbody>
</table>

**EP Fellowship Program**

<table>
<thead>
<tr>
<th>Current Fellows</th>
<th>Medical School</th>
<th>Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shah Shivang</td>
<td>Wayne State</td>
<td>Hahnemann/Drexel</td>
</tr>
<tr>
<td>Wertz Jonathon</td>
<td>Indiana University</td>
<td>UPMC</td>
</tr>
</tbody>
</table>

**Advanced Heart Failure and Transplant Cardiology Fellowship Program**

<table>
<thead>
<tr>
<th>Current Fellow</th>
<th>Medical School</th>
<th>Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Link Christopher</td>
<td>University of Miami</td>
<td>UPMC</td>
</tr>
</tbody>
</table>

**Departing Fellows**

<table>
<thead>
<tr>
<th>Name</th>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baumgartner Robert</td>
<td>Interventional Fellowship, UPMC</td>
</tr>
<tr>
<td>Chonde Meshe</td>
<td>CCM Fellowship, UPMC</td>
</tr>
<tr>
<td>Desai Aken</td>
<td>Interventional Fellowship, Beaumont Hospital, Royal Oak, MI</td>
</tr>
<tr>
<td>Elliott Andrea</td>
<td>T-32 Pitt</td>
</tr>
<tr>
<td>Fridman Yaron</td>
<td>General Cardiology and Advanced Imaging, Mission Health, Asheville, NC</td>
</tr>
<tr>
<td>Departing Fellow</td>
<td>Position</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Wertz</td>
<td>Jonathon OZ - Electrophysiology Faculty / Non-GME Fellow</td>
</tr>
<tr>
<td>Shah</td>
<td>Shivang OZ - Electrophysiology Faculty / Non-GME Fellow</td>
</tr>
</tbody>
</table>

**Advanced Heart Failure and Transplant Cardiology Fellowship Program (PUH)**

<table>
<thead>
<tr>
<th>Departing Fellow</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Link</td>
<td>Christopher Heart Failure position, Maine Medical, Portland, ME</td>
</tr>
</tbody>
</table>

**Fellow Awards and Honors**

**D'Auria, Stephen.** HVI Fellows Research Grant, UPMC HVI, 2017, PI: Dr. John Pacella, UPMC Heart and Vascular Institute

**Elliott, Andrea.** Chief Fellow Certificate 2016

**Elliott, Andrea.** Runner-up, Excellence in Teaching Award 2017

**Genuardi, Michael.** HVI Fellows Grant Award, UPMC Cardiovascular Outcomes and Mortality in Patients with Obstructive Sleep Apnea and Pulmonary Hypertension, PI: Sanjay Patel MD MS, 2017

**Johnson, Amber.** Galal M. Ziady Memorial Award 2017

**Johnson, Amber.** Runner-up, Excellence in Teaching Award 2017

Masri, Ahmad. Finalist for MACCS (Mid-Atlantic Capital Cardiology Symposium) Young Investigator Award, 2016

Masri, Ahmad. University of Pittsburgh Medical Center–Heart and Vascular Institute Fellow Research Grant, 2016

Masri, Ahmad. University of Pittsburgh Medical Center Technology and Innovative Practice Assessment Committee (TIPAC) Grant to establish a patient-care algorithm to screen for and diagnose cardiac amyloidosis, 2016

Teekakirikul, Polakit. University of Pittsburgh Medical Center Heart and Vascular Institute Research Award, Project, Identifying Genetic Etiology of Familial Atrial Septal Defect, 2016

Zhang, Manling. James A. Shaver Memorial Award 2016

Zhang, Manling. Excellence in Teaching Award 2017

Fellow Honors / Advanced Heart Failure and Transplant Cardiology (PUH)

Link, Christopher. Jeffrey Wiergena Award, 2017

Fellow Honors / Ep Fellows

Shah, Shivang. Recipient, Boston Scientific Travel Award, Heart Rhythm Society Annual Symposium, Chicago, IL, May 2017

Wertz, Jonathon. Recipient, Boston Scientific Travel Award, International Symposium on Left Atrial Appendage (ISLAA 2017), Austin, TX, March 2017

Fellow Presentations

Cater GM, Schelbert EB, Kellman P, Simon MA, Wong TC. Myocardial Fibrosis is Associated with Pulmonary Artery Pressure and Adverse Outcomes in Patients with Preserved Left Ventricular Function, University of Pittsburgh Medical Center, American Heart Association Annual Meeting, November 2016 (Poster)


Erqou, Sebhat. Association of Cumulative Social Risk with Mortality and Adverse Cardiovascular Disease Outcomes, American Heart Association, New Orleans, LA, November 2016 (Poster)


Friedman, Eli. Sudden Cardiac Death and Athletes Strive to Revive; Improving Cardiac Resuscitation, Cardiac-Arrest Conference, Pennsylvania chapter, American Heart Association, November 2016

Genuardi MV, Magnani JW, Patel SR. Association of Short Sleep with Atrial Fibrillation in a Clinical Cohort, Department of Medicine Research Day, University of Pittsburgh School of Medicine, May 2, 2017

Levenson J, Genuardi MV, Schmidhofer M. Creating a Fellow-Driven Lecture Curriculum in the Coronary Intensive Care Unit, Medical Education Day, University of Pittsburgh School of Medicine, Sept. 30, 2016, (Abstract and Poster)

Lander MM, Mercurio M….Kormos RL, McNamara DM. Neopterin Elevation and Survival Following Left Ventricular Assist Device Implantation, International Society for Heart and Lung Transplantation, San Diego, CA, 2017


Masri, Ahmad, Andrew D. Althouse, Jeffrey McKibben, Floyd Thoma, Michael Mathier, Ravi Ramani, Jeffrey Teuteberg, Oscar Marroquin, Joon S. Lee, Suresh Mulukutla. Heart Failure Admissions under Observation versus Short Inpatient Stay: A Cohort Study. AHA 2016

Fellow Publications


Maanja M, Wieslander B, Schlegel TT, Bacharova L, Daya HA, Fridman Y, Wong TC, Schelbert


CLINICAL CARE

The HVI Cardiology Section continues to define excellence in cardiovascular care in a wide variety of clinical settings, among them:

- UPMC Presbyterian
- UPMC Shadyside
- UPMC Passavant-Cranberry
- Magee-Womens Hospital of UPMC
- UPMC Mercy
- UPMC St. Margaret
- UPMC East
- UPMC Horizon
- UPMC Altoona
- UPMC Hamot
- UPMC Greenville
- UPMC Northwest
- UPMC McKeesport
- UPMC Susquehanna
- Monongahela Valley Hospital
- Jameson Hospital
- Ohio Valley Hospital
- Uniontown Hospital
- Washington Hospital
- Dubois Regional Medical Center

HVI sites of clinical operation include over 40 clinical offices spread across western Pennsylvania. Clinical expansion during FY 2017 included:

- Grand Opening new cardiac rehabilitation facility at UPMC Mercy Outpatient Center at Green Tree
- Opened new hospital based HVI clinic at UPMC Jameson
- Development of HVI Women’s Heart Program
- HVI Collaborative Care Conference/Program

UPMC Chronic Thromboembolic Pulmonary Hypertension (CTEPH) Program
FY 2017 saw the continued growth of the important program Community Outreach and Cardiovascular Health (COACH) with an expanded footprint in surrounding communities. The mission of the COACH program includes:

- Community outreach
- Strengthen ties between the HVI and the greater Pittsburgh community
- Promotion of volunteerism with the HVI
- Community service
- Free care for the underserved
- Children’s health and nutrition goals and education (CHANGE)
- Childhood education program focusing initially on middle school ages
- Cardiovascular health education
- Obesity prevention
- Healthy dietary habits and physical activity promotion
- Spirit of the Heart Screening Event with American Black Cardiologist (ABC) foundation
- Walk with COACH program

The HVI financial plan for FY 2017 focused efforts to capitalize on internal strengths and external environmental opportunities while mitigating weaknesses and external environmental threats.
The Cardiology Section of the HVI continues to achieve the highest quality outcomes in its effort to continually improve the care provided to our patients.

Raveen Bazaz, MD, from the UPMC Center for Atrial Fibrillation, discusses a novel percutaneous technology for stroke prevention, the Watchman™ device, that was recently FDA-approved.

The Center for Atrial Fibrillation offers a range of therapies for stroke prevention in patients with AFib, including permanent closure of the left atrial appendage (LAA). It is the first center in Western Pennsylvania to offer the recently FDA-approved Watchman™ Left Atrial Appendage Closure Device for stroke prevention in select patients.

John Schindler, MD, discussed transradial approaches for STEMI patients and improving outcomes, as well as the technical aspects of primary PCI for STEMI patients in Transradial PC in STEMI: Improving Outcomes.

Catalin Toma, MD, is the UPMC Principal Investigator for the ABSORB IV research study. This study will assess the safety, effectiveness, and potential benefits of treating blockages in the coronary arteries with a temporary bioresorbable vascular scaffold compared to a commercially FDA-approved metallic drug-eluting stent.

Bryan Robertson, MD discussed anticoagulant use in diagnostic catheterization, appropriate antithrombotic therapy in PCI, and transradial catheterization/PCI for orally anticoagulated patients in Anticoagulation Strategies for Transradial Catheterization.

Ravi Ramani, MD, is leading efforts to use tele and video conferencing for discussion of heart failure cases across UPMC system hospitals. With this technology, expert HF teams based at UPMC Presbyterian work with care teams in other locations to together manage complex patient cases.

Patients who go to UPMC Presbyterian for heart catheterization and who receive a stent to treat clogged arteries are now being screened with a simple blood test to determine if they have a gene variant that makes them less likely to respond to a blood-thinning medication commonly prescribed after the procedure. This unique program, one of the first of its kind in the country, aims to use clinical pharmacogenomics knowledge to individualize patient treatments—part of a broader program at UPMC that could eventually include a wide variety of drugs to improve outcomes for patients.

To launch the PreCISE-Rx (Pharmacogenomics-guided Care to Improve the Safety and Effectiveness of Medications) initiative, a multidisciplinary team created streamlined processes to test patients for the relevant genes and promptly add the results as well as treatment alerts to UPMC’s electronic health record. The genetic and clinical information that is gathered also feeds UPMC’s big data analytics effort, which is expected to lead to new scientific insights into how and why drugs work for some patients but not others, and to identify new drug targets.

Drs. Winnie and Jeff Teuteberg’s short piece about palliative care and heart failure was recently published on the ACC website. It highlights UPMC’s comprehensive specialty heart failure palliative care program, which has grown from an inpatient consult presence and one outpatient clinic session a week to daily outpatient sessions within the HF clinic.
FACULTY

Faculty in Core Divisions
Fiscal Year 2015-2017

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2003 (Base Year)</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>47</td>
<td>98</td>
<td>116</td>
<td>121</td>
</tr>
</tbody>
</table>

Note: Includes University of Pittsburgh full-time faculty and volunteer faculty who have a UPP appointment and excludes research associates, adjunct faculty and emeritus faculty.

Current Cardiology Faculty

Full-Time Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelstein</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Aiyer</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Al Ghouleh</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Anderson</td>
<td>Professor of Medicine</td>
</tr>
<tr>
<td>Bai</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Barrington</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Bazaz</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Berlacher</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Brode</td>
<td>Instructor in Medicine</td>
</tr>
<tr>
<td>Bruemmer</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Buffer</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Cavalcante</td>
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<td>Voigt Andrew H.</td>
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<td>Zeng Dexing</td>
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<tr>
<td>Zhu Jianhui</td>
<td>Research Assistant Professor of Medicine</td>
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**Affiliated Faculty with UPP Appointments**

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<th>Name</th>
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<tr>
<td>Adhar Gur</td>
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<td>Awan Ilhan</td>
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<td>Bachour Khaled</td>
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<td>Bowser Stephen A.</td>
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<td>Cantellops Diana M.</td>
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<td>Chough Simon</td>
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<tr>
<td>Costabile Chelcie L.</td>
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Department of Medicine

[http://www.dom.pitt.edu/card](http://www.dom.pitt.edu/card)
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<tr>
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<td>Davis Lydia S. MD</td>
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**Affiliated Faculty without UPP Appointments**

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<tr>
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**New Faculty Hires**

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<tr>
<td>Anderson</td>
<td>Carolyn</td>
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<tr>
<td>Bai</td>
<td>Mingfeng</td>
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<td>Gomez</td>
<td>Delphine</td>
<td>H</td>
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<td>Assistant Professor of Medicine</td>
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<td>Research Scientist, Molecular Physiology and Biological Physics, U of Virginia</td>
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<tr>
<td>Nair</td>
<td>Pradeep</td>
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<td>MD</td>
<td>Clinical Instructor in Medicine</td>
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<td>Staff Interventional Cardiologist, Cardiovascular Institute of the South, LA</td>
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<tr>
<td>Zeng</td>
<td>Dexing</td>
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**Research Associates**

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<tr>
<td>Ling</td>
<td>Xiaoxi</td>
<td>PhD</td>
<td>Research Associate</td>
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<tr>
<td>Shao</td>
<td>Pin</td>
<td>PhD</td>
<td>Visiting Research Associate</td>
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<tr>
<td>Zhang</td>
<td>Shaojuan</td>
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## Current Post Docs in FY 2016-2017

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<tr>
<td>Abadjian</td>
<td>Marie-Caline</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Abadjian researches the development of novel radiopharmaceuticals for imaging and therapy in oncology and other diseases.</td>
</tr>
<tr>
<td>Coppin</td>
<td>Emilie</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Coppin is investigating Hematopoietic Stem and Progenitor Cells HSPC activation and differentiation and functions of inflammatory cells in cardiovascular diseases.</td>
</tr>
<tr>
<td>Fallabella</td>
<td>Micol</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Fallabella researches the role of G-quadruplex structures in the regulation of mitochondrial function.</td>
</tr>
<tr>
<td>Florentin</td>
<td>Jonathan</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Florentin is exploring the role and relevance of lung infiltrated pro-inflammatory monocytes in the expansion of lung interstitial macrophages in the context of pulmonary arterial hypertension.</td>
</tr>
<tr>
<td>Geruntho</td>
<td>Jonathan</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Geruntho works on the development of novel radiopharmaceuticals for imaging and therapy in oncology and other diseases.</td>
</tr>
<tr>
<td>He</td>
<td>Mingyu</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. He’s research focuses on the development of therapeutic drug and/or nucleic acid delivery platforms, using ultrasound and microbubble technology, for the treatment of cancer and cardiovascular disease.</td>
</tr>
<tr>
<td>Hortells</td>
<td>Luis</td>
<td>DVM, PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Hortells is studying the role of aging and telomerase in cardiovascular calcification.</td>
</tr>
<tr>
<td>Johnson</td>
<td>Amber</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Johnson’s research centers on ethnic disparities in implantable defibrillator utilization.</td>
</tr>
<tr>
<td>Kagiyama</td>
<td>Nobuyuki</td>
<td>MD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Kagiyama investigates cardiac function using advanced cardiac imaging techniques, including speckle tracking and three-dimensional echocardiography.</td>
</tr>
<tr>
<td>Kang</td>
<td>Inhae</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Kang studies protein post-translational modification regulating the mitochondrial genome.</td>
</tr>
<tr>
<td>Kelly</td>
<td>Neil</td>
<td>PhD</td>
<td>MSTP Postdoctoral Associate</td>
<td>Dr. Kelly’s research interests include the use of genomics- and network-based methods to identify novel pathways involved in the pathogenesis of pulmonary hypertension.</td>
</tr>
<tr>
<td>Manning</td>
<td>Janet</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Manning studies the impact of mitochondrial acetyltransferase GCNSL1 activity on the recovery of the heart from ischemia-reperfusion injury, focusing on the downstream acetylation targets that regulate cardiomyocyte metabolism, function, and survival.</td>
</tr>
<tr>
<td>Mburu</td>
<td>Maureen</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Mburu’s research involves the pathophysiology and possible interventions of the cardiac manifestations in sickle cell disease through both biological imaging and biomedical research.</td>
</tr>
<tr>
<td>Negi</td>
<td>Vinny</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Negi is exploring the role of miRNAs and novel drug targets in pulmonary hypertension.</td>
</tr>
<tr>
<td>Nyiranshuti</td>
<td>Lea</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Nyiranshuti’s research involves the development of radiotracers targeting immune cells (macrophages, neutrophils and/or T cells) for imaging the tumor microenvironment and for imaging tuberculosis granulomas by positron emission tomography (PET).</td>
</tr>
<tr>
<td>Pulgarin</td>
<td>J. Andres</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Pulgarin is studying the role of Line-1 element in atherosclerotic and senescent cells.</td>
</tr>
</tbody>
</table>
### Cardiology FY 2016-2017

#### Employee Last Name | Employee First Name | Degree Code | Current Title | Summary of activities
---|---|---|---|---
Ramasamy | Thiruganesh | PhD | Postdoctoral Associate | Dr. Ramasamy’s research focuses on the design and testing novel drug or gene-carrying ultrasound contrast agents for therapeutic delivery in cancer and cardiovascular disease.
Sun | Lingyi | PhD | Postdoctoral Associate | Dr. Sun is working to develop a novel strategy to produce dual-receptor targeted PET (positron emission tomography) agents for preclinical and/or clinical studies.
Sur | Swastika | PhD | Postdoctoral Associate | Dr. Sur’s research focuses on the mechanisms underlying ACDC pathogenesis: identifying the transcription factors that upregulate transcription of Alkaline Phosphatase and exploring the role of autophagy in this pathology.
Thapa | Dharendra | PhD | Postdoctoral Associate | Dr. Thapa is investigating the novel role of GCN5L1 in controlling fatty acid oxidation and regulatory acetyl modifications of mitochondrial fuel utilization enzymes in normal and failing hearts.
Vasametti | Sathish | PhD | Postdoctoral Associate | Dr. Vasametti studies the role of macrophages in myocardial infarction triggered insulin resistance.
Yu | Qiujun | MD, PhD | Postdoctoral Associate | Dr. Yu is working on novel roles of long-noncoding RNA in pulmonary hypertension and molecular mechanics of mitochondrial metabolism in pulmonary vascular biology.

#### Terminated Post Docs FY 2016-2017

#### Employee Last Name | Employee First Name | Degree Code | Current Title | Summary of activities
---|---|---|---|---
Helfield | Brandon | PhD | Postdoctoral Scholar | Dr. Helfield’s studies included the study of ultrasound-induced microbubble dynamics using ultra high speed imaging in the presence of cultured cells.
Kelly | Neil | PhD | MSTP Postdoctoral Associate | Dr. Kelly’s research interests included the use of genomics- and network-based methods to identify novel pathways involved in the pathogenesis of pulmonary hypertension.
Kopechek | Jonathan | PhD | Postdoctoral Associate | Dr. Kopechek’s research was aimed at developing therapeutic platforms utilizing ultrasound and ultrasound contrast agents (microbubbles), with a focus on molecular therapeutics of cancer using nucleic acid-carrying microbubble constructs in conjunction with ultrasound.
Qi, Zhi | Zhi | PhD | Postdoctoral Associate | Dr. Zhi’s work focused on cardiac function using advanced cardiac imaging techniques, including speckle tracking and three-dimensional echocardiography.
Sur | Swastika | PhD | Postdoctoral Associate | Dr. Sur researched the mechanisms underlying ACDC pathogenesis: identifying the transcription factors that upregulate transcription of Alkaline Phosphatase and exploring the role of autophagy in this pathology.
Valli | Hanna | PhD | Postdoctoral Associate | Dr. Valli is using in vitro disease models to understand the role of CD73 and adenosine signaling in mechanisms regulating vascular calcification and vessel remodeling.
Zhang, | Xiaohui | PhD | Postdoctoral Associate | Dr. Zhang’s research was to develop a novel platform to optimize the structure of dual-receptor PET agents for preclinical and/or clinical studies.
This study presents a unique approach to understanding the biophysical mechanisms of ultrasound-triggered cell membrane disruption (i.e., sonoporation). We report direct correlations between ultrasound-stimulated encapsulated microbubble oscillation physics and the resulting cellular membrane permeability by simultaneous microscopy of these two processes over their intrinsic physical timescales (microseconds for microbubble dynamics and seconds to minutes for local macromolecule uptake and cell membrane reorganization). We show that there exists a microbubble oscillation-induced shear-stress threshold, on the order of kilopascals, beyond which endothelial cellular membrane permeability increases. The shear-stress threshold exhibits an inverse square-root relation to the number of oscillation cycles and an approximately linear dependence on ultrasound frequency from 0.5 to 2 MHz. Further, via real-time 3D confocal microscopy measurements, our data provide evidence that a sonoporation event directly results in the immediate generation of membrane pores through both apical and basal cell membrane layers that reseal along their lateral area (resealing time of \(\sim 2\) min). Finally, we demonstrate the potential for sonoporation to indirectly initiate prolonged, intercellular gaps between adjacent, confluent cells (\(\sim 30-60\) min). This real-time microscopic approach has provided insight into both the physical, cavitation-based mechanisms of sonoporation and the biophysical, cell-membrane-based mechanisms by which microbubble acoustic behaviors cause acute and sustained enhancement of cellular and vascular permeability.


**BACKGROUND:** Black women are at greater risk for peripartum cardiomyopathy (PPCM). The guanine nucleotide-binding proteins \(\beta\)-3 subunit (GNB3) has a polymorphism C825T. The GNB3 TT genotype more prevalent in blacks is associated with poorer outcomes. We evaluated GNB3 genotype and myocardial recovery in PPCM.

**METHODS AND RESULTS:** A total of 97 women with PPCM were enrolled and genotyped for the GNB3 T/C polymorphism. Left ventricular ejection fraction (LVEF) was assessed by echocardiography at entry, 6 and 12 months postpartum. LVEF over time in subjects with the GNB3 TT genotype was compared with those with the C allele overall and in black and white subsets. The cohort was 30% black, age 30±6, LVEF 0.34±0.10 at entry 31±25 days postpartum. The % GNB3 genotype for TT/CT/CC=23/41/36 and differed markedly by race (blacks=52/38/10 versus whites=10/44/46, \(P<0.001\)). In subjects with the TT genotype, LVEF at entry was lower (TT=0.31±0.09; CT+CC=0.35±0.09, \(P=0.054\)) and this difference increased at 6 (TT=0.45±0.15; CT+CC=0.53±0.08, \(P=0.002\)) and 12 months (TT=0.45±0.15; CT+CC=0.56±0.07, \(P<0.001\)). The difference in LVEF at 12 months by genotype was most pronounced in blacks (12 months LVEF for GNB3 TT=0.39±0.16; versus CT+CC=0.53±0.09, \(P=0.02\)) but evident in whites (TT=0.50±0.11; CT+CC=0.56±0.06, \(P=0.04\)).

**CONCLUSIONS:** The GNB3 TT genotype was associated with lower LVEF at 6 and 12 months in women with PPCM, and this was particularly evident in blacks. Racial differences in the prevalence and impact of GNB3 TT may contribute to poorer outcomes in black women with PPCM.

BACKGROUND: Pulmonary hypertension (PH) is associated with poor outcomes, yet specific treatments only exist for a small subset of patients. The most common form of PH is that associated with left heart disease (Group 2), for which there is no approved therapy. Nitrite has shown efficacy in preclinical animal models of Group 1 and 2 PH, as well as in patients with left heart failure with preserved ejection fraction (HFpEF). We evaluated the safety and efficacy of a potentially novel inhaled formulation of nitrite in PH-HFpEF patients as compared with Group 1 and 3 PH.

METHODS: Cardiopulmonary hemodynamics were recorded after acute administration of inhaled nitrite at 2 doses, 45 and 90 mg. Safety endpoints included change in systemic blood pressure and methemoglobin levels. Responses were also compared with those administered inhaled nitric oxide.

RESULTS: Thirty-six patients were enrolled (10 PH-HFpEF, 20 Group 1 pulmonary arterial hypertension patients on background PH-specific therapy, and 6 Group 3 PH). Drug administration was well tolerated. Nitrite inhalation significantly lowered pulmonary, right atrial, and pulmonary capillary wedge pressures, most pronounced in patients with PH-HFpEF. There was a modest decrease in cardiac output and systemic blood pressure. Pulmonary vascular resistance decreased only in Group 3 PH patients. There was substantial increase in pulmonary artery compliance, most pronounced in patients with PH-HFpEF.

CONCLUSIONS: Inhaled nitrite is safe in PH patients and may be efficacious in PH-HFpEF and Group 3 PH primarily via improvements in left and right ventricular filling pressures and pulmonary artery compliance. The lack of change in pulmonary vascular resistance likely may limit efficacy for Group 1 patients.


Signal transducer and activator of transcription 3 (STAT3) is constitutively activated in many cancers where it acts to promote tumor progression. A STAT3-specific transcription factor decoy has been developed to suppress STAT3 downstream signaling, but a delivery strategy is needed to improve clinical translation. Ultrasound-targeted microbubble destruction (UTMD) has been shown to enhance image-guided local delivery of molecular therapeutics to a target site. The objective of this study was to deliver STAT3 decoy to squamous cell carcinoma (SCC) tumors using UTMD to disrupt STAT3 signaling and inhibit tumor growth. Studies performed demonstrated that UTMD treatment with STAT3 decoy-loaded microbubbles inhibited STAT3 signaling in SCC cells in vitro. Studies performed in vivo demonstrated that UTMD treatment with STAT3 decoy-loaded microbubbles induced significant tumor growth inhibition (31-51% reduced tumor volume vs. controls, p < 0.05) in mice bearing SCC tumors. Furthermore, expression of STAT3 downstream target genes (Bcl-xL and cyclin D1) was significantly reduced (34-39%, p < 0.05) in tumors receiving UTMD treatment with STAT3 decoy-loaded microbubbles compared to controls. In addition, the quantity of radiolabeled STAT3 decoy detected in tumors eight hours after treatment was significantly higher with UTMD treatment compared to controls (70-150%, p < 0.05). This study demonstrates that UTMD can increase delivery of a transcription factor decoy to tumors in vivo and that the decoy can inhibit STAT3 signaling and tumor growth. These results suggest that UTMD treatment holds potential for clinical use to increase the concentration of a transcription factor signaling inhibitor in the tumor.
**Peer-Reviewed Publications: 2015, 2016, 2017**


Kim JJ, Nemec J, Li, Q and Salama G. Synchronous Systolic Subcellular Ca2+-Elevations Underlie Ventricular Arrhythmia in Drug-Induced Long QT Type 2. Circ Arrhythm Electrophysiol. 2015 Jun;8(3):703-12.


Department of Medicine http://www.dom.pitt.edu/card


Roman BL, **St Hilaire C**. Catching a Disease: A Molecular Trap as a Therapy for Pulmonary Arterial Hypertension. Am J Respir Crit Care Med. 2016 Nov 1;194(9):1047-49.


ENDOCRINOLOGY AND METABOLISM

ERIN E. KERSHAW MD
Division Chief
Associate Professor of Medicine

The mission of the Division of Endocrinology and Metabolism is to promote health and combat disease in endocrinology, diabetes, and metabolism through exceptional clinical care, research, and education. The Division has a long-standing history of excellence across all of these academic areas, and this success continued through FY17. This past fiscal year was marked by several notable changes, including a new Division Chief, a new Diabetes Center Director, several new outstanding clinician educators, newly renovated research space, and substantial investment in expanding the Division’s research base. These changes have reinvigorated the Division’s already strong commitment to excellence in the field of endocrinology, diabetes, and metabolism. This excellence is reflected in the 2017 U.S. News & World Report rankings, in which UPMC was honored as one of the top 10 programs in the country for endocrinology, diabetes, and metabolism.

Highlights of Our Year

- Erin E. Kershaw MD became the new Division Chief, effective July 1, 2016. Dr. Kershaw is a well-respected, NIH-funded physician-scientist with expertise in obesity, diabetes, and metabolism. She will strengthen current academic activities and promote further growth in research, education, and clinical care.

- Vijay Yechoor MD was recruited to become the new Diabetes Center Director, effective July 1, 2017. Dr. Yechoor is a highly regarded, NIH- and VA-funded physician-scientist with expertise in beta cell biology and integrated physiology of diabetes. He will promote the expansion of the Division’s academic mission as it relates to diabetes and beta cell biology.

- Five new clinical faculty members joined the Division in FY17.
  - Pooja Manroa, MD, completed her fellowship training in Endocrinology and Metabolism at UPMC and joined the faculty on July 1, 2016.
  - Elena Morariu, MD, completed her fellowship training in Endocrinology and Metabolism at UPMC and joined the faculty on August 1, 2016.
  - Alexandria Opata, MD, completed her fellowship training in Endocrinology and Metabolism at the Icahn School of Medicine at Mt. Sinai in New York. She joined the faculty on July 18, 2016.
  - Yunjiao Joy Wang, MD, completed her fellowship training in Endocrinology and Metabolism at the University of Colorado in Denver. She joined the faculty September 1, 2016.
  - Esra Karşıoğlu French, MD, completed her fellowship training in Endocrinology and Metabolism at UPMC in 2011 and subsequently joined the endocrine faculty at New York University. She returned to Pittsburgh and joined the faculty on November 1, 2016. She was also appointed as the new Clinical Director for the Center of Diabetes and Endocrinology, effective April 1, 2017.

- The Division’s basic science research operations moved to newly renovated, state-of-the-art laboratory space on the 10th floor of the Biomedical Science Tower.

- The Division received a substantial investment to expand basic, translational, and clinical research in the field of endocrinology, diabetes, and metabolism.

- The Division’s longstanding NIH-funded Institutional National Research Service Award (T32) for research training in Endocrinology and Metabolism was renewed in 2016 with Robert O’Doherty, PhD, serving as Principal Investigator. As evidence of the success of this program, one of the FY17 T32 fellows (Krystle Frahm) successfully competed for an NIH K01 award in 2017.
The Division established the Fred DeRubertis Educational Fund to promote education and training in the field of endocrinology, diabetes, and metabolism. The fund honors the exceptional academic contributions of Dr. DeRubertis, an outstanding clinician educator and academic leader who served the University of Pittsburgh, UPMC, and VA Healthcare System community for more than four decades.

Linda Siminerio, PhD, received the 2017 Lifetime Achievement Award from the American Association of Diabetes Educators. This award recognizes individuals who exemplify the proud history of diabetes education and who serve as extraordinary role models.

Erin E. Kershaw, MD, served on the Session Planning Committee for the 2017 Annual Sessions of the American Diabetes Association in San Diego, CA, where the UPMC Division of Endocrinology held a very successful reception for alumni and other endocrinology colleagues.
RESEARCH

The Division of Endocrinology's research mission is to improve the understanding and/or treatment of diseases in the field of endocrinology, diabetes, and metabolism. The Division includes research faculty that span the full spectrum of scientific investigation, ranging from very basic to more clinical/translational research. Areas of basic research excellence include obesity, insulin resistance, diabetes, lipid metabolism, mitochondrial biology, beta cell biology, and thyroid molecular diagnostics. Areas of clinical/translational research excellence include diabetes, obesity, calcium metabolism, osteoporosis, and thyroid cancer. Research faculty conduct their scholarly work in several locations, including the Biomedical Science Tower, the Endocrine Metabolic Research Center in Montefiore Hospital, and the Center for Metabolism and Mitochondrial Medicine (C3M). Research is supported by faculty research grants, an NIH T32 Training Grant (now in its 43rd year), and by the NIH-funded CTSA Clinical Translational Research Center. Outstanding facilities for gene expression profiling, DNA and protein synthesis and sequencing, animal care, proteomics, cellular imaging, clinical informatics, and bioinformatics/biostatistics are available. Overall, the Division of Endocrinology at the University of Pittsburgh is a strong environment for innovative and transformational research.

Members of the Division of Endocrinology are funded by external grant support from the National Institutes of Health, the American Diabetes Association or other private foundations, pharmaceutical companies, and other sources. In FY17, research expenditures from external sources were $1.7 million (direct and indirect). Notably, in FY17, the Division received a substantial investment to expand its basic, translational, and clinical research. This support included moving its basic science research operations to newly renovated, state-of-the-art laboratory space on the 10th floor of the Biomedical Science Tower as well as providing resources to recruit several new investigators. Thus far, the latter has included recruitment of Vijay Yechoor, MD, to become the new Diabetes Center Director, effective July 1, 2017. Efforts to recruit the best scientists in the field continue. Thus, the Division’s research operations are undergoing rapid strategic expansion and transformation to keep pace with rapidly evolving advances in science and technology in the field of endocrinology, diabetes, and metabolism.

New Research Initiatives / Ongoing and Planned Collaborations

The research activities of the Division of Endocrinology are highly collaborative. Given the important role of metabolism in all cellular and systemic processes, the Division is well positioned to contribute to research and scholarly work across fields. One notable example of this collaboration is the Center for Metabolism and Mitochondrial Medicine (C3M), which includes investigators from the Division of Endocrinology, the Division of Cardiology/Heart and Vascular Institute, the Vascular Medicine Institute, and the Department of Pharmacology. The C3M provides expertise and services related to cellular bioenergetics and mitochondrial biology (co-directed by Sruti Shiva, PhD, Department of Pharmacology), animal physiology (co-directed by Rob O'Doherty, PhD, and Michael Jurczak, PhD, Endocrinology) and human physiology and metabolism (co-directed by Fred Toledo, MD, Endocrinology). This initiative provides a hub for metabolic investigations throughout the University. Several additional examples of collaborative research and scholarly work within our Division are discussed below.
New initiatives and grant funding include:

- Division Chief Erin E. Kershaw, MD, has recently been funded by the American Diabetes Association to understand the impact of a novel transcriptional regular on diabetes risk using animal models.
- Jim Delany, PhD, and Fred Toledo, MD, have recently been funded by the NIH/NIDDK to use dynamic PET imaging in skeletal muscle and adipose tissue to understand the mechanisms of lower peripheral glucose uptake in African American Women.

Collaborative efforts among faculty within the Division, the Department of Medicine, the broader University of Pittsburgh, and outside the University include:

- Robert O'Doherty, PhD, and Don Scott, PhD, (Icahn School of Medicine at Mt. Sinai) are collaborating to understand the molecular, cellular, and physiological consequences of highfat diet feeding.
- Robert O'Doherty, PhD, Chris O'Donnell, PhD, (Division of Pulmonary, Allergy, and Critical Care Medicine), and Sruti Shiva, PhD, (Department of Pharmacology) are collaborating to understand the role of nitrites and hypoxia in mitochondrial biogenesis and insulin sensitivity.
- Jim DeLany, PhD, and Stephen O'Keefe (Division of Gastroenterology) are working together to understand dietary interventions on colon cancer risk in specific populations.
- Division Chief Erin E. Kershaw, MD, and Jim Delany, PhD; Ryan Minster, PhD, Dan Weeks, PhD, and Zsolt Urban, PhD (Department of Human Genetics); Steven McGarvey, PhD, (Brown University), Nicola Hawley, PhD, (Yale University), and a number of other researchers are working to understand the impact of a novel human obesity/diabetes risk variant on metabolic phenotypes using studies in cells, animals, and humans.
- Division Chief Erin E. Kershaw and Krystle Frahm, PhD, are working with Don DeFranco, PhD, (Department of Pharmacology) to understand the contribution of a novel energy-sensing transcriptional regulator in glucocorticoid action in the central nervous system.
- Erin E. Kershaw, MD; John Jakicic, PhD and Renee Rogers, PhD (Department of Health and Physical Activity); Dan Forman, MD (Division of Geriatrics), Anne Newman, MD, MPH (Department of Epidemiology); Bradley Nindl, PhD (Department of Sports Medicine); and Lindsay Page, PhD (Department of Psychology in Education) are University of Pittsburgh Clinical Site Executive Committee members for the NIH-Funded Molecular Transducers of Physical Activity Consortium (MoTrPAC). The MoTrPAC is a large multicenter collaborative initiative seeking a better understanding of the molecular basis for the health benefits of physical activity. For additional information, see https://motrpac.org/ or https://commonfund.nih.gov/moleculartransducers/overview.
- Erin E. Kershaw, MD, is collaborating with David Whitcomb, MD, PhD, (Division of Gastroenterology) to improve the understanding and treatment of patients with severe hypertriglyceridemia who are at risk for pancreatitis.
- Fred Toledo, MD, and Mary Korytkowski, MD, are collaborating with Dr. Nicholas Giannoukakis (Allegheny Health Network) to study a novel compound with potential for diabetes therapy.
- Fred Toledo, MD, and Mary Korytkowski, MD, are collaborating with Jonathan Purnell, MD, (Oregon Health and Science University) as part of an NIH-funded multicenter trial to understand the mechanisms of durability of diabetes remission, particular following surgical intervention.
- Fred Toledo, MD, Jim DeLany, PhD and John Dube, PhD are continuing their work with Paul Coen, PhD, and Bret Goodpaster, PhD, (both from The Florida Hospital / Sanford-Burnham Translational Research Institute) on multiple metabolic studies to understand the pathogenesis of insulin resistance throughout the lifespan.
- Linda Siminerio, PhD, is collaborating with primary care physicians and other providers across the UPMC health system to implement and evaluate the clinical effectiveness of a “Glucose to Goal” program, which is a primary care model for integration of diabetes education to improve diabetes outcomes.
- Linda Siminerio, PhD, Ingrid Libman, MD, PhD, (Department of Pediatric Endocrinology) and Jodie Krall, PhD, are developing a program for transitioning young adults with diabetes from pediatric to adult endocrine care.
• Mary Korytkowski, MD, Eileen Chasens, PhD, (School of Nursing), and Patrick Strollo, MD, (Division of Pulmonary, Allergy, and Critical Care Medicine) are working together to understand the contribution of obstructive sleep apnea to clinical outcomes in patients with diabetes.

• Mary Korytkowski, MD, and Vicki Helgeson, PhD, (Carnegie Mellon University) are collaborating to understand the role of partner support on clinical outcomes in subjects with type 2 diabetes.

• Shane LeBeau, MD, and Pooja Manroa, MD; Yuri Nikiforov, PhD (Department of Pathology); Linwah Yip, MD, and Sally Carty, MD (Department of Endocrine Surgery), and other members of the Multidisciplinary Thyroid Center are seeking to characterize molecular markers with diagnostic and predictive value for thyroid nodular disease and thyroid cancer. This effort also involves collaboration with Oncology at the UPMC Hillman Cancer Center to create a referral center for advanced thyroid cancer.

• Sue Challinor, MD, Paul Gardner, MD (Department of Neurosurgery), and other members of the Multidisciplinary Neuroendocrinology and Adrenal Center have joined forces to improve the diagnosis, treatment, and clinical outcomes for pituitary and adrenal tumors.
**Faculty Research Interests**

**Archana Bandi MD**
Dr. Bandi’s academic interests focus on the use of telehealth clinical care delivery models, particularly for the delivery of diabetes care within the Veterans Administration Healthcare System. Dr. Bandi has successfully implemented numerous telehealth programs for veterans and their families across Western Pennsylvania. To determine the programs’ overall effectiveness, she assesses telehealth models’ clinical outcomes, quality measures, and patient satisfaction. In addition to continuously improving telehealth services, Dr. Bandi contributes to the training of future generations of endocrinologists in the use of telehealth clinical care delivery models.

**Sue Challinor MD**
Dr. Challinor’s research interests focus on improving the understanding and treatment of neuroendocrine and adrenal disorders. To address these complex problems, Dr. Challinor collaborates with members of the multidisciplinary neuroendocrinology and adrenal centers, which include neuroendocrinologists, neurosurgeons, otolaryngologists, endocrine surgeons, radiologists, radiation oncologists, ophthalmologists, and pathologists. Her scholarly work has included 1) the analysis of outcomes following endonasal surgery for pituitary disease (i.e. Cushing’s disease, acromegaly, other pituitary tumors), 2) improving the use and diagnostic accuracy of bilateral adrenal venous sampling to distinguish among different causes of Cushing’s syndrome (i.e. ACTH-independent bilateral macronodular adrenal hyperplasia versus unilateral functioning adenoma in patients with bilateral adrenal masses), and 3) characterizing genetic influences on the natural history and treatment of endocrine neoplasia. Dr. Challinor also contributes to the education of medical trainees at all levels.

**Ronald Codario MD**
Among Dr. Codario’s research interests are methods to improve the understanding and treatment of endocrine disorders, particularly those that impact veterans and their families within the Veterans Administration Healthcare System. To address these important issues, Dr. Codario uses the rich data repository and unique features of the Veterans Administration Healthcare System to assess clinical outcomes, quality measures, and patient satisfaction resulting from different healthcare delivery models and medical approaches. His scholarly work has included evaluation of 1) the clinical effectiveness of U-500 insulin in the inpatient and outpatient setting, 2) the impact of testosterone prescribing practices on cardiovascular outcomes, and 3) the benefits of an inpatient IV bisphosphate therapy protocol for patients with hip fracture. Dr. Codario also serves as a scholarly project mentor for trainees in the field of endocrinology and metabolism.

**James DeLany PhD**
Dr. DeLany’s academic interests include: (1) the role of energy intake and expenditure in the pathogenesis and treatment of overweight and obesity, particularly in response to changes that occur following behavioral, medical, and/or surgical intervention; 2) understanding the relationship between skeletal muscle characteristics, mitochondrial function, energy substrate utilization, body composition, and insulin sensitivity; and (3) understanding the metabolic factors that underlie the increased risk of obesity and diabetes in African American women. In studies of energy metabolism and physical activity, state of the art methodology is applied, including longitudinal measures of body composition by dual energy x-ray absorptiometry and of total energy expenditure by doubly labeled water. We also assess resting metabolic rate and substrate utilization by indirect calorimetry and utilize multisensor physical activity monitors. For examination of insulin sensitivity, advanced methodology is also utilized, including hyperinsulinemic, euglycemic clamps with stable isotope glucose tracer to differentiate between liver and peripheral insulin sensitivity, skeletal muscle biopsies, high resolution respirometry, and histology and electron microscopy. Current and planned studies will include examination of the role of mitochondrial genetics in insulin sensitivity as well as positron emission tomography (PET) studies of skeletal muscle and adipose tissue glucose metabolism. In addition, Dr. DeLany provides scientific leadership and technical expertise for the Mass Spectrometry Lab so it can function as a “core laboratory” for stable isotope methodologies and quantification of blood and tissue compounds for investigators within and outside of the University of Pittsburgh community.
Frederick DeRubertis MD
Dr. DeRubertis has had a 43-year career in medical education, which included teaching medical students, medical residents, endocrine fellows, and practicing physicians via multiple venues. He has been Co-Director of the Endocrine Disorder Course for second-year students at the University of Pittsburgh School of Medicine for more than 30 years. His teaching excellence has been recognized by endocrine fellows who have selected him as Teacher of the Year for nine consecutive years. Dr. DeRubertis has also served for 20 years as a Co-Director of the Department of Medicine’s annual Update in Internal Medicine Course, the Department’s flagship Continuing Medical Education course for practicing physicians. He also directed the twice-monthly Chief of Medicine Conference at the VA Pittsburgh Healthcare System, a case-based grand rounds type of didactic sessions attended by medical students, residents, and staff physicians.

John Dubé PhD
Dr. Dubé’s current research interests include 1) the role of lipolysis in skeletal muscle biology, 2) substrate energetics in human health and disease with a special interest in sickle cell disease, and 3) the mechanisms associated with lifestyle interventions (diet and exercise) on tissue metabolism. His research involves cell culture, rodents models, and human clinical studies to address these important topics.

Susan Greenspan MD
A Professor of Medicine, Dr Greenspan is dually-trained in geriatrics and in endocrinology, and she serves as UPMC’s Director of the Osteoporosis Prevention and Treatment Center as well as Director of Bone Health at Magee-Women’s Hospital. Her research focuses on geriatric osteoporosis, including its pathophysiology, evaluation, and treatment. Her current R01s involve research on osteoporosis in institutionalized elderly, including new treatment modalities and new assessments of bone strength. In addition, she is PI of our NIH-funded “Pepper Center” and also our NIH T32 Program in Clinical Research Training in Geriatrics/Gerontology. A former member of NIH/NIA’s Board of Scientific Counselors, she now serves on NIA’s Clinical Trial Advisory Panel. She is also President-Elect of the National Osteoporosis Foundation and a member of its Board of Trustees.

Mara Horwitz MD
Dr. Horwitz is a clinical metabolic bone researcher with a primary interest in the interaction of parathyroid hormone (PTH) and parathyroid hormone-related peptide (PTHrP) on mineral homeostasis, the skeleton, and vitamin D metabolism. This work has evolved to include NIH-sponsored clinical studies in osteoporosis, humoral hypercalcemia of malignancy, and hyperparathyroidism as well as lactation and its calcitropic/skeletal biology in both Caucasians and African Americans. Dr. Horwitz has also collaborated on numerous osteoporosis and epidemiology studies with epidemiologists at the University of Pittsburgh Graduate School of Public Health.

Michael Jurczak PhD
Dr. Jurczak’s lab is primarily interested in the relationship between nutrient excess, mitochondrial overload and the pathogenesis of metabolic diseases, such as fatty liver, insulin resistance and type 2 diabetes. Mitochondrial dysfunction and ectopic lipid accumulation in liver are both associated with insulin resistance in human subjects, but the cause and effect nature of these associations remain unclear. Dr. Jurczak’s lab focuses specifically on a mitochondrial repair mechanism called mitophagy that regulates the selective removal of damaged mitochondria via the autophagosomal pathway. Because autophagy is suppressed in mouse models of obesity and fatty liver disease, it is likely that mitophagy is similarly impaired and may contribute to the decline in mitochondrial function seen in human patients. Interestingly, a key component of the mitophagy pathway, a ubiquitin E3 ligase called Parkin, is upregulated in liver of obese mice. This change may represent a compensatory response to remove damaged mitochondria from hepatocytes or result directly from the loss of autophagy. Dr. Jurczak’s group is using a genetic approach to test whether the loss of Parkin-mediated mitophagy in liver predisposes mice to mitochondrial dysfunction, ectopic lipid accumulation and insulin resistance. The lab utilizes in vivo and ex vivo approaches in transgenic mouse models and specializes in using radioactive and stable metabolic isotopes to measure substrate turnover and flux.
Erin Kershaw MD
Dr. Kershaw's academic mission is to advance the understanding and treatment of obesity and related metabolic disorders by combining basic and translational research with clinical expertise. Obesity is a global public health threat that is frequently associated with additional metabolic abnormalities, including insulin resistance, glucose intolerance, dyslipidemia, and hypertension (the metabolic syndrome). Together, these abnormalities contribute to diseases affecting virtually every organ system. Dr. Kershaw's laboratory focuses on defining the mechanisms by which intracellular lipid metabolism (synthesis, storage, hydrolysis, and oxidation) contributes to obesity and associated metabolic disorders. Most recently, Dr. Kershaw's research efforts have centered on pathways of triacylglycerol hydrolysis (lipolysis) – arguably one of the most fundamental processes in metabolism. Dr. Kershaw is working to define how tissue-specific triacylglycerol hydrolysis contributes to metabolic phenotypes, not only in the metabolic syndrome, but also in variety of other diseases ranging from infertility to cancer. Another major focus of her laboratory is to identify and characterize additional proteins and pathways that contribute to metabolic disease. These efforts fall into two main areas: 1) characterizing novel adipocyte-secreted factors (adipokines) and their relationship to metabolic disease in humans, and 2) characterizing novel genes/loci linked to metabolic disease in humans. Dr. Kershaw's laboratory uses a combination of molecular, cellular, physiological, and translational approaches. The ultimate goal is to develop more effective strategies for prevention and treatment of obesity and associated metabolic disorders.

Mary Korytkowski MD
Dr. Korytkowski's research centers on improving inpatient and outpatient care and outcomes of people with diabetes. In the outpatient setting, Dr. Korytkowski serves as co-investigator and study physician for the NIH-sponsored Look AHEAD Study, which is examining long-term cardiovascular outcomes in individuals with type 2 diabetes who are randomly assigned to intensive versus conventional lifestyle intervention. She is co-investigator on two additional NIH-sponsored clinical trials, one investigating interactions between treatment for obstructive sleep apnea and diabetes outcomes; and another exploring relationship dynamics in couples affected by diabetes. Previously, she was Diabetology site PI for the Bypass Angioplasty Revascularization Investigation in type 2 diabetes (BARI 2D) that sought to define optimal glucose lowering and cardiovascular intervention strategies for type 2 diabetes complicated by coronary artery disease.

In the inpatient setting, much of Dr. Korytkowski's work has focused on initiatives that investigate specific glycemic management strategies in hospitalized patients with diabetes, such as those who are hospitalized using insulin pump therapy or who receive enteral nutrition therapy. A recent study is investigating hypoglycemia unawareness in hospitalized patients as a risk for severe hypoglycemia and adverse outcomes. An additional area of interest is the use of electronic medical records to investigate patterns of glycemic management and cardiovascular outcomes in diabetes. Because diabetes is a systemic disorder affecting multiple organ systems, Dr. Korytkowski has wide collaborations with investigators in other divisions in the Department of Medicine as well as with other universities.

Shane LeBeau MD
Dr. LeBeau has clinical interests in thyroid, parathyroid, pituitary, and adrenal disorders. He serves as the Co-Director of the UPMC/UPCI Multidisciplinary Thyroid Center, which provides patients access to streamlined care from specialists in endocrinology, surgery, radiology, and pathology during a single visit. He is an active member of the Endocrine Society, as well as the American Thyroid Association. He has been recognized as one of "Pittsburgh's Best Doctors" and has been listed among America's "Best Doctors" annually since 2007.

Pooja Manroa MD
Dr. Manroa's area of interest is Quality Improvement Initiatives and comparative effectiveness research. She has participated in research projects and quality improvement projects during her training and was awarded a $10,000 grant for her research project through the VA Pittsburgh MEPS grant 2015-2016.
Elena Morariu MD  
Dr. Morariu has been involved in the Diabetes Sleep Treatment Trial at University of Pittsburgh Medical Center and VA Pittsburgh Healthcare System that is investigating the impact of CPAP treatment on glycemic control in patients with type 2 diabetes and obstructive sleep apnea. Additionally she has been involved in a quality improvement project investigating the effectiveness of electronic consultation for diabetes at VAPHS.

Jason Ng MD  
Dr. Ng’s research interests center on the improvement of care delivery and multidisciplinary models in diabetes mellitus management as well as understanding the pathophysiology underlying insulin resistance in skeletal muscle and adipose tissue.

Robert O’Doherty PhD  
Dr. O'Doherty's research interests center on the association between states of over-nutrition and resulting metabolic disturbances, most notably obesity, NAFLD, and type 2 diabetes. Dr. O'Doherty has worked for nearly 25 years in this arena, utilizing metabolic, physiological, biochemical, molecular and immunological approaches in a range of models, notably the mouse and rat as well as primary tissue culture and immortal cell lines. The main focus of his current research is immunometabolism, or the immune system’s role in regulating metabolism.

R Harsha Rao MD  
Dr. Rao is interested in improving the understanding and treatment of endocrine disorders, particularly those that impact veterans and their families within the Veterans Administration Healthcare System. He uses the rich data repository and unique features of the Veterans Administration Healthcare System to assess clinical outcomes, quality measures, and patient satisfaction resulting from different healthcare delivery models and medical approaches. Dr. Rao’s scholarly work has included evaluation of 1) the clinical effectiveness of U-500 insulin in the inpatient and outpatient setting, 2) the impact of testosterone prescribing practices on cardiovascular outcomes, and 3) the benefits of an impatient IV bisphosphate therapy protocol for patients with hip fracture. Dr. Rao also serves as a scholarly project mentor for trainees in the field of endocrinology and metabolism.

David Rometo MD  
Dr. Rometo's research centers on improving the understanding and treatment of obesity and related metabolic disorders, with an emphasis on generating effective programs for the “real world” clinical setting. He is currently the Clinical Leader for the Medically-Supervised Weight Loss and Obesity Medicine Program in the Division of Endocrinology. In this role, he has developed several innovative clinical programs intended to promote health and prevent disease in overweight or obese patients. Among these initiatives are a program focused on reversing diabetes and other metabolic complications of obesity (i.e. the Disease Remission in Obesity Program or “DROP”); a medically supervised very low calorie diet program, (i.e. Opti-fast Program); and a post-bariatric surgery diabetes and weight management program. To determine the overall effectiveness of these clinical care models, Dr. Rometo assesses clinical outcomes, quality measures, cost effectiveness, and patient satisfaction. In addition, he has a significant role in training in the field of obesity medicine at the UPMC.

Linda Siminerio RN PhD  
Dr. Siminerio's research focuses on the translation of evidence-based practice into clinical and community settings with a concentration on improving access and quality to diabetes self-management and care. Projects have spanned a broad array of initiatives that include, but are not limited to: (i) evaluating care models in primary care; (ii) implementing telemedicine to deliver diabetes specialty care to underserved communities; (iii) using technological approaches to enhance shared decision making; (iv) developing initiatives to improve the care and education of the hospitalized patient with diabetes; and (vi) interventions that address the behavioral and psychosocial needs associated with chronic disease management. Additionally, Dr. Siminerio has collaborated with other faculty to develop and validate diabetes data bases, including a national registry to monitor diabetes behavioral and education outcomes for the American Diabetes Association. As a nationally-recognized expert on self-management education and care delivery models in both pediatric and adult populations, she serves as the Principal Investigator on...
numerous studies that have garnered the attention of both governmental and non-governmental organizations, nationally and internationally. Knowledge gained from this line of study has led to the implementation of diabetes quality efforts in underserved global communities and the U.S. military as well as policy changes affecting reimbursement practices.

Sandra Sobel MD
Dr. Sobel's clinical research interests focus on quality improvement through the use of diabetes technology, such as insulin pumps and continuous glucose monitoring devices. As part of a multidisciplinary team at the University of Pittsburgh, it was found that a peri-operative glycemic management protocol developed for same day surgery procedures for individuals with insulin pumps was safe and effective for procedures less than 120 minutes long. In the outpatient setting, she is conducting a quality improvement study to see if a seven-day use of a continuous glucose monitoring device helps improve glycemic control in individuals with uncontrolled diabetes and reduce hypoglycemia in individuals with frequent hypoglycemia or hypoglycemic unawareness. In addition, she provides mentorship to several Internal Medicine residents and supports their interest in quality improvement initiatives, spanning from proper use of DKA protocol to utilization of the Certified Diabetes Educators in outpatient clinics.

Maja Stefanovic-Racic MD PhD
Dr. Stefanovic's interests are related to mechanisms involved in development of non-alcoholic fatty liver disease (NAFLD), which is associated with obesity, insulin resistance and type 2 diabetes. More specifically, she has been focusing on the role of immune system, both innate and adaptive, in transitioning from simple liver steatosis (fatty liver) to liver inflammation (nonalcoholic steatohepatitis, or NASH). Results of experiments performed in animal models of obesity showed that one type of immune cell, called dendritic cells, plays a particularly important role in liver inflammation. The most intriguing question related to this finding is whether manipulation of dendritic cells could reduce inflammation in liver and other tissues in obesity, leading to a reduced risk of developing insulin resistance and diabetes.

Frederico Toledo MD
Dr. Toledo's research focuses on the pathophysiology and treatment of insulin resistance and diabetes in humans. His clinical-translational lab employs state-of-the-art methods to measure metabolism in vivo in humans, such as clamps, IVGTTs, stable-isotope tracers, indirect calorimetry, controlled exercise testing, and tissue biopsies. His research program has been investigating the interplay between mitochondria, fuel metabolism, and insulin resistance in the context of diabetes and aging. Dr. Toledo pioneered studies that demonstrated for the first time the mitochondrial responses to lifestyle modifications in obesity and type 2 diabetes. His research also focuses on novel treatments for diabetes. He led an NIH-funded clinical study that demonstrated substantial beneficial effects of hydroxychloroquine on insulin resistance and beta cell function. His clinical research experience also includes agents such as rimonabant, vildagliptin, and AZD9668. He was a co-investigator in the TrialNet study consortium and participated in studies of type 1 diabetes prevention using immunomodulators.

Lauren Willard DO
Dr. Willard studies the use of telehealth clinical care delivery models for endocrine disorders, such as diabetes and thyroid disease. As the Clinical Leader of the UPMC Endocrinology Telehealth Unit, she has successfully implemented telehealth programs across Western Pennsylvania. She has also contributed to the development of new models of care that utilize telehealth resources and new technology. To determine these telehealth models' overall effectiveness, Dr. Willard assesses their clinical outcomes, quality measures, cost effectiveness, and patient satisfaction. She also is active in training future generations of endocrinologists in the use of telehealth clinical care delivery models.
Faculty Research and Other Scholarly Activities

Archana Bandi MD
- Director, Telehealth Services, Veterans Administration Healthcare System, 2017

Heather Brooks MD
- Member, Fellow Evaluations Review Committee, Clinical Fellowship in Endocrinology and Metabolism, 2011-present
- Organizer, Challenging Endocrine Case Conference, Division of Endocrinology, 2010-present

Sue Challinor MD
- Clinical Leader, Neuroendocrine Unit, UPMC / Division of Endocrinology, 2016-present
- Director, Pituitary Program and Conference, Multidisciplinary Pituitary Program, 2006-present
- Director, Adrenal Disorders and Conference, Multidisciplinary Adrenal Program, 2014-present
- Best Doctor Honoree, Best Doctors in America, 2015-present
- Best Doctor Honoree (Endocrinology), Pittsburgh Business Times, 2016-2017
- Best Doctor Honoree (Endocrinology), Pittsburgh Best Doctors, Pittsburgh Magazine 2016-2017

Ronald Codario MD
- Invited Speaker, Department of Medicine Grand Rounds, Endocrinology Year in Review, UPMC Montefiore and Presbyterian Hospital, 2016
- Invited Speaker, Department of Medicine Grand Rounds, Endocrinology Year in Review, UPMC Shadyside Hospital, 2016
- Invited Speaker, Internal Medicine Noon Conference, Interpretation of Thyroid Function Tests, UPMC Montefiore and Presbyterian Hospital, 2016
- Invited Speaker, Speech Pathology Conference, 2016-2017
- Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017

James DeLany PhD
- Ad Hoc Reviewer, NIH Special Emphasis Panel ZRG1 BDCN-B (51) - Molecular Transducers of Physical Activity Clinical Centers Study Section Meeting, 2016
- Ad Hoc Reviewer, NIH Special Emphasis Panel ZRG1 DKUS P-54, 2016
- Ad Hoc Reviewer, NIH Special Emphasis Panel ZDK1 GRB-S (02) - NIDDK Diabetes Research Centers, 2017
- Standing Review Committee Member, American Diabetes Association Grants Program, 2014-present
- Invited Speaker, American College of Sports Medicine Annual Meeting, 2016

Frederick DeRubertis DM
- Co-Director, Endocrine Disorders Course (MS2), 1990-present
- Chairman, Committee for Promotion and Appointments, Department of Medicine, 1990-present
- Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Fellow, American College of Physicians, 1973-present
Esra Karslioglu French MD
• Clinical Leader, Inpatient Diabetes Unit, UPMC / Division of Endocrinology, 2016-present
• Medical Director, UPMC Center for Diabetes and Endocrinology, 2017-present
• Invited Speaker, UPMC Hospitalists Lecture Series, Hypoglycemia at Presbyterian Hospital, 2017
• Invited Speaker, Presbyterian Inpatient Nurse Quality and Safety Meeting, Inpatient Hyperglycemia Management, 2017

Michelle Griffith MD
• Medical Director, UPMC Center for Diabetes and Endocrinology, 2014-2016
• Physician Leader, UPMC Telemedicine Services for Diabetes, 2012-2017
• Clinical Leader, Telehealth Unit, UPMC / Division of Endocrinology, 2016-2017
• Best Doctor Honoree (Endocrinology), Pittsburgh Best Doctors, Pittsburgh Magazine 2016-2017

Mara Horwitz MD
• Medical Monitor, Education and Compliance Office for Human Subject Research, University of Pittsburgh, 2014-present
• Clinician in Residence, The Innovation Institute, University of Pittsburgh, 2014-present
• Associate Director, Office for Investigator-Sponsored IND and IDE, University of Pittsburgh, 2016-present
• Associate Research Integrity Officer, University of Pittsburgh, 2016-present
• Member, Institutional Review Board Executive Committee, University of Pittsburgh, 2014-present
• Member, Research Data Management Committee, University of Pittsburgh, 2016-present
• Vice Chair, Conflict of Interest Committee, University of Pittsburgh, 2016-present
• Editorial Board Member, Journal of Clinical Endocrinology and Metabolism, 2014-present
• Clinical Leader, Bone Unit, UPMC / Division of Endocrinology, 2016-present
• Ad Hoc Reviewer, multiple journals (Bone, Journal of Bone and Mineral Research, Osteoporosis International, other), 2016-2017

Michael Jurczak, PhD
• Co-Director, Animal Physiology Core, Center for Metabolism and Mitochondrial Medicine, 2015-present
• Ad Hoc Reviewer, American Diabetes Association Grants Program, 2016-2017
• Ad Hoc Programmatic Review Panel, Peer-Reviewed Medical Research Program, Department of Defense, 2016-2017
• Ad Hoc Reviewer, Johns Hopkins University / University of Maryland, NIH Diabetes Research Center Pilot & Feasibility Program, 2017
• Discussion Leader, Metabolomics Workshop, Cardiology and Epidemiology Conference, University of Pittsburgh, April 3, 2017
• Session Chair, American Diabetes Association Scientific Sessions, San Diego, CA, 2017
• Subcommittee Member, American Diabetes Association Scientific Sessions Integrated Physiology Planning Committee, 2017
• Speaker, American Diabetes Association Scientific Sessions, San Diego, CA., 2017
• Abstract Reviewer, American Diabetes Association Scientific Sessions, San Diego, C, 2017
• Recipient, University of Pittsburgh Foundation Young Investigator Award, 2016-2017
• Abstract Reviewer and Judge, Department of Medicine Research Day, 2016-2017
Erin Kershaw MD
- Chief, Division of Endocrinology and Metabolism, University of Pittsburgh, 2016-present
- Ad Hoc Reviewer, University of Pittsburgh Institute for Personalized Medicine and Cancer Institute (IPM-UPCI) Pilot Award Program, 2016
- Ad Hoc Reviewer, NIH Integrative Nutrition and Metabolic Processes, 2016
- Ad Hoc Reviewer, University of Michigan, NIH Diabetes Research Center Pilot & Feasibility Program, 2016
- Ad Hoc Reviewer, NIH Integrative Physiology of Obesity and Diabetes, 2016
- Ad Hoc Reviewer, NIH Special Emphasis Panel ZHL1 CSR-R (M2) 1, 2017
- Ad Hoc Reviewer, NIH Special Emphasis Panel ZRG1 CADO-B (90) S, 2017
- Invited Speaker, Department of Medicine Grand Rounds, Bench to Bedside, UPMC Montefiore and Presbyterian Hospital, 2016
- Invited Speaker, Department of Medicine Grand Rounds, Bench to Bedside, UPMC Shadyside Hospital, 2016
- Invited Speaker, Dean’s Summer Research Program Mid-Summer Colloquium, University of Pittsburgh, 2016
- Invited Speaker, Molecular Medicine Seminar Series, Children’s Hospital of Pittsburgh, 2016
- Invited Speaker, American Diabetes Association Scientific Sessions, New Orleans, LA, 2016
- Invited Speaker, Pat Usher Memorial Lecture, Division of Endocrinology, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA, 2017
- Invited Speaker, ENDO 2017 – The Endocrine Society Annual Scientific Sessions, Orlando, FL, 2017
- Member, Session Planning Committee, American Diabetes Association Scientific Sessions, 2016-2018
- Abstract Reviewer, American Diabetes Association Scientific Sessions, San Diego, CA, 2017
- Session Chair, American Diabetes Association Scientific Sessions, San Diego, CA, 2017
- Poster Session Moderator, American Diabetes Association Scientific Sessions, 2017
- Mentor and Poster Judge, Committee on Diversity and Inclusion, ENDO 2017 Scientific Sessions, 2017
- Representative for Diabetes/Endocrinology, UPMC Clinical Genomic Initiative Working Group, 2016-present
- Member, Internal Scientific, Enrichment, and Outreach Committee, Healthy Lifestyles Institute, University of Pittsburgh, 2017-present
- Member, Data Safety Monitoring Board, NIH/NCATS 1UH3TR001372-01, 2015-present
- Endocrine Clinical Champion, Path Towards a Learning Health System (PaTH) Network, a component of the PCORI Clinical Data Research Networks (CDRNs)
- Member, Pittsburgh Lipid Club, 2016-present
- Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Clinical Leader, Lipid Unit, UPMC / Division of Endocrinology, 2016-present
Mary Korytkowski MD
- Member, Subspecialty Board Committee for Endocrinology and Metabolism, American Board of Internal Medicine, 2014-present
- Chair, UPMC Diabetes Patient Safety Committee, 2001-present
- Member, UPMC Leadership Council, 2016-present
- Best Doctor Honoree (Endocrinology), Pittsburgh Best Doctors, Pittsburgh Magazine, 2000-2017
- Top Doctor Honoree (Endocrinology), Castle Connolly’s America’s Top Doctors, 2005-2017
- Exceptional Women in Medicine Honoree, Castle Connolly’s America’s Top Doctors 2017
- Best Doctor Honoree, Best Doctors in America, 2009-2017
- Invited Speaker, American College of Clinical Endocrinology Diabetes Day for Primary Care Physicians, 2017
- Co-Chair, Consensus Conference on Insulin Pumps in the Hospital, Diabetes Technology Society Sixth International Hospital Diabetes Meeting, 2017
- Invited Speaker, Diabetes Technology Society Sixth International Hospital Diabetes Meeting, 2017
- Invited Speaker, American Diabetes Association Scientific Sessions, 2017
- Clinical Leader, Quality/Value Program, UPMC / Division of Endocrinology, 2016-present
- Member, Training and Oversight Committee, T32 Training Program, Endocrinology & Metabolism, 2016-2017
- Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Ad Hoc Reviewer, multiple journals (Journal of the American Medical Association, Annals of Internal Medicine, Diabetes, Diabetes Care, Journal of Clinical Endocrinology, Metabolism, Mayo Clinic Proceedings, New England Journal of Medicine, other), 2016-2017

Shane LeBeau MD
- Member, Fellow Evaluations Review Committee, Clinical Fellowship in Endocrinology and Metabolism, 2011-present
- Clinical Leader, Thyroid Unit, UPMC / Division of Endocrinology, 2016-present
- Certification, Endocrine Certification in Neck Ultrasound Program, 2017
- Best Doctor Honoree (Endocrinology), Pittsburgh Best Doctors, Pittsburgh Magazine, 2007-2017

Helena Levitt MD
- Program Director, Endocrine Clinical Genetics Program, 2016-2017
- Member, UPMC Health Plan Pharmacy and Therapeutics Committee, UPMC, 2012-present

Hussain Mahmud MD
- Associate Program Director, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017

Pooja Manroa MD
- Co-Leader, Quality/Value Program, Division of Endocrinology, 2017
- Invited Speaker, Department of Medicine Grand Rounds, UPMC Shadyside, 2016-2017

Sann Mon MD
- Endocrinology Educational Coordinator, UPMC McKeesport Hospital, 2014-present
- Recipient, Outstanding Teaching Award, Internal Medicine Residency Program, UPMC McKeesport, 2017
Jason Ng MD
- Clinical Leader, Multidisciplinary Diabetes Clinic and Diabetes Technology, UPMC / Division of Endocrinology, 2016-present
- Member and Chair, Diabetes Task Force, UPMC / Division of Endocrinology, 2016-present

Robert O'Doherty PhD
- Editorial Board Member, American Journal of Physics, Archives of Endocrinology and Metabolism, 2010-present
- Co-Director, Center for Metabolism and Mitochondrial Medicine, 2014-present
- Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Ad Hoc Reviewer, NIH Study Section (Various), 2014-present
- Member, Department of Medicine PhD Task Force, 2015-present
- Director, T32 Research Training in Diabetes, Endocrinology and Metabolism, 2013-present

R Harsha Rao MD
- Chief, Division of Endocrinology, Veterans Administration Healthcare System, 2000-present
- Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017

Jodie Reider MD
- Director, Pancreas Service, 2014-2016
- Director, Inpatient Diabetes Service, 2011-2016
- Member, UPMC Diabetes Patient Safety Committee, 2010-2016
- Member, Cystic Fibrosis Quality Committee, 2013-2016

David Rometo MD
- Clinical Leader, Obesity Medicine and Weight Management Unit, UPMC / Division of Endocrinology, 2016-present
- Invited Speaker, Department of Medicine Grand Rounds, Bench to Bedside, UPMC Montefiore and Presbyterian Hospital, 2016
- Invited Speaker, Department of Medicine Grand Rounds, Bench to Bedside, UPMC Shadyside Hospital 2016
- Semi-finalist, Pittsburgh Innovative Challenge (PINCH), 2017
- Invited American Diabetes Association Abstract Reviewer and Guided Poster Tour Moderator, Bariatric Procedures in Type 2 Diabetes Mellitus, 2017
- Invited Speaker, The Obesity Society/American Society for Metabolic and Bariatric Surgery: Obesity Week, Post-Gastric Bypass Hypoglycemia, 2016
- Member, Greater Pittsburgh Diabetes Club Board of Directors, 2017

Linda Siminerio PhD
- Chair, National Diabetes Education Program, 2015-present
- Member, Leadership Group for the DPP State-wide Coordinating Collaborative, Health Promotion Council's PA Community Clinical Integration Initiative, 2016-2017
- Associate Editor, Clinical Diabetes and Endocrinology, 2014-present
- Co-Chair, Type 1 Diabetes Program for Endocrine Fellows, Endocrine Society Annual Meeting, Orlando, FL, 2017
- NIDDK Study Section for R-34 Diabetes Grant Reviews
- Awardee, Lifetime Achievement Award, American Association of Diabetes Educators, 2017
- Invited Speaker, Transitioning Type 1 Patients from Pediatric to Adult Care, Type 1 Diabetes Program for Endocrine Fellows, Endocrine Society Annual Meeting, Orlando, FL, 2017
- Invited Speaker, American Association of Diabetes Educators National Meeting, San Diego, CA, 2016
- Invited Speaker, Arkansas State Diabetes Symposium, Little Rock, AK, 2016
- Invited Speaker, Expanding the Role of the Diabetes Educator: New Opportunities in 2016, American Association of Diabetes Educators (AADE) VA State-wide Meeting, Richmond, VA, 2017
- Invited Speaker, Expanding the Role of the Diabetes Educator: New Opportunities in 2016, American Association of Diabetes Educators (AADE) State-wide Meeting, Richmond, VA, 2017
- Invited Speaker, The Truth about Diabetes Education: Does It Really Matter?, UPMC Mercy Medical Grand Rounds, Pittsburgh, PA, 2017
- Invited Speaker, American Diabetes Association Scientific Sessions, San Diego, CA, 2017
- Invited Speaker, American Diabetes Association Scientific Sessions, San Diego, CA, 2017
- Member, Department of Medicine, Promotions Committee, University of Pittsburgh, 2017
- Member, School of Medicine Tenure and Promotions Committee, University of Pittsburgh, 2017
- Semi-finalist, Pittsburgh Innovative Challenge (PINCH), 2017

Sandra Sobel, MD
- Chief, Clinical Endocrinology at UPMC Mercy Hospital, 2014-present
- Semi-finalist, Pittsburgh Innovative Challenge (PINCH), 2017
- Invited Speaker, American Association of Diabetes Educators Regional Diabetes Conference, 2016
- Invited Speaker, Endocrine Society Fellows Conference, Orlando, FL, 2017
- Invited Speaker, DexCom Study of Improved Glucose Monitoring and Assessment Panel, Chicago, IL, 2016
- Peer Reviewer, Journal of Diabetes Science and Technology, 2016-2017
- Member, DSMB for ONTx Study, 2016-2017
- Member, UPMC Mercy Quality Improvement Committee, 2016-2017

Maja Stefanovic-Racic MD
- Program Director, Clinical Fellowship in Endocrinology and Metabolism, 2015-present
- Member, UPMC Diabetes Patient Safety Committee, 2003-present
- Invited Speaker, Department of Medicine Grand Rounds, UPMC Shadyside, 2016
- Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017

Frederico Toledo MD
- Director of Clinical Research, Center for Metabolism and Mitochondrial Medicine, 2014-present
- Member, Scientific Sessions Planning Integrative Physiology Subcommittee, American Diabetes Association Scientific Sessions, San Diego, CA, 2017
- Member, Scientific Sessions Planning Obesity/Pathogenesis Subcommittee, American Diabetes Association Scientific Sessions, San Diego, CA, 2017
- Member, Subspecialty Education Committee for the Internal Medicine Residency Program, 2007-present
- Abstract Reviewer and Judge, Department of Medicine Research Day, 2017
- Awardee, Dr. Frederick DeRubertis Division of Endocrinology Golden Apple Teaching Award recipient, 2017
- Member, Training and Oversight Committee, T32 Training Program in Endocrinology and Metabolism, 2016-2017
- Ad Hoc Grant Reviewer, Wellcome Trust Fund and The Royal Society Research Grant Program, 2016
- Ad Hoc Grant Reviewer, Department of Defense Research Grant Program, 2017
- Ad Hoc Grant Reviewer, University of Alabama at Birmingham, Diabetes Researcher Center Grants, 2016
- Member, Data Safety Monitoring Board, NIH-NIDDK-072507, 2016-present

• Invited Speaker, 2nd Cardiovascular Epidemiology Conference, University of Pittsburgh, 2017

Lauren Willard DO
• Clinical Co-Leader, Telehealth Unit, UPMC / Division of Endocrinology, 2016-2017
## GRANTS AND CONTRACTS AWARDED

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<th>PUBLIC HEALTH SERVICE</th>
<th>DIRECT COSTS</th>
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<td>DELANY, JAMES</td>
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Department of Medicine [www.dom.pitt.edu/endo](http://www.dom.pitt.edu/endo)
<table>
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<tr>
<th>TOLEDO, FREDERICO G. S.</th>
<th>NITRITE BENEFITS TO MEDIATE FATIGABILITY IN OLDER HFPEF PATIENTS</th>
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<td>TOLEDO, FREDERICO G. S.</td>
<td>LABS SUB-STUDY: MECHANISMS OF DURABILITY OF TYPE 2 DIABETES REMISSION</td>
<td>OREGON HEALTH SCIENCES/ NIDDK</td>
<td>$18,054</td>
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<td>DELANY, JAMES</td>
<td>ALLIANCE OF RANDOMIZED TRIALS OF MEDICINE VS. METABOLIC SURGERY IN TYPE 2 DIABETES: ARMMS-T2D</td>
<td>CLEVELAND CLINIC</td>
<td>$16,382</td>
<td>$0</td>
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<tr>
<td>KERSHAW, ERIN</td>
<td>IDENTIFYING MECHANISMS BY WHICH A NOVEL HUMAN OBESITY-RISK VARIANT PROTECTS AGAINST DIABETES USING CELL AND ANIMAL MODELS</td>
<td>AMERICAN DIABETES ASSOCIATION</td>
<td>$48,715</td>
<td>$4,872</td>
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<td>KERSHAW, ERIN</td>
<td>QUALITATIVE ASSESSMENT OF SYMPTOMS AND EXPERIENCE OF PATIENTS WITH SEVERE HYPERTRIGLYCERIDEMIA (SHTG) AND A PAST MEDICAL HISTORY OF ACUTE PANCREATITIS</td>
<td>CLINICAL OUTCOMES SOLUTIONS</td>
<td>$1,579</td>
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<td>TOLEDO, FREDERICO G. S.</td>
<td>NEUTROPHIL ELASTASE INHIBITION AS ADJUNCTIVE THERAPY TO IMPROVE GLUCOMETABOLIC VARIABLES IN OBESE, INSULIN-RESISTANT TYPE 2 DIABETIC PATIENTS</td>
<td>ALLEGHENY-SINGER RESEARCH INSTITUTE/ ASTZEN</td>
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<td>EVALUATING FREE FATTY ACIDS (FFA) LEVELS IN R1500-HV-1214 SAMPLES</td>
<td>REGENERON PHARMACEUTICALS, INC.</td>
<td>$11,930</td>
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<td>SIMINERTIO, LINDA</td>
<td>NATIONAL DIABETES EDUCATION PROGRAM (NDEP) EXECUTIVE COMMITTEE SUPPORT</td>
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<td>$453,596</td>
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</tr>
</tbody>
</table>
TEACHING

The Division of Endocrinology’s educational mission is to 1) disseminate knowledge and provide training to promote health and to combat disease in endocrinology, diabetes, and metabolism, and 2) train the next generation of leaders in the field of endocrinology, diabetes, and metabolism. To achieve these goals, Division faculty contribute to teaching and mentoring of trainees at all levels, both locally and nationally.

Local educational activities include both formal and informal teaching and mentoring at many locations throughout UPMC and the University of Pittsburgh. Many of these activities focus on undergraduate students, graduate and medical students, residents, and fellows. One of the flagship courses of the Division is the Endocrine Disorders Course (MED 5222) for second-year medical students, which is co-directed by Fred DeRubertis, MD, and Mary Korytkowski, MD. The majority of Division faculty contribute to this course, which covers the physiology and pathophysiology of endocrinology, diabetes, and metabolism. In FY17, as in prior years, the course was very well received, as reflected by outstanding evaluations from the students. Other medical and graduate courses involving contribution from Division faculty in FY17 included Fuel Metabolism, Integrated Systems Biology – Bench to Bedside, Research Basis of Medical Knowledge, Behavioral Medicine, Developmental Mechanisms of Human Disease, Cardiovascular Epidemiology, Clinical Pharmacology, Advanced Physical Examination, and many more. Educational activities for residents in FY17 included clinical precepting in the inpatient and outpatient setting, participating in a variety of resident lecture series, serving as subspecialty experts at intern/resident support, and other activities. Division faculty also mentored the trainees in the laboratory setting as part of the University of Pittsburgh Summer Undergraduate Research Program (SURP), the Pitt-Med Research Experience for Pre-matriculants Program (PREP), the Dean’s Summer Research Program (DSRP), and the Resident Leadership and Discovery Program. Notable highlights in these categories for FY17 include the following:

- The following Division faculty taught the Endocrine Disorders Course (MED 5222, MS2): Heather Brooks, MD, Sue Challinor, MD, Alexandra Clark, MD, Ronald Codario, MD, Fred DeRubertis, MD, Susan Greenspan, MD, Michelle Griffith, MD, Mara Horwitz, MD, Erin Kershaw, MD, Mary Korytkowski, MD, Shane LeBeau, MD, Helena Levitt, MD, Hussain Mahmud, MD, Pooja Manroa, MD, Jason Ng, MD, Harsha Rao, MD, David Rometo, MD, Sandra Sobel, MD, and Maja Stefanovic-Racic, MD.

- The following faculty taught the Advanced Physical Exam Course (MED5233, MS2): Hussain Mahmud, MD, Elena Morariu, MD, Jason Ng, MD, and Fred Toledo, MD.

- Michael Jurczak, PhD, and Mary Korytkowski, MD, contributed to a newly developed course called Integrated Systems Biology – Bench to Bedside (ISB 2050/2060). This course exposes graduate students to physiology/pathophysiology of disease from both basic science and clinical perspectives.

- Erin Kershaw, MD, contributed to a newly developed course called Precision Medicine for Bioengineers, which is taught to undergraduates at Carnegie Mellon University and the University of Pittsburgh. The class centers on the application of precision medicine to complex multifactorial diseases (i.e. obesity and diabetes).

- Michael Jurczak, PhD, served as a research mentor for the new Pitt-Med Research Experience for Pre-matriculants (PREP) Program. This program exposes medical students to research the summer before starting their first year of medical school.

- Michael Jurczak, PhD, and Erin Kershaw, MD, served as summer research mentors for the Pitt SURP, DSRP, and Physician Scientist Training Program (PSTP).

- UPMC Mercy and UPMC McKeesport faculty (Sandra Sobel, MD, Lauren Willard, DO, Munira Abbasi, MD, and Sann Mon, MD) continue to provide outstanding resident teaching at these hospitals through preceptorships, lectures, and mentoring. Sann Mon MD received the Outstanding Teaching Award from the Internal Medicine Residency Program at UPMC McKeesport in recognition of her substantial contributions to education and training.

- Fred Toledo, MD, continues to serve on the Subspecialty Education Committee for the Internal Medicine Residency Program where he coordinates endocrine-specific educational activities for internal medicine residents.
• John Dube, PhD, established and supervised the Endocrinology Summer Research Program.
• The Division established the Fred DeRubertis Educational Fund to promote education and training in the field of endocrinology, diabetes, and metabolism. The fund honors the exceptional academic contributions of Dr. DeRubertis, an outstanding clinician educator and academic leader who served the University of Pittsburgh, UPMC, and VA Healthcare System community for more than four decades.

Another major focus of the Division’s local educational activities include training the next generation of leaders in the field. To achieve this goal, the Division has well-established clinical and research fellowship programs in endocrinology and metabolism. The clinical training program supports five fellows per year. In FY17, these fellows were selected from a pool of more than 150 highly qualified applicants via the National Resident Matching Program (NRMP). Recent clinical fellowship graduates have secured positions at top medical centers and private practices across the country, and many have been recruited to remain at UPMC (i.e. Drs. Manroa and Morariu in FY17 and Dr. Selk in FY18). The research training program, led by Rob O’Doherty, PhD, supports four MD or PhD fellows per year and is funded by the NIH T32 mechanism (now in its 43rd year). This program supports in-depth research training in endocrinology and metabolism by mentors within and outside the Division. Division faculty also provide additional teaching and career training opportunities for the above fellows, including “Research in Progress,” grant writing workshops, summer lecture series, journal clubs, and more. Notable highlights in these categories for FY17 include:

• Maja Stephanovic-Racic, MD, continues to serve as the Program Director for the Clinical Fellowship Program in Endocrinology and Metabolism. In FY17, Hussain Mahmud, MD, was appointed Associate Program Director (APD) for the Clinical Fellowship Program. Mary Korytkowski, MD, continues to serve as the APD for Quality. In FY17, Pooja Manroa was appointed Co-Director for Quality. Erin Kershaw, MD, continues to serve as the APD for Research.
• One of the FY17 clinical fellows, Hira Ali, MD, received a research grant from the Endocrine Fellows Foundation in 2017.
• Rob O’Doherty, PhD, continues to serve as the Principal Investigator / Director of the Research Training (T32) Program in Endocrinology and Metabolism. The T32 was renewed in 2016.
• One of the FY17 T32 research fellows (Krystle Frahm) successfully competed for an NIH K01 award in 2017.
• Fred Toledo, MD, received the Dr. Frederick DeRubertis Division of Endocrinology Golden Apple Teaching Award. This award recognizes the faculty who provided exceptional teaching to clinical endocrine fellows.

Regional / national educational activities include a variety of educational, speaking, and service in the region and throughout the United States and the world. Notable highlights in these categories for FY17 include:

• The following faculty were invited to speak at the UPMC Update in Internal Medicine: Susan Greenspan, MD, Mary Korytkowski, MD, Hussain Mahmud, MD, and David Rometo, MD. Drs. Korytkowski and Greenspan also were invited to speak at the UPMC Update in Geriatric Medicine.
• Mary Korytkowski, MD, was invited to speak at the American College of Clinical Endocrinology Diabetes Day for Primary Care Physicians and the Diabetes Technology Society Sixth International Hospital Diabetes Meetings.
• David Rometo, MD, was invited to speak at the Obesity Society / American Society for Metabolic and Bariatric Surgery “Obesity Week.”
• Erin E. Kershaw, MD, served on the Session Planning Committee for the 2017 Annual Sessions of the American Diabetes Association in San Diego, CA. The following Division faculty served as subcommittee members, invited speakers, session chairs, poster session moderators, and/or abstract reviewers for the conference: Erin E. Kershaw, MD, Fred Toledo, MD, Mary Korytkowski, MD, Linda Siminerio, PhD, Jodie Krall, PhD, Michael Jurczak, PhD, and David Rometo, MD.
• Erin E. Kershaw, MD, served as a mentor and poster judge for the Committee on Diversity and Inclusion (CODI) at the ENDO 2017 Scientific Sessions in Orlando, FL. She also was an invited speaker at ENDO 2017.
Linda Siminerio, PhD, served as the Chair of the National Diabetes Education Program, a joint program of the NIH, CDC, and Prevention magazine.

Linda Siminerio, PhD, received the 2017 Lifetime Achievement Award from the American Association of Diabetes Educators (AADE). This award recognizes individuals who exemplify the proud history of diabetes education and who serve as extraordinary role models.

Teaching Activities

Munira Abbasi MD
- Clinical Preceptor, Outpatient Endocrinology at UPMC Mercy Hospital, 2016-2017
- Clinical Preceptor, Inpatient Endocrinology at UPMC Mercy Hospital, 2016-2017
- Clinical Preceptor, Inpatient Endocrinology at UPMC McKeesport Hospital, 2016-2017
- Lecturer, Internal Medicine Residency Conference, UPMC McKeesport, 2016-2017

Archana Bandi MD
- Research Project Mentor, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Clinical Preceptor, Outpatient Endocrinology, 2016-2017
- Clinical Preceptor, Inpatient Endocrinology, 2016-2017
- Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
- Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
- Lecturer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Fellow Evaluations Review Committee, Clinical Fellowship in Endocrinology and Metabolism, 2011-present

Sue Challinor MD
- Clinical Preceptor, Outpatient Endocrinology, 2016-2017
- Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
- Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
- Research Project Mentor, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Quality Project Mentor, Clinical Fellowship in Endocrinology and Metabolism 2016-2017
- Organizer, Multidisciplinary Pituitary Conference, 2016-2017
- Organizer, Multidisciplinary Adrenal Conference, 2016-2017
- Lecturer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Interviewer, Internal Medicine Residency Program, 2016-2017

Ronald Codario MD
- Clinical Preceptor, Outpatient Endocrinology, Veterans Administration Healthcare System, 2016-2017
- Clinical Preceptor, Inpatient Endocrinology, Veterans Administration Healthcare System, 2016-2017
- Subspecialty Expert Discussant, Veterans Administration Healthcare System Chief of Medicine Conference, 2016-2017
- Research Project Mentor, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Quality Project Mentor, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Mentor, Department of Medicine Fellow’s Teaching Competition, 2016-2017
- Group Facilitator, Endocrinology Board Review, Clinical Fellowship in Endocrinology & Metabolism, 2016-2017
- Lecturer, Resident Lecture Series, 2016-2017
- Lecturer, UPMC Endocrinology University-Wide Conference, 2016-2017
• Lecturer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017

James DeLany PhD
• Lecturer, Fuel Metabolism (MS1), 2016-2017

Frederick DeRubertis MD
• Course Co-Director, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Lecturer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Outstanding Educator, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017

Esra Karslioglu French MD
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017
• Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017

Michelle Griffith MD
• Clinical Preceptor, Outpatient Endocrinology, 2016-2017
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017
• Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017

Mara Horwitz MD
• Clinical Preceptor, Outpatient Endocrinology, 2016-2017
• Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Organizer, Bone Club, 2016-2017
• Lecturer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Interviewer, Internal Medicine Residency Program, 2016-2017

Michael Jurczak PhD
• Research Project Mentor, Dean’s Summer Research Program (MS1), 2017
• Research Project Mentor, Dean’s Pitt-Med Research Experience for Pre-matriculants (PREP) Program (MS0), 2017
• Research Co-Mentor, SPRIG Basic Biology of Aging Program, 2016-2017
• Research Project Mentor, T32 in Endocrinology and Metabolism, 2016-2017
• Lecturer, ISB 2050 & ISB 2060 – Integrated Systems Biology Bench to Bedside (Graduate), 2017
• Abstract Reviewer and Poster Judge, Department of Medicine Research Day, 2017

Erin Kershaw MD
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017
• Research Project Mentor, ARTSC 0121 – Continuing Experience in Research (Undergraduate), 2016
• Research Project Mentor, EM 1166 – Emergency Medicine Senior Internship (Undergraduate), 2016-2017
• Research Project Mentor, EM 1177 – Emergency Medicine Senior Seminar (Undergraduate), 2016-2017
• Lecturer, CMU #42-671 – Precision Medicine for Bioengineers (Undergraduate), 2016
• Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Group Facilitator, Med 5126 – Behavioral Medicine (MS2), 2017
Mary Korytkowski MD

- Clinical Preceptor, Outpatient Endocrinology, 2016-2017
- Course Co-Director, MED 5222 – Endocrine Disorders Course (MS2), 2017
- Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
- Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
- Lecturer, ISB 2050 & ISB 2060 – Integrated Systems Biology Bench to Bedside (Graduate), 2017
- Lecturer, MED 5710 – Clinical Pharmacology (MS4), 2017
- Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Associate Program Director for Quality, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Member, Medical School Admissions Committee, 2016-2017
- Interviewer, Internal Medicine Residency Program, 2016-2017
- Research Project Mentor, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Quality Project Mentor, Clinical Fellowship in Endocrinology and Metabolism 2016-2017
• Lecturer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Speaker, UPMC Update in Internal Medicine Continuing Medicine Education Course, 2016
• Speaker, UPMC Update in Geriatric Medicine Continuing Medicine Education Course, 2016
• Member, Training and Oversight Committee, T32 Training Program in Endocrinology and Metabolism, 2016-2017

Shane LeBeau MD
• Clinical Preceptor, Outpatient Endocrinology, 2016-2017
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017
• Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Member, Fellow Evaluations Review Committee, Clinical Fellowship in Endocrinology and Metabolism, 2011-present
• Director, Medical Student Inpatient Clinical Elective in Endocrinology (MS3/MS4), 2011-present

Helena Levitt MD
• Clinical Preceptor, Outpatient Endocrinology, 2016-2017
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017
• Clinical Preceptor and Program Director, Endocrine Clinical Genetics Program, 2016-2017
• Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Lecturer, Resident Acute Management Series, 2016

Hussain Mahmud MD
• Clinical Preceptor, Outpatient Endocrinology, 2016-2017
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017
• Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Lecturer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Associate Program Director, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Group Facilitator, Endocrinology Board Review, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Speaker, UPMC Update in Internal Medicine Continuing Medicine Education Course, 2016
• Interviewer, Internal Medicine Residency Program, 2016-2017

Pooja Manroa MD
• Clinical Preceptor, Outpatient Endocrinology, 2016-2017
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017
• Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Interviewer, Internal Medicine Residency Program, 2016-2017
• Speaker, UPMC Shadyside Department of Medicine Grand Rounds, 2016-2017
• Co-Leader, Quality/Value Program for the Clinical Endocrine Fellowship Program, 2017
Sann Mon MD
- Endocrinology Educational Coordinator, UPMC McKeesport Hospital, 2014-present
- Clinical Preceptor, Outpatient Endocrinology, UPMC McKeesport Hospital, 2016-2017
- Clinical Preceptor, Inpatient Endocrinology, UPMC McKeesport Hospital, 2016-2017
- Scholarly Project Mentor, Residency Program, UPMC McKeesport Hospital, 2016-2017
- Lecturer, Resident Lecture Series, UPMC McKeesport Hospital, 2016-2017
- Speaker, Hospital Medicine Conference, UPMC McKeesport Hospital, 2017
- Speaker, Physician Staff Meeting, UPMC McKeesport, 2017
- Recipient, Outstanding Teaching Award, Internal Medicine Residency Program, UPMC McKeesport, 2017

Elena Morariu MD
- Clinical Preceptor, Inpatient Endocrinology, 2016-2017
- Preceptor / Group Facilitator, MED 5233 APE MS2 – Advanced Physical Examination III (MS2), 2016-2017
- Endocrine Representative, SNMA Physician’s Round Table Meeting (MS1-2), 2016-2017

Jason Ng MD
- Clinical Preceptor, Outpatient Endocrinology, 2016-2017
- Clinical Preceptor, Inpatient Endocrinology, 2016-2017
- Preceptor / Group Facilitator, MED 5233 APE MS2 – Advanced Physical Examination III (MS2), 2016-2017
- Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
- Mentor, Patient Care Conference for the Clinical Endocrine Fellowship Program, 2016-2017

Robert O’Doherty PhD
- Director, T32 Training Program in Endocrinology and Metabolism, 2016-2017
- Member, Training and Oversight Committee, T32 Training Program in Endocrinology and Metabolism, 2016-2017
- Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Mentor / Group Facilitator, MSELCT 5290 – Research Basis of Medical Knowledge (PSTP & MSTP MS1-2), 2016-2017
- Lecturer, Fuel Metabolism (MS1), 2016-2017
- Research Project Mentor, NIH T32 Program in Endocrinology and Metabolism, 2014-2017
- Research Project Mentor, K01 Mentored Training Grant, 2015-2016
- Research Project Mentor, Clinical Fellowship in Pediatric Endocrinology and Metabolism, 2015-2017
- Research Project Mentor, Xiangya Scholar Program, 2015-2017

Alexandria Opata MD
- Clinical Preceptor, Inpatient Endocrinology, 2016-2017
- Endocrine Representative, SNMA Physician’s Round Table Meeting (MS1-2), 2016-2017

R. Harsha Rao MD
- Clinical Preceptor, Outpatient Endocrinology at the Veterans Administration Healthcare System, 2016-2017
- Clinical Preceptor, Inpatient Endocrinology at the Veterans Administration Healthcare System, 2016-2017
- Subspecialty Expert Discussant, Veterans Administration Healthcare System Chief of Medicine Conference, 2016-2017
- Research Project Mentor, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Quality Project Mentor, Clinical Fellowship in Endocrinology and Metabolism 2016-2017
- Lecturer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
- Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017

Jodie Reider MD
• Clinical Preceptor, Outpatient Endocrinology, 2016
• Clinical Preceptor, Inpatient Endocrinology, 2016

David Rometo MD
• Clinical Preceptor, Outpatient Endocrinology, 2016
• Clinical Preceptor, Inpatient Endocrinology, 2016
• Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Lecturer, Endocrinology Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Group Facilitator, Endocrinology Board Review, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Quality Project Mentor, Clinical Fellowship in Endocrinology and Metabolism 2016-2017
• Speaker, UPMC Update in Internal Medicine Continuing Medicine Education Course, 2016

Linda Siminerio PhD
• Research Project Mentor, Clinical Fellowship in Endocrinology and Metabolism 2016-2017
• Quality Project Mentor, Clinical Fellowship in Endocrinology and Metabolism 2016-2017
• Thesis Committee Member, School of Nursing, 2017

Sandra Sobel MD
• Clinical Preceptor, Outpatient Endocrinology, UPMC Mercy Hospital, 2016-2017
• Clinical Preceptor, Inpatient Endocrinology, UPMC Mercy Hospital, 2016-2017
• Lecturer, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Quality Project Mentor, Internal Medicine Residency, UPMC Mercy Hospital, 2016-2017
• Quality Project Mentor, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Lecturer, Resident Lecture Series, UPMC Mercy Hospital, 2016-2017
• Invited Speaker, Endocrine Society Fellows Conference, Orlando, FL, 2017

Maja Stefanovic-Racic MD
• Clinical Preceptor, Outpatient Endocrinology, 2016-2017
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017
• Program Director, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Member, Clinical Competency Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Member, Fellow Selection Committee, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Group Facilitator, Endocrinology Board Review, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Lecturer and Organizer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Lecturer, MED 5710 – Clinical Pharmacology (MS4), 2017
• Group Facilitator, MED 5710 – Clinical Pharmacology (MS4), 2017
• Group Facilitator, MED 5222 – Endocrine Disorders Course (MS2), 2017
• Preceptor / Group Facilitator, MED 5233 APE MS2 – Advanced Physical Examination III (MS2), 2016-2017
• Group Facilitator, Fuel Metabolism (MS1), 2016-2017
• Lecturer, Resident Lecture Series, 2016-2017
• Interviewer, Internal Medicine Residency Program, 2016-2017

Fred Toledo MD
• Clinical Preceptor, Outpatient Endocrinology, 2016-2017
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017
• Lecturer, Summer Lecture Series, Clinical Fellowship in Endocrinology and Metabolism, 2016-2017
• Member, Training and Oversight Committee, T32 Training Program in Endocrinology and Metabolism, 2016-2017
• Preceptor / Group Facilitator, MED 5233 APE MS2 – Advanced Physical Examination III (MS2), 2016-2017
• Interviewer, Internal Medicine Residency Program, 2016-2017
• Abstract Reviewer and Judge, Department of Medicine Research Day, 2017
• Member, Subspecialty Education Committee for the Internal Medicine Residency Program, 2016-2017
• Awardee, Dr. Frederick DeRubertis Division of Endocrinology Golden Apple Teaching Award Recipient, 2017
• Research Project Mentor, University of Pittsburgh Undergraduate Research Program, 2016 and 2017
• Research Project Mentor, University of Pittsburgh Scholarly Research Program (MS1), 2017

Joy Wang MD
• Clinical Preceptor, Inpatient Endocrinology, 2016-2017

Lauren Willard DO
• Clinical Preceptor, Outpatient Endocrinology, UPMC Mercy Hospital, 2016-2017
• Clinical Preceptor, Inpatient Endocrinology, UPMC Mercy Hospital, 2016-2017
• Lecturer, Resident Lecture Series, UPMC Mercy Hospital, 2016-2017
## Fellowship Program

<table>
<thead>
<tr>
<th>Current Fellow</th>
<th>Medical School</th>
<th>Residency</th>
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<tbody>
<tr>
<td>Acharya</td>
<td>University of Nebraska College of Medicine, Omaha, NE</td>
<td>University of Iowa, Des Moines, IA</td>
</tr>
<tr>
<td>Ali</td>
<td>Allama Iqbal, Pakistan</td>
<td>University of Pittsburgh, Pittsburgh, PA</td>
</tr>
<tr>
<td>Detoya</td>
<td>University of the Philippines, Philippines</td>
<td>Akron General Medical Center, Akron, OH</td>
</tr>
<tr>
<td>Dowlatshahi</td>
<td>Tehran School of Medical Sciences, Iran, Islamic Republic of</td>
<td>St. Francis Hospital, Chicago, IL</td>
</tr>
<tr>
<td>Edem</td>
<td>Topiwal National Medical College, India</td>
<td>Johns Hopkins University/Sinai Hospital, Baltimore, MD</td>
</tr>
<tr>
<td>Heller</td>
<td>West Virginia University, Morgantown, WV</td>
<td>University of Pittsburgh, Pittsburgh, PA</td>
</tr>
<tr>
<td>Karajgikar</td>
<td>St. George's University, Grenada</td>
<td>Drexel University, Philadelphia, PA</td>
</tr>
<tr>
<td>Selk</td>
<td>Lincoln Memorial University-DeBusk College of Osteopathic Medicine, Cumberland Gap, TN</td>
<td>UPMC Mercy, Pittsburgh, PA</td>
</tr>
<tr>
<td>Swami</td>
<td>Pramukhswami Medical College, India</td>
<td>University of North Dakota, Fargo, ND</td>
</tr>
<tr>
<td>Thangudu</td>
<td>The University of Texas School of Medicine, San Antonio, TX</td>
<td>Tulane University, New Orleans, LA</td>
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<table>
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<tr>
<td>Acharya</td>
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<td>Dowlatshahi</td>
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<td>Selk</td>
<td>Karen</td>
</tr>
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<td>Thangudu</td>
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## Fellow Abstracts

**Dowlatshahi S**, Codario R. Ipilimumab Induced Hypophysitis in a Patient with Metastatic Melanoma. AACE 2016, Orlando, FL


Edem D, Stefanovic, McCarthy P, Korytkowski M. Glycemic Excursions and Bolus Frequency with Insulin Pump Therapy, Poster 1041-P, American Diabetes Association 77th Scientific Sessions, Pending manuscript submission, San Diego, CA, June 2017


Edem D, Krug, E, Bhandari, S. Recognition and Management of Osteoporosis in Patients Presenting with Acute Fragility Fractures, Oral research presentation, American College of Physicians, Maryland Chapter, 2015

Fellow Presentations


Runa Acharya, MD. Case Presentation and Review of Literature, Transgender Medicine: Focus on Management, Department of Endocrinology Patient Care Conference, University of Pittsburgh Medical Center, 2016


Fellow Publications


Selk K, Manandhar S, Sobel SL. Denosumab Used for Severe Hypercalcemia in a Man with End-Stage Renal Disease on Hemodialysis, AACE Clinical Case Reports: Spring 2017, Vol. 3, No. 2, pp. e116-e120
CLINICAL CARE

The clinical mission of the Division of Endocrinology is to provide comprehensive clinical care across the full spectrum of endocrine and metabolic disorders including diabetes, obesity, lipid disorders, thyroid and parathyroid disease, bone and mineral disorders, neuroendocrine / pituitary / adrenal disorders, reproductive / ovarian disorders, andrology / male hormonal disorders, endocrine neoplasia, and other hormonal / metabolic disorders. Due to continued increases in the prevalence of these disorders, the demand for endocrinologists continues to rise in the western Pennsylvania region and across the nation. To address these demands, the Division of Endocrinology continued to expand and improve patient access in our region by increasing provider availability in established areas, expanding current services, and developing new services.

Currently, the Division of Endocrinology includes 23 clinical faculty who provide outpatient and/or inpatient services in endocrinology, diabetes, and metabolism. Patient care is further enhanced by comprehensive, collaborative, team-based care models that include advanced practice providers, certified diabetes educators, registered dieticians, nurse coordinators, nurses, medical assistants as well as numerous collaborative multidisciplinary subspecialty and community partners. In FY17, the Division welcomed several new providers - five endocrinologists (MD), one physician assistant (PA), one nurse practitioner (CRNP), and two certified diabetes educators (one of whom is a registered dietician). The Division anticipates future growth with the addition of these new providers. A summary of clinical volumes trends is provided in Table 1 (outpatient volumes) and Table 2 (inpatient volumes).

Outpatient services for endocrinology, diabetes, and metabolism are provided at the Center for Diabetes and Endocrinology (CDE) at Falk Clinic in Oakland and at community-based sites in Monroeville in the East, Mt. Lebanon in the South, Wexford in the North, as well as UPMC Mercy and UPMC McKeesport. Outpatient volumes for FY17 were comparable to the prior fiscal year (Table 1). Clinic visits exceeded 2,000 visits per month, or more than 24,000 per year. New patients accounted for approximately 19% of all office visits. Overall, outpatient clinic visits were comprised of approximately 50% diabetes and related disorders, 30% thyroid-related disorders, and 20% other endocrine disorders listed above. To improve clinical access and care in FY17, the Division added a “Same Day Clinic Access (SDCA) Program” to its already established “Urgent Endocrine Care Clinic.” Clinicians in the Division of Endocrinology consistently provide high quality outpatient care to their patients in accordance with published guidelines, best practices, and evidence-based recommendations for care. Compliance with standards of care as recognized by the Endocrine Society and the American Diabetes Association (ADA) exceed national averages. The Division of Endocrinology also has a strong culture of continuously improving quality of care and patient safety (see quality section).

In FY17, the Division focused on enhancing its clinical leadership and team-based approaches to clinical care with an emphasis on improving existing models of care and developing new ones. Some of the highlights of these clinical efforts follow.

- The **Thyroid Unit** in the Division of Endocrinology, under the leadership of Shane LeBeau MD (Clinical Leader) and Pooja Manroa MD (Clinical Co-Leader), continues to run a very successful Multidisciplinary Thyroid Center in

---

Table 1: Endo Historical Clinic Visit Volume (a)

<table>
<thead>
<tr>
<th>Category</th>
<th>FY 2014</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY2017</th>
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</thead>
<tbody>
<tr>
<td>New</td>
<td>5,059</td>
<td>5,209</td>
<td>4,551</td>
<td>4,746</td>
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<tr>
<td>Return</td>
<td>17,974</td>
<td>19,847</td>
<td>20,591</td>
<td>19,903</td>
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<tr>
<td><strong>TOTAL VOLUME</strong></td>
<td><strong>23,033</strong></td>
<td><strong>25,056</strong></td>
<td><strong>25,142</strong></td>
<td><strong>24,649</strong></td>
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</tbody>
</table>

(a) Provider visits only, excludes labs

Table 2: Endo Inpatient Consult Volume

<table>
<thead>
<tr>
<th>Category</th>
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<th>FY 2015</th>
<th>FY2016</th>
<th>FY2017</th>
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<tr>
<td>Endocrine/Diabetes Encounters</td>
<td>9,205</td>
<td>12,652</td>
<td>11,932</td>
<td>12,854</td>
</tr>
</tbody>
</table>

Department of Medicine

www.dom.pitt.edu/endo
collaboration with other subspecialty partners. These partners include endocrine surgeons, otolaryngologists, ophthalmologists, radiologists, pathologists, radiation oncologists, oncologist, molecular medicine specialists, and others. Notable accomplishments include 1) one of the largest thyroid cancer registries in the country (>800 patients), 2) a full services clinic for comprehensive evaluation of thyroid nodules (clinical evaluation by both endocrinologist and endocrine surgeons, diagnostic ultrasound by endocrinologists and radiologists, fine needle aspiration with on-site cytopathology, etc.), and 3) use of molecular analysis of thyroid nodule aspirates for clinical decision making. Regarding the latter, the UPMC multidisciplinary thyroid group, under the leadership of Yuri Nikiforov, PhD, from the Division of Pathology, continues to be a major driver of the development and use of molecular markers in the clinical management of thyroid neoplasia.

The Obesity and Weight Management Unit in the Division of Endocrinology, under the leadership of David Rometo, MD, (Clinical Leader), continues to expand several innovative clinical programs focused on promoting health and preventing disease related to overweight or obesity. Among these programs are a program focused on reversing diabetes and other metabolic complications of obesity (i.e. the Disease Remission in Obesity Program or “DROP”), a medically-supervised very low calorie diet (Opti-fast) program, and a pre/post-bariatric surgery diabetes and weight management program. To achieve these goals, the Obesity and Weight Management Unit has partnered with the expanding network of American Board of Obesity Medicine (ABOM)-certified physicians in the UPMC network to leverage the full spectrum of weight and health management resources at UPMC in order to provide the best clinical care and academic training related to overweight or obesity.

The Diabetes Technology Unit in the Division of Endocrinology, under the leadership of Jason Ng, MD, (Clinical Leader), Sandra Sobel MD, and Patrick McCarthy CDE, continues provide cutting-edge clinical care that optimizes the use of rapidly evolving technologies (i.e. insulin pumps, continuous glucose monitoring or “CGM,” etc.) for the clinical care of patients with diabetes. FY17 was marked by several technological and policy advancements, including approval and release of the first “artificial pancreas” and expanded acceptance of the use of CGM by Medicare and other insurance providers. In addition, Dr. Ng continues to run a very effective multidisciplinary glycemic management clinic in collaboration with the Division’s outstanding team of certified diabetes educators and registered dieticians. The Diabetes Technology Unit and the Diabetes Care Team are currently working on new models of care to more efficiently and effectively manage the growing population of patients with diabetes.

The Neuroendocrine and Adrenal Unit of the Division of Endocrinology, under the leadership of Sue Challinor, MD, (Clinical Leader), operates a very successful Multidisciplinary Neuroendocrinology and Adrenal Center in collaboration with other subspecialty partners. These partners include neurosurgeons, endocrine surgeons, neurologists, otolaryngologists, ophthalmologists, radiologists, interventional radiologists, pathologists, radiation oncologists, oncologist, and others. Dr. Challinor has one of the largest practices of patients diagnosed with neuroendocrine and adrenal disorders in the region.

The Lipid Unit of the Division of Endocrinology, under the leadership of Erin Kershaw, MD, (Clinical Leader), continues to provide clinical care for patients suffering from dyslipidemia with an emphasis on diabetic dyslipidemia, rare / severe dyslipemias, and/or adipose tissue disorders. FY17 was notable for a collaboration with Dr. Whitcomb and other colleagues from gastroenterology to better understand and treat patients suffering from severe hypertriglyceridemia who are at increased risk for pancreatitis.

In FY17, the following faculty were honored as Pittsburgh’s “Best Doctors” in endocrinology, diabetes, and metabolism: Sue Challinor, MD, Susan Greenspan, MD, Michelle Griffith, MD, Mary Korytkowski, MD, and Shane LeBeau, MD.

Inpatient services for Endocrinology, Diabetes, and Metabolism are provided at the UPMC Oakland campus, UPMC Mercy, UPMC McKeepor, and the Pittsburgh Veterans Administration Medical Center. Inpatient consultations increased by almost 8% in FY17 compared to the previous fiscal year. Inpatients services cover the full spectrum on endocrine disorders with an emphasis on endocrine disorder and problems that have increased prevalence and/or severity in the hospital setting. A critical component of these services include the management of diabetes, particularly in ensuring patient safety. Under the leadership of Mary Korytkowski, MD, the Division of Endocrinology oversees the UPMC Diabetes Inpatient Safety Committee. This committee is dedicated to implementation of system-wide computer-
based physician order-entry initiatives targeting rational, goal-directed inpatient glycemic management as a way of improving patient outcomes while minimizing risk for hypoglycemia and other adverse events. These initiatives have led to marked, large-scale improvements in the management and outcomes relating to the care of hospitalized patients with diabetes and newly recognized hyperglycemia with reductions in hospital lengths of stay and improved compliance with national recommendations for inpatient glycemic management. FY17 was notable for an ongoing project focused on decreased the risk and ramifications of hypoglycemia. Dr. Korytkowski has been recognized nationally for her work in this area and has been involved in national consensus panels that develop these guidelines.

Endocrinology and Diabetes services across the community

Clinical activities in the Division also include a substantial commitment to diabetes care in the surrounding communities and with clinical care partners, particularly in the primary care setting. The University of Pittsburgh Diabetes Institute (UPDI) has organized the second largest network of American Diabetes Association (ADA)-recognized diabetes self-management education (DSME) programs in the United States. There are 54 established sites in a variety of clinical settings where patients are able to receive these educational sessions. These include all UPMC hospitals, primary care practices, and community-based clinics. Working with the University of Pittsburgh Diabetes Institute Registry and ADA-Certified Diabetes Education Network, the Division of Endocrinology launched large-scale quality improvement initiatives across the UPMC system and the UPMC Health Plan. A national self-management program database entitled “Chronicle” has been developed and is being used as a national repository for the ADA Self-Management Education Recognition Program. Dr. Siminerio served on the National Standards for Diabetes Self-Management Standards Committee. The National Standards were recently published in Diabetes Care in which she served as one of the committee authors. Other notable contributions include the following:

- In collaboration with the Diabetes Prevention Support Center (DPSC), more than 1,000 health care providers have been trained on primary prevention. Along with training, support tools such as DVDs and online programs have been designed. Members of the Diabetes Institute and the DPSC were active leaders in the development of the National Diabetes Prevention Program under the direction of the Centers for Disease Control (CDC).
- In collaboration with the Diabetes Center at Children’s Hospital of Pittsburgh of UPMC, a transition program to prepare youth with type 1 diabetes for transfer from pediatric to adult care services is being implemented and evaluated.
- Efforts are ongoing in the development and validation of a database of the more than 185,000 patients with diabetes who receive care in UPMC hospitals or associated outpatient facilities and clinics in western Pennsylvania.
- Access to quality diabetes care and education has also been promoted through the Diabetes Institute team. Telemedicine and telephone technology are being implemented and evaluated in an effort to apply technological approaches for improved access to expert diabetes management. Investigators and clinicians are recognized nationally and internationally for their contributions to evidence-based diabetes care. See also Telemedicine section below.

Telemedicine

In FY17, the Endocrinology Telehealth Unit continued to expand its clinical and academic operations with the goal of providing expert care and consultation in geographically remote areas of the health system. Michelle Griffith MD and Lauren Willard DO continued the established synchronous visit model at UPMC Bedford and UPMC Northwest, providing over 450 visits for patients with diabetes (an increase in 46% over the last FY). These visits also allow for a diabetes educator to be present with the patient during the encounter and reinforce plans with the patient at their conclusion. A goal for the upcoming fiscal year is to expand the role of diabetes educators at UPMC Bedford to create a successful model for transition and support back to primary care providers for ongoing glycemic management. Along with several other specialties, the Endocrine Division also participated in developing a new synchronous model with physician-to-physician consultation with the patient present during the encounter. The operational team is exploring opportunities for expansion of both the current visit models as well as developing an e-visit model. This model would serve as an option for follow up for patients seen annually or biannually for stable thyroid disease with the goal of
providing convenient high quality care for patients with busy schedules or significant travel burden. The continued improvement in these models will enhance accessibility to endocrinology care within the region and other areas where endocrinologists are in short supply. At the end of FY17, Dr. Lauren Willard assumed the role of Clinical Leader of the Endocrinology Telehealth Unit.
Clinic Locations

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<tr>
<th>Number</th>
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<tbody>
<tr>
<td>1</td>
<td>UPMC Endocrinology and Diabetes Center</td>
</tr>
<tr>
<td></td>
<td>Falk Medical Building</td>
</tr>
<tr>
<td></td>
<td>3601 Fifth Avenue, Suite 3B</td>
</tr>
<tr>
<td></td>
<td>Pittsburgh, PA 15213</td>
</tr>
<tr>
<td>2</td>
<td>UPMC Endocrinology and Diabetes Center at UPMC Mercy</td>
</tr>
<tr>
<td></td>
<td>UPMC Mercy</td>
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<tr>
<td></td>
<td>1400 Locust Street, Suite 5120</td>
</tr>
<tr>
<td></td>
<td>Pittsburgh, PA 15219</td>
</tr>
<tr>
<td>3</td>
<td>UPMC Endocrinology and Diabetes Center, UPMC Monroeville Oxford Drive</td>
</tr>
<tr>
<td></td>
<td>UPMC Monroeville Oxford Drive</td>
</tr>
<tr>
<td></td>
<td>400 Oxford Drive, Suite 100</td>
</tr>
<tr>
<td></td>
<td>Monroeville, PA 15146</td>
</tr>
<tr>
<td>4</td>
<td>UPMC Endocrinology and Diabetes Center, South Hills</td>
</tr>
<tr>
<td></td>
<td>733 Washington Road, Suite 204</td>
</tr>
<tr>
<td></td>
<td>Mt Lebanon, PA 15228</td>
</tr>
<tr>
<td>5</td>
<td>UPMC Endocrinology and Diabetes Center at UPMC McKeesport</td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>500 Hospital Way, Suite 401</td>
</tr>
<tr>
<td></td>
<td>McKeesport, PA 15132</td>
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<tr>
<td>6</td>
<td>UPMC Endocrinology Wexford</td>
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<tr>
<td></td>
<td>117 VIP Drive, Suite 120</td>
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<td></td>
<td>Wexford, PA 15090</td>
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CLINICAL QUALITY IMPROVEMENT INITIATIVES

The quality mission of the Division of Endocrinology is to promote the highest quality of care and ensure patient safety. The Division has a long tradition of excellence in these areas. Mary Korytkowski, MD, leads these efforts and serves as the Director of the Inpatient Diabetes Patient Safety Committee (described in the above clinical section) as well as the Associate Program Director for Quality for the clinical fellowship program. In FY17, Pooja Manroa, MD, joined her to co-direct the quality program for the fellowship. The quality program is further complemented by the quality program at the VA Medical Center, led by Harsha Rao, MD. Together, these programs create a culture of quality that permeates all aspects of the Division. Notable quality initiatives for FY17 follow.

- Mary Korytkowski, MD, and her team are evaluating and improving systems to reduce hypoglycemia and its complication in hospitalized patients on complex insulin regimens including insulin pump therapy.
- Harsha Rao, MD, Ron Codario, MD, and their team are working to understand and improve clinical outcomes (i.e. hypoglycemia, cardiovascular events) in patients with severe insulin resistance who take U500 insulin.
- Harsha Rao, MD, and his team are working to understand the impact of testosterone prescribing practices on clinical outcomes.
- Archana Bandi, MD, and her team are evaluating and improving systems to use telehealth in the VA Healthcare System, particularly in relation to diabetes care.
- Linda Siminerio, PhD, and her team are evaluating and improving systems for 1) diabetes self-management and education in the primary care setting and 2) transition of diabetes care from pediatric to adult endocrinology.
- Erin E. Kershaw, MD, and her team are evaluating and improving systems to 1) promote adherence to the ACC/AHA cholesterol guideline and 2) reduce the risk of pancreatitis in patients with severe hypertriglyceridemia.
- All members of the Division are working to improve the use technology and electronic communications with patients using MyUPMC and other systems.
FACULTY

Faculty in Core Divisions
Fiscal Year 2015-2017

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2003 (Base Year)</th>
<th>FY 2015</th>
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<th>FY 2017</th>
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<tr>
<td>Endocrinology</td>
<td>26</td>
<td>27</td>
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Note: Includes University of Pittsburgh full-time faculty and volunteer faculty who have a UPP appointment and excludes research associates, adjunct faculty and emeritus faculty.

Current Endocrinology and Metabolism Faculty

Full-Time Faculty

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<thead>
<tr>
<th>Name</th>
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<th>Department</th>
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<tbody>
<tr>
<td>Challinor</td>
<td>Sue M. MD</td>
<td>Professor of Medicine</td>
</tr>
<tr>
<td>de Toledo</td>
<td>Frederico G.S. MD</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>DeLany</td>
<td>James P. PhD</td>
<td>Visiting Research Associate Professor of Medicine</td>
</tr>
<tr>
<td>Horwitz</td>
<td>Mara MD</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Jurczak</td>
<td>Michael J. PhD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Kershaw</td>
<td>Erin E. MD</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Korytkowski</td>
<td>Mary T. MD</td>
<td>Professor of Medicine</td>
</tr>
<tr>
<td>O’Doherty</td>
<td>Robert M. PhD</td>
<td>Professor of Medicine</td>
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<tr>
<td>Rao</td>
<td>R. Harsha H. MD</td>
<td>Professor of Medicine</td>
</tr>
<tr>
<td>Siminerio</td>
<td>Linda M. PhD</td>
<td>Professor of Medicine</td>
</tr>
<tr>
<td>Stefanovic-Racic</td>
<td>Maja MD, PhD</td>
<td>Assistant Professor of Medicine</td>
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Affiliated Faculty with UPP Appointments

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<tbody>
<tr>
<td>Abbasi</td>
<td>Munira S. MD</td>
<td>Clinical Assistant Professor of Medicine</td>
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<tr>
<td>Brooks</td>
<td>Heather E. MD</td>
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<tr>
<td>Griffith</td>
<td>Michelle L. MD</td>
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<tr>
<td>Karslioglu French</td>
<td>Esra MD</td>
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</tr>
<tr>
<td>LeBeau</td>
<td>Shane O. MD</td>
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<tr>
<td>Levitt</td>
<td>Helena E. MD</td>
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<tr>
<td>Mahmud</td>
<td>Hussain MD</td>
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<td>Manroa</td>
<td>Pooja MD</td>
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</tr>
<tr>
<td>Mon</td>
<td>Sann Yu MD</td>
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</tr>
<tr>
<td>Morariu</td>
<td>Elena MD</td>
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</tr>
<tr>
<td>Ng</td>
<td>Jason M. MD</td>
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</tr>
<tr>
<td>Opata</td>
<td>Alexandria A. MD</td>
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<td>Reider</td>
<td>Jodie A. MD</td>
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<td>Rometo</td>
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<td>Sobel</td>
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<td>Wang</td>
<td>Yunjiao J. MD</td>
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<tr>
<td>Willard</td>
<td>Lauren A. DO</td>
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### Affiliated Faculty without UPP Appointments

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<th>Last Name</th>
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<tr>
<td>Amati</td>
<td>Francesca</td>
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<td>Bahl</td>
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<td>Bahl</td>
<td>Vijay</td>
<td>K</td>
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<td>Basantani</td>
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<td>Biyani</td>
<td>Archana</td>
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<td>Casu</td>
<td>Anna</td>
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<tr>
<td>Codario Jr.</td>
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<tr>
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<tr>
<td>Grimes</td>
<td>Bernard</td>
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<tr>
<td>Martin</td>
<td>Emily</td>
<td>R</td>
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<tr>
<td>Schmeltz</td>
<td>Ralph</td>
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<tr>
<td>Varma</td>
<td>Swarna</td>
<td></td>
<td>MD</td>
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### New Faculty Hires

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<tr>
<td>Karslioglu</td>
<td>Esra</td>
<td></td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Endocrinology</td>
<td>Clinical Assistant Professor, Endocrinology, New York U</td>
</tr>
<tr>
<td>Manroa</td>
<td>Pooja</td>
<td></td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Endocrinology</td>
<td>Endocrinology Fellow, UPMC</td>
</tr>
<tr>
<td>Morariu</td>
<td>Elena Madalina</td>
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<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Endocrinology</td>
<td>Endocrinology Fellow, UPMC</td>
</tr>
<tr>
<td>Opata</td>
<td>Alexandria</td>
<td>A</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Endocrinology</td>
<td>Endocrinology Fellow, Icahn School of Medicine at Mt. Sinai</td>
</tr>
<tr>
<td>Wang</td>
<td>Yunjiao</td>
<td>J</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Endocrinology</td>
<td>Endocrinology Fellow, U of Colorado</td>
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### Research Associates

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<tbody>
<tr>
<td>Ling</td>
<td>Xiaoxi</td>
<td>PhD</td>
<td>Research Associate</td>
</tr>
<tr>
<td>Schoiswohl</td>
<td>Gabriele</td>
<td>PhD</td>
<td>Research Associate</td>
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## Current Post Docs in FY 2016-2017

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<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree Code</th>
<th>Current Title</th>
<th>Summary of activities</th>
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</thead>
<tbody>
<tr>
<td>Belmonte</td>
<td>Frances</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Belmonte’s research focuses on understanding the role of mitochondrial DNA in health and disease. Petite Integration Frequency 1 (PIF1) is a poorly understood RNA/DNA helicase implicated in the maintenance of mitochondrial (and genomic) DNA stability. To understand the physiological relevance of this protein, Dr. Belmonte is characterizing the phenotype of global PIF1 knockout (KO) mice. In doing so, she has determined that loss of PIF1 promotes a sexually dimorphic susceptibility to diet-induced obesity (DIO) as well as selective protection from specific DIO-associated metabolic complications. She is currently working to characterize these phenotypes as well as the mechanisms mediating these effects.</td>
</tr>
<tr>
<td>Chakraborty</td>
<td>Debjani</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Chakraborty’s research focuses on understanding the role of free fatty acids (FFAs) in hepatic metabolic function, particularly in the context of obesity and non-alcoholic fatty liver disease (NAFLD). To achieve this goal, Dr. Chakraborty is currently investigating how palmitic acid (C16), the major FFA derived from adipocyte lipolysis, influences hepatocyte mitochondrial function and hepatic immunophenotypes. She is additionally investigating the role of the gut microbiome in hepatic and systemic metabolism in the context of nutritional overload.</td>
</tr>
<tr>
<td>Edmunds</td>
<td>Lia</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Edmunds’ research focuses on understanding the pathogenesis of insulin resistance, particularly as it relates hepatic lipid metabolism and mitochondrial function. Using both in vitro and in vivo models, Dr. Edmunds’ work examines the role of Park2, an E3 ubiquitin-protein ligase that promotes autophagic degradation of damaged mitochondria (mitophagy), in type 2 diabetes and metabolism.</td>
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<tr>
<td>Frahm</td>
<td>Krystle</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Frahm’s research focuses on understanding the role of early neurological and neuroendocrine development in disease pathogenesis later in life. In particular, she is interested in sexually dimorphic effects of both endogenous and exogenous factors on hypothalamic development and function. She is currently working to understand the role of exogenous and endogenous glucocorticoids (GCs) and intracellular GC action on the central regulation of energy and metabolic homeostasis.</td>
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<tr>
<td>Harmon</td>
<td>Daniel</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
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Dr. Harmon's research focuses on understanding the crosstalk between metabolism and the immune system. Various models of high-fat feeding, overnight fasting, and direct lipid infusion in genetically-modified mice are used to understand mechanisms of dendritic cell recruitment to the liver. Additional studies are underway to identify functional characteristics of dendritic cell populations in the liver, and to evaluate changes in activity during obesity development.
**PUBLICATIONS**

**High-Impact Publications**


Obesity and type 2 diabetes are becoming more common among adolescents and young adults. Compared to older adults, type 2 diabetes mellitus (T2DM) in youth is characterized by higher therapeutic failure rates and lower responsiveness to insulin sensitizers. These observations suggest a more severe metabolic dysregulation than in adults. In this study, Dr. Toledo and his collaborators from Pittsburgh Children's Hospital investigated the question: does obesity cause a worse insulin resistance in youth than in middle-aged adults? The team conducted an analysis of metabolic differences in adults versus adolescents and compared them for differences in insulin sensitivity. Hepatic and peripheral insulin sensitivity was measured by state-of-the-art methods to quantify metabolism in vivo - ([6,6-2H2]glucose tracer dilution and hyperinsulinemic-euglycemic clamp). The study demonstrated that obese adolescents had lower hepatic (~53%) and peripheral (~42%) insulin sensitivity compared to adults. Obese adolescents also had lower HDL compared with adults, whereas adults had a higher LDL cholesterol and non-HDL cholesterol concentrations. This study demonstrated that obesity is associated with worse metabolic dysfunction in adolescents, which may explain the earlier onset of T2DM in youth.


Telemedicine can connect specialist health care providers with patients in remote and underserved areas. It is especially relevant in diabetes care, where a proliferation of treatment options has added further complexity to the care of an already complex, highly prevalent disease. Recent developments in health reform encourage delivery systems to use team-based models and engage patients in shared decision-making (SDM), where patients and providers together make health care decisions that are tailored to the specific characteristics and values of the patient. The goal of this project was to design, integrate, and evaluate a team-based, SDM approach delivered to patients with diabetes in a rural community, building upon the previously established telemedicine for reach, education, access, and treatment (TREAT) model. Patients in the study demonstrated improvement in hemoglobin A1c values, and reported better understanding of diabetes. Providers reported the SDM aids increased cohesion among team members (including patients) and facilitated patient education and behavioral goal setting. This project demonstrated that SDM could be integrated into the workflow of a telemedicine team visit with good provider and patient satisfaction.


The adipokine leptin has potent effects on lipid metabolism in a number of peripheral tissues. In a series of previous studies, Dr. O'Doherty's group demonstrated in vivo that acute leptin infusion stimulates liver fatty acid oxidation and reduces liver lipids, and that these effects are dependent on PI3-kinase (PI3K) activity. In the current study his group addressed the hypothesis that leptin action on liver-resident immune cells are required for these metabolic effects. Using myeloid cell or hepatocyte specific deletion of the leptin receptor (ObR) in mice, depletion of liver Kupffer cells (KC) in rats, or primary cell co-cultures, the study demonstrated that the acute effects of leptin on liver lipid metabolism were prevented only when ObR was absent from
mononuclear cells or when the liver was depleted of KC. Furthermore, the absence of mononuclear cell ObR


elevated liver lipids in obesity, but the overall degree of obesity induced by a high fat diet was similar to control mice. Together, these data demonstrate a role for liver mononuclear cells in the regulation of liver lipid metabolism by leptin.

**Peer-Reviewed Publications: 2015, 2016, 2017**


Department of Medicine www.dom.pitt.edu/endo


Krisha KB, **Stefanovic-Racic M**, Dedousis N, Sipula I, **O'Doherty RM**. Similar Degrees Of Obesity Induced by Diet or Aging Cause Strikingly Different Immunologic and Metabolic Outcomes. Physiol Rep. 2016 Mar;4(6).


The University of Pittsburgh Division of Gastroenterology, Hepatology and Nutrition enjoyed continued success in Fiscal Year 2017. Strategic goals were defined and implemented to provide for the Division’s ongoing growth and success, even in light of the significant economic and insurance-related changes in FY16 healthcare practices.

RESEARCH

The Division is uniquely structured as a translational research organization to address complex digestive diseases. Thematic areas include inflammatory bowel disease (IBD), pancreatic diseases, hepatitis and liver diseases, functional and pain disorders, nutrition deficits, digestive system cancer risk, endoscopic management of GI cancers, and women’s digestive health. Core scientific disciplines include epidemiology, cell biology and physiology, genetics, immunology, neurosciences, tissue regeneration, transplantation, and oncogenesis. Applied sciences include bio-marker development and clinical trial outcome studies.

One of the Division’s primary research initiatives in FY16 was the formal implementation of the Genomic Resources to Enhance Available Therapies (GREAT) Study, which has continued to expand in FY17 and is led by David C. Whitcomb, MD, PhD. Recognizing that most disease complications are complex and that solutions reach beyond one problem and one solution, the GREAT Study examines the interactions of a patient’s genes with the environment to determine who develops a disease, what disease they contract, and how each patient experiences the disease. The goal of this research is to unite the study of genes and the environment to predict outcomes.

New Research Initiatives / Ongoing and Planned Collaborations

Additional new major research projects secured in FY17 include:

- Dr. Albers received three grants in FY17, including Characterization of Epithelial-Nural Communication (R01/NIAMS), Novel Viral Tools for Control of Bladder Function & Pain (U18/NIBIB), and Cationic Trypsinogen (PRSS1) Activity in Hereditary Pancreatitis and Related Inflammatory and Fibrotic Diseases of the Pancreas (Shire International GmbH). She also became a consultant with the NIA regarding Management of Chronic Lower Back Pain in Older Adults Using Auricular Point Acupressure (R01).
- Dr. Binion is the PI for a Shire grant to study Tedeglutide in Refractory Crohn’s Disease. Starting in July 2017, he will become the PI for a DOD grant to study Utilizing Clinical Metadata to Predict High-Cost Complications and Treatment Response in IBD.
• Dr. Brand will serve as a co-investigator for a MWRI/Conrad Eastern Virginia Medical grant to study Rectal Sample Collection and Analysis and Processing of Samples for Exploratory Pharmacokinetics and Pharmacodynamics Stud of Oral FiAF for Prevention of IIIV Acquisition, Protocol AIS-137.
• Dr. Duerr was named PI for a Crohn’s & Colitis Foundation grant to study a Prospective Adult Research Cohort, and he was also selected as a co-investigator for the NIH/NIAID grant, Pitt-Ohio State-Georgetown Clinical Trials Unit.
• Dr. Dunn became the PI for the Pittsburgh Liver Research Center’s Precision Medicine Grant for Personalized Physical Activity Support in Liver Transplant Candidates.
• Looking forward to FY18, Dr. Gold will begin an NIH/NIDCR grant in September 2017 to study the Impact of Sex on TMJ Degeneration and Recovery (R01).
• Dr. O’Keefe received an R01 to study Randomized Controlled Trial of Fiber in the Reduction of Colon Cancer Risk in Alaskan Native People.
• Dr. Papachristou was awarded two grants this year. He is the PI for an AbbVie-supported grant to study Indicence of Exocrine Pancreatic Insufficiency, Nutritional Deficiencies and Impaired Quality of Life Following an attack of Acute Pancreatitis. He is also the PI for a University of Pittsburgh Physicians Foundations Grant to explore Association of Serum Triglyceride and Free Fatty Acid Levels with Clinical Outcomes in Acute Pancreatitis.
• Dr. Rabinovitz became the site PI for two clinical trials: Procurement of Blood Samples from Subjects with Diagnosed Nonalcoholic Steatohepatitis (NASH) or Nonalcoholic Fatty Liver Disease (NAFLD) for use in the Development of a Liver Fibrosis Test (Prometheus), and A Multicenter, Randomized, Double-Blind, Placebo-Controlled Phase III Study to Evaluate the Efficacy and Safety of Elafibranor in Patients with Nonalcoholic Steatohepatitis (NASH) and Fibrosis (Genfit).
• Dr. Rogal was designated the PI for two VA Competitive Pilot Program Grants to study Prescription Opiod Use in Veterans with Chronic Liver Disease, and Substance Use Disorders in Veterans with Chronic Liver Disease.
• Dr. Schoen became the PI for ctDNA for the Early Detection and Monitoring of Colorectal Cancer [with Advanced Adenoma Supplement] (2U01). He is the PI for a new industry collaboration with Medtronic, entitled Machine Learning from Endoscopic Images. Dr. Schoen is also the PI for a new, NCI-sponsored national clinical trial entitled FORTE: Five- or Ten-Year Colonoscopy for 1-2 Non-Advanced Adenomatous Polyps.
• Dr. Szigethy received the inaugural Sherman Prize for Excellence in IBD ($100,000) for her commitment to cognitive behavioral therapy to support chronic disease treatments. Dr. Szigethy also became a co-PI for the study, Volume to Value Transition: RELATE Curriculum to Improve Physician Communication and Patient Satisfaction through a Beckwith Institute Grant.
• Dr. Whitcomb is the PI for a DOD grant to study acute pancreatitis as a model to predict transmission of systemic inflammation to organ failure in trauma and critical illness.
• Dr. Yadav is a co-PI for a one-year U34 NIDDK grant to study minor Endoscopic Sphincterotomy for Recurrent Acute Pancreatitis with Pancreas Divisum.
Faculty Research Interests

Steven Abo MD
Dr. Abo is an Assistant Professor whose research interests include clinical research studies pertaining to the pathogenesis and treatment of irritable bowel syndrome. He also serves as the Director for the Center for Women's GI Health.

Jana Al Hashash MD MSc
Dr. Al Hashash, an Assistant Professor, investigates aberrant MUC1 expression in Crohn’s disease patients. She works in conjunction with Dr. Olivera Finn, PhD, from the Department of Immunology. Together, they plan to conduct a vaccine trial by giving MUC1 vaccine to Crohn’s disease patients in the postoperative setting to prevent the recurrence of their Crohn’s disease. In addition, Dr. Al Hashash is collaborating with Dr. Yang Liu, PhD, on research to detect early colonic dysplasia and colon cancer in high-risk IBD patients via noninvasive biomarkers.

Kathryn Albers PhD
Dr. Albers is a Professor of Neurobiology and Medicine who studies tissue-derived neurotrophic growth factors that regulate sensory neuron development, their functional properties, and changes in excitability that occur following nerve injury and disease. Dr. Albers has an additional project examining the function of the transcription factor Sox11, which plays a critical role in embryonic neuron specification, growth and survival, and adult peripheral nerve regeneration.

George Arnold MD
Dr. Arnold is a Clinical Professor of Medicine. He has previously been involved in clinical research in inflammatory bowel disease and irritable bowel syndrome, has supervised studies in these areas, presented at national meetings, and published clinical studies.

Arthur Barrie MD PhD
Dr. Barrie is an Assistant Professor whose research centers on IBD patient outcomes and optimizing IBD treatment.

Jaideep Behari MD PhD
Dr. Behari is an Associate Professor who researches the role of intracellular signaling pathways in the pathogenesis of liver diseases. He is also interested in nonalcoholic fatty liver disease, alcoholic fatty liver disease, and hepatocellular carcinoma.

David Binion MD
Dr. Binion, a Professor of Medicine, is an inflammatory bowel disease (IBD) investigator whose career has focused on defining the cellular and molecular mechanisms underlying human chronic gut inflammation and translating that knowledge into improved care for patients suffering from Crohn’s disease and ulcerative colitis. His current work centers on Big Data analytics and the development and transformation of the UPMC IBD Registry, a prospective, multi-year, longitudinal natural history registry database of >3,000 consented IBD patients, into a metadata platform for scientific discovery. Through a collaboration with computer scientists from the University of Pittsburgh School of Information Science, this relational database continuously curates and transforms observational clinical information from the electronic medical record (EMR) and maintains >10,000 person-years of associated metadata in a secure data warehouse. Areas of active investigation include:

- Developing prognostic biomarkers of IBD severity
- Characterizing the impact of diet and nutrition on IBD natural history
- Identification of biomarker patterns to predict development of dysplasia/cancer in IBD
- Identification of predictive biomarkers to guide therapeutic selection in IBD
- Comparative effectiveness studies in IBD maintenance therapy
- Defining the impact of surgical anastomotic technique on longterm clinical outcomes in Crohn’s disease
- Use of healthcare charge data as a comprehensive phenotype
- Defining the impact of Clostridium difficile infection on IBD natural history

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- Characterizing extra-intestinal manifestations, including anemia and autonomic dysfunction on the natural history of IBD
- Developing clinical decision support tools to optimize IBD care and implement precision medicine

Randall Brand MD
Professor of Medicine Randall Brand is a physician-scientist with an extensive background in pancreatic diseases, and his research focuses primarily on the early diagnosis of pancreatic cancer and cystic lesions of the pancreas. He also has research interests involving familial pancreatic cancer and other hereditary GI disorders. He is leader of the University of Pittsburgh’s Pancreatic Adenocarcinoma Gene-Environment Registry (PAGER). The biospecimen repository, which was developed as part of the PAGER study, is nationally recognized and serves as an excellent resource for multiple NIH/NCI funded projects along with national and international collaborations with outside researchers. Dr. Brand is a key contributor to the Early Detection Research Network, especially in research related to pancreatic cancer and cystic neoplasms. He is currently funded in the network as a principal investigator to lead both a multi-center Pancreatic Cancer Clinical Validation Center and Biomarker Developmental Laboratory.

Rhonda Brand PhD
Dr. Brand is an Adjunct Associate Professor of Medicine who is engaged in mucosal research related to dermatology and gastroenterology.

Jennifer Chennat MD
Dr. Chennat is an Associate Professor of Medicine and her research interests comprise conditions such as Barrett’s esophagus neoplasia, endotherapies for pancreatitis, novel imaging techniques such as confocal endomicroscopy, and endoscopic devices and product designs related to guided visualization and targeted tissue ablation. Her clinical focus is patients who require advanced endoscopic evaluation for disorders such as complex pancreatitis, Barrett’s esophagus, and gastrointestinal lumen and pancreatico-biliary cancer staging.

Kapil Chopra MD
Dr. Chopra’s research interests center on the cholestatic liver diseases primary sclerosing cholangitis and primary biliary cirrhosis. A Professor of Medicine, Dr. Chopra has participated in collaborative research projects with the Starzl Transplant Institute and the Liver Cancer Center, and has served as co-investigator on several multicenter trials investigating novel therapies and approaches to the management of viral hepatitis. His research has culminated in 50 scientific presentations at national and international conferences.

He was a co-investigator on the following NIH-funded research studies:
- PSC Resource of Genetic Risk, Environment and Synergy Studies (PROGRESS) (Principal Investigator: Dr. K Lazaridis, Mayo Clinic College of Medicine)
- A Preliminary Study of the Efficacy and Safety of Carbamazepine in Severe Liver Disease Due to Alpha-1-Antitrypsin Deficiency (Principal Investigator: Dr. David Perlmutter, Children’s Hospital, Pittsburgh)
- A prospective study comparing surgical therapies versus interventional radiologic interventions for management of gastrointestinal bleeding in patients with chronic liver disease.

In recognition of his role as a mentor and his contributions to the Clinical Research Scholars Program (CRSP) of the Clinical and Translational Science Institute (CTSI), he was offered a secondary appointment in Clinical and Translational Science at the University of Pittsburgh in September 2012.

Brian Davis PhD
Dr. Davis is a Professor of Neurobiology and Medicine. He investigates the role of growth factor interaction with sensory fibers that may be responsible for regulating neurogenic inflammation in pancreatic disease. He also studies the role of the peripheral nervous system in pancreatic cancer pain and metastasis.
Howard Dubner MD
As a Clinical Associate Professor of Medicine, Dr. Dubner is interested in general gastroenterology research and participates in collaborative studies when opportunities arise.

Richard Duerr MD
Dr. Duerr holds the Inflammatory Bowel Disease Genetic Research Chair and is a Professor of Medicine, Human Genetics, and Clinical and Translational Science at the University of Pittsburgh. He is the Co-Director and Scientific Director of the University of Pittsburgh Medical Center Inflammatory Bowel Disease Center.

Dr. Duerr has been involved in research related to inflammatory bowel disease throughout his career. He leads one of six genetic research centers that comprise the NIH/NIDDK Inflammatory Bowel Disease Genetics Consortium. His research program has had uninterrupted funding from the NIH, CCFA, and other foundations since 1995. He was recently appointed Associate Chief Scientist, Translational Research on the Leadership Team of the Crohn's & Colitis Foundation of America (CCFA) IBD Plexus research and information exchange platform that will engage academic and industry researchers, IBD patients, and clinicians and other healthcare providers in a partnership to accelerate the science of IBD.

Dr. Duerr is a member of the American Gastroenterological Association, the American Society of Human Genetics, and CCFA. He has been an invited lecturer in local, national and international venues, and he has published original inflammatory bowel disease genetics research articles in journals such as Nature, Science, Nature Genetics, American Journal of Human Genetics, and Human Molecular Genetics. He has served on grants review committees for the NIH and CCFA.

Michael Dunn MD FACP
Dr. Dunn is a Professor of Medicine. In a collaboration with colleagues from the Thomas E Starzl Transplantation Institute and the School of Health and Rehabilitation Sciences, he leads a UPMC hospital-funded initiative to improve the fitness and activity of liver transplant candidates with the objective of producing a 20% decrease in waitlist hospital days and waitlist mortality. Wearable personal activity monitoring and quantitation of muscle mass with imaging segmentation analysis are being explored as enabling technologies.

Dr. Dunn formed and now leads the FLEXIT (Fitness, Life Enhancement and Exercise in Transplantation) Consortium of investigators at the University of California San Francisco, Mayo Clinic Arizona, Cleveland Clinic, Duke University, University of Alberta, and University of Pittsburgh, engaged in multi-center collaborations to define, prevent and reverse physical decline in cirrhosis.

Dr. Dunn helped Dr. Binion design—and continues to assist in operating—a Department of Defense-supported searchable prospective electronic clinical registry for our inflammatory bowel disease team. It has enabled significant advances in disease modeling with over 20 major publications in the last three years.

He also serves as the site Principal Investigator of an industry-sponsored FDA registration trial of obeticholic acid therapy for primary sclerosing cholangitis.

Patricia Eagon PhD
Dr. Eagon is an Associate Professor of Medicine who explores the role of sex hormones in mediating the effects of alcohol on liver injury and sex hormone-responsive liver parameters. Dr. Eagon also conducts research to learn about environmental pollutants and chemicals as hormone disruptors as well as the hormonal activity of medicinal botanicals.

Kenneth Fasanella MD
Dr. Fasanella is an Assistant Professor whose research includes studying surveillance and risk stratification of pancreatic cystic lesions; biomarkers of risk in Barrett's esophagus; outcomes of endoscopic treatment of high-risk Barrett's esophagus and Barrett's-related neoplasia; appropriate surveillance intervals of gastric stromal tumors; and educational research in endoscopic feedback tools.
Alison Faust MD MHS
Dr. Faust is an Assistant Professor of Medicine who conducts research related to viral hepatitis, non-alcoholic fatty liver disease, and alcoholic liver disease.

Fadi Francis MD
Dr. Francis is an Assistant Professor of Medicine, and he examines Hepatitis C treatment and pre- and post-liver transplantation.

Swaytha Ganesh MD
Dr. Ganesh is an Assistant Professor investigating issues related to living donor liver transplants and drug metabolism in patients post-living donor transplant. Dr. Ganesh also researches the safety and preliminary efficacy of donor-derived regulatory dendritic cell infusion and immunosuppression withdrawal in living donor transplant recipients, as well as Remodulin and ischemic reperfusion injury in patients post liver transplant.

Michael Gold PhD
Dr. Gold, a Professor of Anesthesiology, studies the clinical features of a number of pain syndromes. These observations include the following: 1) Many pain syndromes are unique to a particular part of the body, such as the head in migraine, the temporomandibular joint in temporomandibular disorder (TMD), or the colon in inflammatory bowel disease (IBD); 2) Many pain syndromes, such as migraine, TMD, and IBD, occur with a greater prevalence, severity, and/or duration in women than in men; 3) Many pain syndromes are associated with changes in the excitability of primary afferent neurons; 4) There are time-dependent changes in the mechanisms underlying pain syndromes; and, 5) different types of injuries (i.e., inflammation or nerve injury) are differentially sensitive to therapeutic interventions. These observations led to specific hypotheses that the Gold laboratory is testing. These include, 1) characterizing the mechanisms underlying inflammation-induced changes in the evoked Ca2+ transients in sensory neurons, 2) characterizing the mechanisms underlying the inflammatory mediator-induced sensitization of dural afferents, 3) characterizing the influence of estrogen on the excitability of spinal and trigeminal ganglion neurons, 4) characterizing the mechanisms underlying the link between stress and migraine, 5) characterizing the role of changes in inhibitory receptors, in particular GABA, in injury-induced increases in sensitivity, and 6) identifying ways to maximize the therapeutic utility of local anesthetics. The studies’ ultimate goal is to identify novel targets for the development of therapeutic interventions for the treatment of pain.

Julia Greer MD MPH
Assistant Professor Julia Greer investigates cancer epidemiology as it relates to colon and pancreatic cancer, acute and chronic pancreatitis, nutrition, inflammatory bowel disease risk factors and case management, bioinformatics, and medical education in digestion and nutrition.

Christine Gulati MD
As a Clinical Instructor of Medicine and Internal Medicine, Dr. Gulati is interested in general gastroenterology research and participates in collaborative studies when opportunities arise.

Janet Harrison MD
Dr. Harrison is an Assistant Professor whose research interests include Inflammatory bowel disease and women’s health.

Charles Horn PhD
An Associate Professor of Medicine, Dr. Horn’s primary research focus is the neurobiology of vagus nerve signaling in health and disease and, more generally, the role of gut-brain communication in homeostasis. Numerous medical treatments and diseases affect gut-brain interactions to elicit nausea and emesis, reduced food intake, inflammatory responses, and modulation of pain, including cytotoxic chemotherapy agents. This line of research has the long-term goal of developing treatments to decrease symptom burden and improve quality of life for patients.
Naudia Jonassaint MD MHS
Dr. Jonassaint is an Assistant Professor of Medicine and she researches specific biologic markers involved in the development and progression of liver disease in both the pre- and post- transplant populations, with a focus on disparities in liver transplant outcomes. This research program also explores why some patients experience rapid fibrosis progression or accelerated graft loss post-transplant.

Asif Khalid MD
An Associate Professor, Dr. Khalid's research involves pancreatic tumors and cysts, EUS, ERCP, pancreatitis, molecular diagnoses, and early cancer detection.

Michael Kingsley MD
As a Clinical Assistant Professor of Medicine, Dr. Kingsley is interested in GI motility clinical trials and translational functional bowel studies.

Elisabeth H. Kramer MD
As a Clinical Assistant Professor of Medicine, Dr. Kramer is interested in clinical trials and translational studies that explore GI nutrition support advancements.

David Levinthal MD PhD
Dr. Levinthal's lab uses both neuroanatomical tracing and neurophysiological techniques to explore the neural basis for central nervous system influences over autonomic regulation in both health and disease. Dr. Levinthal, an Assistant Professor, centers his research on the neural mechanisms by which the cerebral cortex influences GI tract function. Initial studies have uncovered the surprising finding that a visceromotor map of sympathetic function is embedded within the classic cortical somatotopic map of motor function. Further work is aimed at understanding the cortical regions that influence vagal function. The goal of this effort is to use the visceral maps to guide brain stimulation as a means to influence GI tract function. This line of work will lead to the development of brain-based therapies for those with forms of severe GI dysfunction refractory to standard treatments.

Yang Liu PhD
The laboratory of Dr. Yang Liu, an Associate Professor of Medicine, is working to develop personalized approaches to improve early cancer detection. Current clinical practice relies on a one-shoe-fits-all-approach, which screens the entire at-risk population to identify a small percentage of truly high-risk patients, as with colonoscopy and mammography. Frequent, invasive surveillance of patients at risk for developing cancer carries financial, physical, and emotional burdens and can do more harm than good to the patients.

Given that nuclear architecture is one of the hallmarks in cancer diagnostics, the lab's premise is based on nanoscale nuclear architecture mapping to identify earlier and more accurate markers and to understand the characteristic alteration of nanoscale (i.e., less than 100 nm) nuclear architecture in cancer initiation and progression. Current tools to visualize nuclear architecture are mostly limited to microscale.

The lab’s multi-disciplinary team integrates optics, physics, engineering, bioinformatics, chemistry, biology, and clinical medicine, and develops imaging technologies to address this highly unmet clinical need. Current projects include: (1) Development of clinically applicable imaging technology for the high-throughput nanoscale nuclear architecture mapping (nanoNAM) of clinical samples to predict early-cancer progression in inflammatory bowel disease (IBD), Barrett’s esophagus and breast pre-cancerous lesions prior to the detection of clinically significant lesions; (2) Development of high-throughput super-resolution fluorescence nanoscopy (STORM, PALM) for nanoscale imaging of chromatin organization and epigenetics in cancer initiation and progression; (3) Development of 3D super-resolution fluorescence nanoscopy for imaging thick tissue.

Shahid Malik MD
Dr. Malik is a Clinical Assistant Professor of Medicine who studies outcomes in patients with end-stage liver disease/cirrhosis and post-liver transplant.
James McGee MD
An Associate Professor, Dr. McGee's research efforts center on the effectiveness of technology-based education, with a focus on simulation and web-based learning. This research applies virtual patient simulation, technical standards and education analytics (big data) to improve clinical decision-making and educational outcomes.

Ian McGowan MD PhD FRCP
Dr. McGowan, a Professor of Medicine, researches the mucosal pathogenesis of HIV infection and the development of topical products or microbicides to prevent the acquisition of HIV infection associated with vaginal or rectal sex. Dr. McGowan's lab has developed techniques to screen for microbicide-induced mucosal toxicity, including multi-color flow cytometry, real time RT-PCR, and gene array studies—techniques now being used by others to explore the pathogenesis of gastrointestinal (GI) disorders, including inflammatory bowel disease. This research program's goal is to provide a translational toolbox to address multiple questions focused on the mucosal pathogenesis of GI diseases.

Kevin McGrath MD
A Professor of Medicine, Dr. McGrath's investigates endotherapy for the management of Barrett's esophagus and superficial esophageal cancer, evaluation of pancreatic cystic lesions and cyst aspirate analysis, and EUS-guided tissue acquisition.

Satdarshan (Paul) Monga MD
A Professor of Pathology and Medicine, Dr. Monga researches the molecular mechanisms of liver growth and development in health and disease, focusing, in particular, on trying to address the molecular basis of liver development, growth, regeneration and cancer. Several signaling pathways have been identified to direct such events, including the Wnt/β-catenin, HGF/Met, PDGFR, and others.

A significant focus of Dr. Monga's laboratory is targeting, as a novel therapeutic measure, the HCC pathway and others, which are normally upregulated during liver development at the time of peak proliferation and stem cell renewal.

In addition, Dr. Monga's laboratory has generated various animal models, which conditionally overexpress or show lack of expression of important genes, such as β-catenin and others. These genes are being studied for the role of canonical Wnt signaling in additional liver diseases, including alcoholic liver disease, nonalcoholic fatty liver disease, glucose metabolism, and others.

The lab focuses on understanding the molecular and cellular basis of normal liver characteristics, including the organ's development, regeneration, metabolism and growth, as well as liver pathologies, such as neoplasms (HCC and hepatoblastoma), fibrosis, cirrhosis, alcoholic liver disease, non-alcoholic fatty liver disease, and others. This research focus incorporates studies on cell proliferation, adhesion, differentiation, invasion, apoptosis, and metabolism, as well as research on stem cells in adult, fetal, and embryonic livers.

Sudhir Narla MD
As an Assistant Professor of Medicine, Dr. Narla is interested in general gastroenterology research and participates in collaborative studies when opportunities arise.

Stephen O'Keefe MBBS MD MSc MRCS FRCP
Dr. O'Keefe performs translational research into the physiological and pathophysiological responses to feeding and nutritional deprivation. A Visiting Professor of Medicine, O'Keefe has received NIH R01 grant support for his studies on the physiological effects of feeding on pancreatic enzyme synthesis in humans with and without disease; the optimal feeding in patients with severe acute pancreatitis; and, most recently, the role of diet, the microbiome and its metabolites in determining colon cancer risk in extreme-risk Alaska Native People, high-risk African Americans (AA), and minimal-risk rural South Africans (NA). His pivotal study in *Nature Communications* (2015) showed that switching the diets of AA and NA (i.e., Americans were given a traditional African diet high in fiber, low in meat and fat, whilst Africans were given a Westernized diet high in meat and fat, low in fiber) led to profound changes in the colonic microbiome and its metabolome, associated with reciprocal changes in colonic mucosal biomarkers of cancer risk.
within two weeks. This supports the hypothesis that diet drives colon cancer risk and that it is largely preventable by a high-fiber diet. Studies are underway in Alaska to determine whether fiber supplementation will annul the health disparity and extreme rates of colon cancer risk and mortality in Alaska Natives. Finally, Dr O'Keefe is partnering with the University of Stellenbosch in South Africa to develop the African Microbiome Institute, which plans to study the ecology of the microbiome through the Faculties of Medicine, Agrisciences, and Plant Biology, with the overarching aim of improving life.

**Georgios Papachristou MD PhD**  
As an Associate Professor and a researcher, Dr. Papachristou oversees a number of institutional studies and multi-center collaborations. He directs a translational research laboratory focusing on the genetic basis, immunology, and immune therapy of acute pancreatitis. He currently receives research funding from the National Institute of Health, Veterans Affairs Health System, and American College of Gastroenterology. Dr. Papachristou has authored over 100 peer-reviewed articles and book chapters.

**Mordechai Rabinovitz MD**  
Dr. Rabinovitz is a Professor of Medicine whose research involves the assessment and treatment of chronic viral hepatitis, focusing on combination therapy for chronic hepatitis C patients. Additional research efforts focus on developing new therapies for non-alcoholic fatty liver disease (NALFD), biological agents for patients with low platelet count undergoing invasive procedures, and new therapies for patients with hepatic encephalopathy.

**Vikrant Rachakonda MD**  
An Assistant Professor, Dr. Rachakonda researches malnutrition and dysregulation of lipid metabolism in chronic liver disease and the role of muscarinic receptors in the regulation of acute and chronic liver injury.

**Miguel Regueiro MD**  
Dr. Regueiro is a Professor of Medicine who researches inflammatory bowel disease (IBD) and, specifically, investigates the natural course of postoperative Crohn’s disease, medications to prevent Crohn’s disease recurrence, novel IBD medications, and phenotypes that correlate with genotypes for IBD. He has also recently developed interests in patient-centered care and outcomes with the creation of the specialty medical home. This novel approach to IBD population-based health has led to research with the Health Plan (insurance company) on quality of life, clinical outcomes, and reduction in unplanned care.

**Shari Rogal MD MPH**  
As an Adjunct Assistant Professor of Medicine, Dr. Rogal brings her extensive collaborative experience with transplant surgery and the VA Healthcare System to the Division of Gastroenterology, Hepatology and Nutrition. Dr. Rogal studies liver transplant outcomes and has a particular interest in addiction and pain issues of patients with chronic liver disease. She is also interested in the implementation of science to combat health disparities.

**Savreet Sarkaria MD**  
A Clinical Assistant Professor of Medicine, Dr. Sarkaria’s research focuses on screening, early detection, and endoscopic therapies for gastrointestinal cancers, including pancreas, bile ducts, gallbladder, esophagus, stomach, and colon, as well as benign pancreaticobiliary diseases and pancreatic cysts.

**Robert Schoen MD MPH**  
Dr. Schoen is a Professor of Medicine and Epidemiology at the University Pittsburgh. His research interests center on the early detection and prevention of colorectal cancer (CRC). He is a Principal Investigator in the PLCO cancer screening trial, a randomized trial of over 154,000 individuals which evaluated flexible sigmoidoscopy. He has used PLCO data to study surveillance colonoscopy utilization and yield, interval cancers, or cancers detected shortly after endoscopic procedures, as well as the risk of colorectal cancer among subjects with a family history of cancer. Dr Schoen is the Principal Investigator, in collaboration with the Mayo Clinic in Minnesota, of a multicenter randomized immunotherapy trial, evaluating a vaccine for prevention of recurrent adenomatous polyps. He is a Principal Investigator
for the Early Detection Research Network and collaborates with scientists nationally and internationally to identify biomarkers, including circulating tumor DNA and tissue-based markers, to detect and monitor cancer. Dr. Schoen is an investigator in GECCO, the Genetics and Epidemiology of Colorectal Cancer Consortium, a consortium studying genetic and environmental risk factors for CRC, including genome-wide association studies and molecular pathologic epidemiology research and modeling of CRC risk using genetic and environmental risk factors. He is a co-investigator in a study evaluating colonoscopy quality and is helping to develop a natural language processing tool to evaluate and report on colonoscopy quality in a more efficient manner. In conjunction with that project, Dr. Schoen is developing a database of colonoscopy reports from the last 20 years at UPMC hospitals, for research studies on colonoscopy.

Marc Schwartz MD
An Assistant Professor, Dr. Schwartz's research involves cost and utilization of IBD care as well as colon cancer in IBD patients.

Obaid Shaikh MD FRCP
Dr. Shaikh is a Professor of Medicine whose research interests include the progression of end-stage liver disease, treatment of hepatocellular carcinoma, hepatocarcinogenesis and genomic profiling of liver tumors, and allocation models for liver transplantation.

Gobind Sharma MD
Dr. Sharma, a Clinical Assistant Professor of Medicine, investigates quality issues in endoscopy and markers of endoscopist performance. He has collaborated with other investigators on projects aimed at improving efficiency in healthcare delivery.

Adam Slivka MD PhD
A Professor of Medicine, Dr. Slivka's researches the non-invasive diagnosis of pancreaticobiliary cancer, development and testing of new drugs and devices used during ERCP, and the development of new strategies to treat pancreatitis and pancreatic cancer.

Jason Swoger
Dr. Swoger is an Assistant Professor who also serves as the Director of the Inflammatory Bowel Disease Clinical Trials Unit. He is the primary investigator for all industry-sponsored clinical trials researching new medications and treatment modalities for Crohn's disease and ulcerative colitis. Dr. Swoger is operating clinical trials in both the inpatient and outpatient settings. His research interests also include the treatment of post-operative Crohn's disease, skin diseases in IBD, and the optimal use of immunomodulator and biologic medications to maximize durability of treatment. (Dr. Swoger left the faculty in July 2017 for another position.)

Eva Szigethy MD PhD
An Associate Professor, Dr. Szigethy's research involves cognitive behavioral therapy to improve health care delivery for adult and pediatric GI patients, using psychotherapy, hypnosis and pharmacotherapy. Dr. Szigethy's additional research interests include advanced programming for IBD patients and patients experiencing chronic pain; narcotic bowel syndrome and the mechanisms underlying this type of central hyperalgesia, as well as treatments to manage pain and opioid detoxification.

Lee Weinberg MD
As an Assistant Professor of Medicine, Dr. Weinberg is interested in general gastroenterology research and participates in collaborative studies when opportunities arise.

David Whitcomb MD PhD
Dr. Whitcomb is a Professor of Medicine whose research program involves a pancreatic disease focus for modeling complex, multistep gene-environment interactive disorders requiring a precision medicine approach. Dr. Whitcomb's multicenter comprises research on genotype-phenotyping hereditary pancreatitis, as well as North American
Pancreatitis Study II (NAPS2) programs. It also includes studies on acute pancreatitis and pancreatic cancer, using reverse engineering and predictive modeling approaches. Dr. Whitcomb leads the Genomic Resource to Enhance Available Therapy (GREAT) study, which seeks to initiate the delivery of precision medicine for complex chronic disorders and their complications. He also studies the pathophysiology of severe acute pancreatitis and pain genetics.

Kirk Works MD
As a Clinical Assistant Professor of Medicine, Dr. Works is interested in general gastroenterology research and participates in collaborative studies when opportunities arise.

Dhiraj Yadav MD MPH
Dr. Yadav is a Professor of Medicine, and he studies the epidemiology of pancreatic diseases. He has used local, state, and national level data as well as collaborative studies to define various aspects of the epidemiology of pancreatitis. His major contributions to the scientific literature include the role of alcohol and tobacco; incidence, prevalence and hospitalizations; risk and burden of readmissions; and the natural history of pancreatitis. Data generated from his studies are often used by national agencies, such as the National Institutes of Health, to set research priorities.

Dr. Yadav is a member of the NIDDK-funded NAPS consortium, which has prospectively ascertained the nation’s largest prospective cohort of patients with recurrent acute and chronic pancreatitis. He is the Co-PI for the NIDDK/NCI-funded Pittsburgh Clinical Center, which is part of the Consortium to study of Chronic Pancreatitis, Diabetes and Pancreatic Cancer (CPDPC). He co-chairs the adult chronic pancreatitis working group for the consortium, and is Co-PI of the longitudinal cohort study of chronic pancreatitis (The PROCEED Study). Dr. Yadav is also the Co-PI of a planning grant funded by the NIDDK to develop a multicenter randomized clinical trial of minor papilla sphincterotomy in patients with acute recurrent pancreatitis with pancreas divisum (The SHARP Trial).

Dr. Yadav is frequently invited to national and international conferences and seminars to discuss his research. He has also participated in American Pancreatic Association’s and PancreasFest’s development of consensus and practice guidelines for different aspects of pancreatitis.
Faculty Research & Other Scholarly Activities

Steven Abo MD
- Director, Center for Women’s Digestive Health, Magee-Women’s Hospital of UPMC, 2000-present

Kathryn Albers PhD (adjunct)
- Member, ASCB Congressional Liaison Committee, 1999-present
- Member, Education and Training Committee, Division of Gastroenterology, Hepatology, and Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2001-present
- Organizer, Research Conference Series, Division of Gastroenterology, Hepatology & Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2002-present
- Editorial Board, Drug Discovery Today: Disease Models, 2003-present
- Advisory Committee for COBRE grant, University of Nebraska, 2003-present
- Research Training Executive Committee, GI Training Grant, Division of Gastroenterology, Hepatology & Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2003-present
- Tenure & Promotion Advisory Committee, Division of Gastroenterology, Hepatology & Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2004-present
- Panelist, Strategies for Effective Animal Use, Department of Medicine, UPMC, 2008-present
- Junior faculty mentor program, 2010-present
- Speaker and Panel Member, PancreasFest Planning Committee, 2010-present
- Research Executive Committee, Division of Gastroenterology, Hepatology & Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2010-present
- Postdoctoral Research Advisor Committees, 2014-present
- Postdoc/Fellow Mentoring Team, 2015-present
- Visiting Scientist Mentor, 2015-present
- Finalist, BGSA Distinguished Mentor Award, 2016

Jana Al Hashash MD
- Associate Faculty Member, ‘Faculty of 1000’, 2010-present
- Member, American Society for Gastrointestinal Endoscopy (ASGE), 2010-present
- Member, American Gastroenterological Association (AGA), 2011-present
- Member, American College of Gastroenterology (ACG), 2011-present
- Physician Member, Crohn's and Colitis Foundation of America (CCFA), 2012-present
- Peer Reviewer, Inflammatory Bowel Disease Journal, 2012-present
- Peer Reviewer, Clinical Gastroenterology and Hepatology, 2012-present
- Peer Reviewer, Alimentary Pharmacology and Therapeutics, 2012-present
- Peer Reviewer, Cleveland Clinic Journal of Medicine, 2012-present
- Faculty Lecturer, Gastroenterology State of the Art Lecture Series on Diarrhea and Malabsorption, 2013-2016
- Peer Reviewer, ACG Case Report Journal, 2013-present
- Lecturer, Crohn’s & Colitis Foundation of America Patient Education Program, Nov. 2016
George L Arnold MD
• Member, American Gastroenterology Association, 1979-present
• Fellow, American College of Physicians, 1980s-present
• Clinical Professor of Medicine, University of Pittsburgh Medical School, 2002-present

Arthur M Barrie III MD PhD
• Physician Member, Crohn's & Colitis Foundation of America (CCFA), 2009-present
• Facilitator, MS2 Digestion and Nutrition Course workshop, University of Pittsburgh School of Medicine, 2009-2016
• University of Pittsburgh Clinical Research Scholars Program, 2010-present
• Course lecturer, The Gut Mucosal Immune System in Health and Disease, MS1 Immunology, University of Pittsburgh School of Medicine, 2011-2016
• Lecturer, Gut Mucosal Immunology, MS2 Digestion and Nutrition Course, University of Pittsburgh School of Medicine, 2015
• Small Group Moderator, MS2 Integrated Case Studies Course, University of Pittsburgh School of Medicine, 2016

Jaideep Behari MD PhD
• Co-Director, Liver Translational Research, Liver Pancreas Institute, 2010-present
• Co-Director, Continuing Medical Education Course, Division of Gastroenterology, Hepatology & Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2013-present
• Member, Protocol Review Committee, Data Safety Monitoring Board, UPMC Starzl Transplant Institute, 2014-present
• Assigned Faculty Mentor, GI Fellow (Siobhan Proksell, MD), Division of Gastroenterology, Hepatology & Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2015-2016

David Binion MD
• Executive Board, Crohn's and Colitis Foundation of American (CCFA), 1999-present
• Editorial Advisory Board, The American Journal of Gastroenterology, 2007-present
• Editorial Advisory Board, World Journal of Gastroenterology, 2007-present
• Editorial Advisory Board, Clinical and Translational Science, 2008-present
• Co-Director, Inflammatory Bowel Disease Center, University of Pittsburgh, 2008-present
• Director, Translational Inflammatory Bowel Disease Research, University of Pittsburgh, 2008-present
• Steering Committee, (SECURE) FDA Mandated Safety Registry UCB Pharma, Inc., 2009-2019
• Mentor, Anwar Dudekula, MD (Instructor), Project Title: Patterns of Admission and Readmission in Inflammatory Bowel Disease, University of Pittsburgh School of Medicine Master's Degree Candidate, Institute for Clinical Research and Education, Clinical Translational Science Institute, University of Pittsburgh, 2010-present
• Gastroenterology Fellow, UPMC, Project Title: Obesity and Inflammatory Bowel Disease, 2011-present
• Mentor, Claudia Ramos Rivers, MD, (Research Associate), University of Pittsburgh School of Medicine Project Title: Telephone Activity in the Care of Inflammatory Bowel Disease, 2011-present
- Mentor, Mahesh Gajendran, MBBS, Project Title: Effect of Surgical Anastomosis on Quality of Life, Intestinal Function and Healthcare Utilization in Crohn’s Disease, University of Pittsburgh School of Medicine Master’s Degree Candidate, Institute for Clinical Research and Education, Clinical Translational Science Institute, University of Pittsburgh, 2011-present
- Mentor, Chandra Umapathy, MBBS, Project Title: Colesevelam and Bile Acid Sequestrant Therapy in Crohn’s Disease, University of Pittsburgh School of Medicine Master’s Degree Candidate, Institute for Clinical Research and Education, Clinical Translational Science Institute, University of Pittsburgh, 2012-present
- Hassan Siddiki, MBBS, Project title: Morphometric Analysis of Anastomotic Bowel Diameter and Quality of Life in Crohn’s Disease, University of Pittsburgh School of Medicine, 2012-present
- Visiting Professor, Clinical and Translational Science, 2012-present
- Director, Nutrition Support Service, 2013-present
- Medical Director, GI and Nutrition Therapy (GIANT), 2013-present
- Nutrition Subcommittee, UPMC Presbyterian-Shadyside Hospitals, 2013-present
- Professor of Medicine, Clinical and Translational, 2014-present
- Best Doctors, Pittsburgh Magazine, 2014-present
- Editorial Advisory Board, Clinical Gastroenterology and Hepatology, 2014-present

Randall Brand MD
- Ad hoc Reviewer, Clinical Cancer Research, 2000-present
- Ad hoc Reviewer, Pancreas, 2001-present
- Ad hoc Reviewer, American Journal of Human Genetics, 2001-present
- Cancer Epidemiology, Biomarkers & Prevention, Ad hoc Reviewer, 2002-present
- Advisory Board, Nature Reviews Gastroenterology and Hepatology, 2006-present
- Editorial Board, Nature Clinical Practice Gastroenterology & Hepatology, 2006-present
- Fellow, American Gastroenterological Association, 2007-present
- Ad hoc Reviewer, Gut, 2007-present
- GI Fellowship Committee, University of Pittsburgh, 2007-present
- Director, GI Section and Academic Director, Shadyside Hospital, 2007-present
- Director, GI Malignancy Early Detection, Diagnosis and Prevention Program, UPMC, 2007-present
- Member, Pancreatic Cancer Clinical Pathways Committee, University of Pittsburgh Medical Center, 2008-present
- Member, Collaborative Alliance for Pancreatic Education and Research (CAPER), 2009-present
- Editorial Board, Annals of Gastroenterology and Hepatology, 2010-present
- Ad hoc Reviewer, Familial Cancer, 2010-present
- Health Sciences Bridge Funding Committee, 2010-present
- Editorial Board, Case Reports in Gastroenterology, 2011-present
- Ad hoc Reviewer, Clinical Colorectal Cancer, 2011-present
- Advisory Board, Collaborative Alliance for Pancreatic Education and Research (CAPER), 2012-present
- Best Doctors, Pittsburgh Magazine, 2012-present
- Advisory Committee, Pancreas Section Councilor, American Gastroenterology Association, 2013-present
- Director, GI State of the Art Lecture Series, 2013-present
- Appointment, NCI Pancreas Task Force, 2016-present
- Governor of Western PA, American College of Gastroenterology, 2016-Jennifer Chennat MD
- Member, American Medical Association (AMA), 2001-present
- Member, American College of Physicians (ACP), 2001-present
• Chief of Therapeutic Endoscopy, Division of Gastroenterology & Hepatology, University of Pittsburgh Medical Center, 2011-present
• Editorial Board, Society for Gastrointestinal Intervention (SGI), 2012-present
• Director, Interventional Endoscopy Fellowship Training Program, 2013-present
• Teaching Faculty, Active Endoscopy at Presbyterian Hospital, GI fellows and Interventional 4th year fellow, 2013-present
• Teaching Faculty, ASGE Courses and Digestive Diseases Week Conferences, 2012-present
• Teaching Faculty, Medical Student Courses, 2013-present
• Teaching Faculty, GI Inpatient Services, 2013-present
• Teaching Faculty, GI Fellowship State of the Art Lecture Series, 2013-present
• Editorial Board, Gastrointestinal Endoscopy, 2014-present

Kapil Chopra MD
• Board Member, Allegheny Division, American Liver Foundation (ALF), 2006-present
• Member, Executive Committee, Allegheny Division, American Liver Foundation (ALF), 2006-present
• Member, Medical Advisory Committee, Allegheny Division, American Liver Foundation (ALF), 2006-present
• Ad hoc Reviewer, Liver Transplantation, 2007-present
• Ad hoc Reviewer, Mayo Clinic Proceedings, 2007-present
• Ad hoc Reviewer, Digestive Diseases and Sciences, 2007-present
• Ad hoc Reviewer, American Journal of Gastroenterology, 2007-present
• Graduate Medical Education Committee (GMEC), University of Pittsburgh School of Medicine, 2007-present
• Chairman, Medical Advisory Committee, Allegheny Division, American Liver Foundation (ALF), 2007-present
• Member, PSC Partners Seeking a Cure Medical Advisory Board, 2008-present
• Member, UPMC Presbyterian/ Shadyside Hospitals Transplant Patient Safety Council, 2010-present
• Member, UPMC Presbyterian/ Shadyside Hospitals Transplant Quality Executive Council, 2010-present
• Appointment and Promotion Committee, Department of Medicine, University of Pittsburgh School of Medicine, 2012-present
• Board Member, Community Liver Alliance (CLA), 2014-present
• Medical Director, Comprehensive Liver Program, UPMC Liver and Pancreas Institute, 2014-present
• Program Director, Transplant Hepatology Fellowship Program, Department of Medicine, University of Pittsburgh School of Medicine 2014-present
• Member, Pharmacy and Therapeutics Committee, UPMC Health Plan, 2016-present

Brian Davis PhD
• Ad hoc Grant Reviewer, Behavioral Endocrinology and Developmental Neurobiology Study Sections, National Science Foundation, 1983-present
• Member, University of Pittsburgh Research Council, 2006-present
• Member, Recruitment Committee PCPR, 2006-present
• Member, CNUP Graduate Student Evaluation Committee, 2007-present
• Editor, Associate Editor, Brain Research, 2007-present
• Ad hoc Reviewer, NIH NDPR, 2008-present
• Co-Director, Graduate Studies for the Center for Neuroscience, University of Pittsburgh, July 2008-present
• Graduate Council, University of Pittsburgh School of Medicine, 2008-present
• Society for Neuroscience, Chapters and Membership Committee, 2008-present
• Member, Government Policy and Advocacy Committee, Society for Neuroscience, 2009-present
• Reviewer, Proceedings of the National Academy of Sciences, 2010-present
• Associate Division Chief for Research, Division of Gastroenterology, Hepatology and Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2011-present
• Committee for Tenured Promotions and Appointments, Department of Medicine, University of Pittsburgh School of Medicine, 2012-present

Howard Dubner MD
• Clinical Director, UPMC Shadyside GI, 2006-present

Richard Duerr MD
• Editor, Genetics Section, Inflammatory Bowel Diseases, 2002-2006, 2008-present
• Chairman, NIDDK IBD Genetics Consortium Genotyping Committee, 2003-present
• Chairman, Institutional Data and Safety Monitoring Board Subcommittee, 2006-present
• Physician Member, Crohn’s and Colitis Foundation of America, 2007-present
• Clinical Research Scholars Multidisciplinary Advisory Committee, Institute for Clinical Research Education, 2009-present
• Member, Mentoring Team and PhD Committee, Lucas Santana dos Santos, Biomedical Informatics PhD student, 2012-present
• Member, IBD Plexus Integration and Transition Team, Crohn’s & Colitis Foundation of America, 2014-present
• Research Team Member, CCFA IBD Plexus Project, 2014-present
• Member, Standing Committee for Tenured Faculty Promotions and Appointments, University of Pittsburgh School of Medicine, 2016-present
• “SNPping Away at the Etiopathogenesis of Inflammatory Bowel Disease,” In Human Genome Analysis: Genetic Analysis of Multifactorial Diseases Advanced Course, Wellcome Genome Campus, Hinxton, Cambridge, United Kingdom, July 21, 2016.

Michael Dunn MD
• Board of Directors, Central Pennsylvania Veterans Community Initiatives, 2005-present
• Policy Co-Chair, Pennsylvania Diabetes Action Plan, 2006-present
• Boards of Directors, Easter Seals of Western Pennsylvania, 2008-present
• Associate Chief for Translational Research, Division of Gastroenterology, Hepatology and Nutrition, University of Pittsburgh Medical Center, 2008-present
• Advisory Panel Member, U.S. Army Surgeon General on Military Medicine and Prevention, 2008-present
• Joint Professor of Biomedical Informatics, 2010-present
• Board of Directors, National Flag Foundation, 2012-present
• Board of Directors, Pittsburgh Community Liver Alliance, 2014-present
• National Medical Society Service Abstract Reviewer for AASLD Annual Meeting and Digestive Diseases Week Member, AASLD Federal Agencies Liaison Committee, 2016-present
• Trainee, Dr. Doris Chen, AASLD Emerging Liver Scholar, 2016-present
• Member, AASLD Federal Agencies Liaison Committee & AASLD Abstract Review Committee, November 2016
• Fellow, American Association for the Study of the Liver Disease, 2017
Patricia Eagon PhD
- Reviewer, multiple journals (VA Merit Review and STARS Awards (ad hoc); Gastroenterology, Hepatology, Alcoholism: Clinical and Experimental Research; Chronobiology International; Journal of Steroid Biochemistry and Molecular Biology; European Journal of Clinical Investigation; Digestive Diseases and Sciences; Alcohol and Alcoholism; American Journal of Physiology (GI and Liver); Alcohol Research and Health Cancer Letters; Journal of Pharmacology and Experimental Therapeutics; Journal of Nutrition; Life Sciences; Alcohol; Journal of Orthopedic Research), 1984-present
- Member, Veterans Affairs Research and Development Committee, 1985-present
- Admissions Committee, School of Medicine, 1988-present
- Member, Admissions Committee, School of Medicine, 1988-present
- Teach, Medical and Graduate students, second-year medical student course, Digestion and Nutrition, 1991-present
- Member, Promotions and Retentions Committees, University of Pittsburgh School of Medicine, 1996-present
- Member, Promotions & Tenure Committee, Division of Gastroenterology and Hepatology, 2004-present
- Reviewer, NIH AA-1 Study Section and ZZ-AA1 Study Section, 2005-present
- Ad hoc, VA VISN 4 seed application reviews, July 2007-present
- Member, Dean's Interview Committee, 2007-present
- Veterans Affairs Institutional Biosafety Committee 2012-present
- Reviewer, Grant Review Panel, State of Nebraska Research Initiatives, 2012-present

Kenneth Fasanella MD
- Member, Education Review Committee, National Pancreas Foundation, 2003-present
- Member, North American Pancreas Study Group (NAPS), 2005-present
- Program Director, Gastroenterology Fellowship, December 2007-present
- Member, Residency Selection Committee, Department of Medicine, University of Pittsburgh School of Medicine, December 2007-present
- Member, Common Fellowship Curriculum Committee, 2007-present
- Member, Selection Committee, University of Pittsburgh School of Medicine, 2009-present
- Co-director, Endoscopic Ultrasound Program, UPMC Liver Pancreas Institute, 2010-present
- Course Director, UPMC Gastroenterology Grand Rounds, 2012-present

Alison Jazwinski Faust MD MHS
- Alpha Omega Alpha Honor Medical Society, 2005-present
- Member, Publications Committee, American Association for the Study of Liver Diseases, 2009-present
- Consultant, Genetics Subcommittee member, Hepatitis B Research Network, 2013-present
- Founding Member, Social Media/Technology Committee, American Association for the Study of Liver Diseases (AASLD), 2015-present
- Facilitator, Gastroenterology Fellow’s Liver Journal Club, 2015-present

Fadi Francis MD
- Medical Director, Liver Transplantation, VA Pittsburgh Healthcare Systems, 2005-present
Julia Greer MD MPH
- Wayne Fusaro Pancreatic Cancer Research Foundation, 2005-present
- Member, Minority Affairs Consortium, 2006-present
- Editorial Board, World Journal of Gastroenterology, 2006-present
- Member, Complementary Medicine Interest Group, Integrative Medicine Center Pittsburgh, 2007-present
- Medical Editor, SciencDocs Inc., www.sciencedocs.com, 2008-present
- Guest speaker, Gilda’s Club of Southwestern Pennsylvania, 2008-present
- Guest lecturer, Association of Healthcare Documentation Annual Meetings, 2009-present
- Guest speaker, AHDI, Pennsylvania Chapter, 2009-present
- Director, Digestion and Nutrition course, second-year medical students, University of Pittsburgh School of Medicine, 2009-present
- Member, Interviewing Committee, University of Pittsburgh School of Medicine, 2009-present
- Guest Lecturer, Nutrition, Duquesne and Chatham University’s Schools of Nursing, 2010-present
- Facilitator, Microbiology Course, first-year medical students, University of Pittsburgh School of Medicine, 2011-present
- Facilitator, Methods of Logic in Medicine course, first-year medical students, University of Pittsburgh School of Medicine, 2011-present
- Guest Lecturer, Nutrition, University of Pittsburgh Dietetics Department, 2011-present
- Member, Guaranteed Admit Interviewing Program Committee, University of Pittsburgh School of Medicine, 2011-present
- Admissions Committee, University of Pittsburgh School of Medicine, 2012-present
- NBME Article Reviewer for USMLE, 2012-present
- Editor, Pitt Digest, 2012-present
- Section Editor, IBD Case Series, Inflammatory Bowel Diseases, 2014-present
- Associate Editor, Inflammatory Bowel Diseases, 2014-present

Janet R Harrison MD
- Co-Editor, Pitt Digest, 2008-present
- Teaching, small gap sessions with medical students, 2010-present

Charles Horn PhD
- Member, Biobehavioral Medicine in Oncology Program, University of Pittsburgh Cancer Institute, 2009-present
- Graduate Training Faculty Member, Center for Neuroscience, University of Pittsburgh, 2009-present
- Member, Medical Advisory Board Primary Core, Cyclic Vomiting Syndrome Association, 2014-present
- Medical Advisory Board Primary Core Member, Cyclic Vomiting Syndrome Association, USA/Canada, 2014-present
- Co-Chair, Steering Committee, NIH Stimulating Peripheral Activity to Relieve Conditions (SPARC) Program, (NIH Common Fund), 2015-present
- Special Issue Editor, Nausea and Vomiting, Autonomic Neuroscience: Basic and Clinical, 2016

Naudia Jonassaint MD MHS
- Advisory Member, Johns Hopkins Second Decade Society, 2009-present
- Clinical Preceptor, Gastroenterology and Hepatology, McKeesport Hospital, 2014-present
- Member, AASLD Diversity Committee, November 2016
Asif Khalid MD
- Member, Adverse Events & Procedures Committee, Oakland Veterans Administration Medical Center, 2004-present
- GI Section Chief, VA Pittsburgh Healthcare System, 2004-present
- Fellow, American College of Gastroenterology, 2008-present
- Member, American Society for Gastrointestinal Endoscopy, 2008-present

Michael Kingsley MD
- Member, American College of Gastroenterology, 2013-present
- Member, American Society for Gastrointestinal Endoscopy, 2013-present
- Member, American Gastroenterological Association, 2013-present
- Member, American Neurogastroenterology and Motility Society, 2016-present

Elisabeth Kramer MD
- Member, American Gastroenterological Association
- Member, American College of Gastroenterology
- Member, American Society for Parenteral and Enteral Nutrition
- Member, New York Society for Gastrointestinal Endoscopy
- Member, American College of Physicians

David Levinthal MD PhD
- Reviewer, Dean’s Summer Research Programs, University of Pittsburgh School of Medicine, 2014-present
- Reviewer, Dean’s Summer Research Programs (DRSP) for medical students, University of Pittsburgh School of Medicine, 2015-present
- Member, Quality Initiative Steering Committee, Division of Gastroenterology, Hepatology, and Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2014-present
- Lecturer and PBL Group Leader, Digestion & Nutrition Course, University of Pittsburgh School of Medicine, 2010-present
- Teaching Faculty, Integrated Case Studies Course, University of Pittsburgh School of Medicine, March 2015-present
- Invited Member, Research Awards Panel, American Gastroenterological Association (AGA) Institute, 2015-2017
- Member, GI Research (non-T32) Steering Committee, Division of Gastroenterology, Hepatology, and Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2015-present
- Invited Member, Adult Cyclic Vomiting Syndrome Clinical Guidelines Development Committee, co-sponsored by Cyclical Vomiting Syndrome Association (CVSA) and American Neurogastroenterology and Motility Society (ANMS), 2015-present
- Invited Member, American Gastroenterological Association (AGA) Institute Research Awards Panel (RAP), June 2015-present
- Director, Neurogastroenterology & Motility Center, Division of GI, University of Pittsburgh Medical Center, 2016-present
- Citation Poster Award, American Psychosomatic Society, 2016
- Keynote Speaker, “Building an Academic Career: A Perspective from the Ground Floor,” Physician Scientist Training Program (PSTP) 8th Annual Symposium, University of Pittsburgh School of Medicine, Nov. 4, 2016
- Vice-Chair, AGA–Rome Foundation Functional GI and Motility Disorders Pilot Research Award Review Committee, 2016-present
• Associate Editor, Clinical and Translational Gastroenterology (CTG), Feb. 2017-present

Yang Liu PhD
• Member, Optical Society of America (OSA), 2003-present
• Member, International Society for Optical Engineering (SPIE), 2003-present
• Consultant, NanoVision Diagnostics, 2014-present
• Course Director, GI Research Rounds, Division of Gastroenterology, Hepatology, and Nutrition, Department of Medicine, University of Pittsburgh School of Medicine, 2015-present
• Pitt Innovator Award, University of Pittsburgh, 2016
• Editorial Board, Scientific Reports, 2016-present
• Invited Speaker, Improved Cancer Risk Stratification and Diagnosis via Quantitative Phase Microscopy, Quantitative Phase Imaging III, BIOS 2017, Photonics West, San Francisco, CA, February 2017
• Invited Speaker, Imaging Nanoscale Nuclear Architecture for Early Prediction of Cancer Progression, 2nd Digital Pathology Congress, Philadelphia, PA, July 2017
• Invited Speaker, Imaging Nanoscale Nuclear Architecture in Cancer Development, Nanoimaging and Nanospectroscopy V, SPIE Optics + Photonics, San Diego, CA, August 2017

Shahid Malik MD
• Member, American Association for Liver Diseases, 2010-present
• Member, American Association for the Study of Liver Diseases, 2010-present
• Member, PA Society of Gastroenterology, 2014-present

James B McGee MD
• Director, Laboratory for Educational Technology, University of Pittsburgh School of Medicine, 2001-present
• Member, Council on Academic Computing (University-level Committee), 2003-present
• Assistant Dean for Medical Education Technology, 2004-present
• Member, Curriculum Development and New Initiatives Committee, 2004-present
• Computer Technology subcommittee, American Gastroenterological Association, 2004-present
• Chairman, Consortium on Medical Education Technology, American Association of Medical Colleges, 2005-present
• Reviewer, American Medical Informatics Association, 2005-present
• Reviewer, Association of American Medical Colleges, 2005-present
• Advisory Board, Health Sciences Online, 2005-present
• Reviewer, Medical Teacher (journal), 2006-present
• Editorial Board, American Association of Medical Colleges, MedEdPortal, 2006-present
• Member, Academy of Master Educators, University of Pittsburgh School of Medicine, 2007-present
• Member, LCME Task Force, American Association of Medical Colleges, 2007-present
• Editor for Online Education, American Gastroenterological Association, 2007-present
• Chairman, Working Group on Virtual Patients, MedBiquitous, 2007-present
• Executive Committee, MedBiquitous, 2007-present
• Reviewer, International Journal of Medical Informatics, 2007-present
• Lecturer, Digestion and Nutrition (MSY2), University of Pittsburgh School of Medicine, 2014-present
• Small Group Facilitator, Digestion and Nutrition (MSY2), University of Pittsburgh School of Medicine, 2014-present
• Course Director, Innovative Teaching Strategies: Distance Learning, Web-Based Teaching and Simulation, Master’s in Medical Education Curriculum, University of Pittsburgh, 2014-present
• Small Group Facilitator, Integrated Case Studies, University of Pittsburgh School of Medicine, 2014-present
• Emerging Technologies Task Force, American Gastroenterological Association, 2015-present
• Invited Speaker, “The Landscape of Technology for Education,” Digestive Disease Week, AGA, Education Committee Symposium, 2016
• Invited Speaker, “Successfully Implementing Virtual Patients in the Curriculum,” Association of Medical Educators of Europe, Barcelona, Spain, 2016

Ian McGowan MD PhD
• Fellow, Royal College of Physicians of the UK, 1989-present
• Reviewer, AIDS, 2001-present
• Reviewer, American Journal of Pathology, 2001-present
• Fellow, Royal Society of Medicine, London, 2001-present
• Reviewer, Clinical Gastroenterology and Hepatology, 2002-present
• Reviewer, Journal of Leukocyte Biology, 2002-present
• Reviewer, Journal of Virology, 2002-present
• Reviewer, Science, 2004-present
• Reviewer, PLoS Medicine, 2006-present
• Reviewer, Gastroenterology, 2007-present
• Member, Antiviral Drugs Advisory Committee, FDA, 2008-present
• Chair, Microbicide Advisory Committee, Population Council, New York, NY, 2009-present
• Editorial Board, Sexually Transmitted Infection, 2010-present
• Member, External Advisory Panel, Bill and Melinda Gates Foundation Global Health HIV/AIDS Portfolio, 2013-present
• Chair, Scientific Advisory Board, Noicol Life Sciences, 2014-present
• Invited Speaker, International AIDS Society Meeting / MTN Satellite, Durban, South Africa, July 18, 2016
  • “Why We Need More than PrEP Expanding the HIV Prevention Tool Box in Africa”
  • “Persistence of Rilpivirine Following Single Dose of Long-Acting Injection”
  • “What Have We Learned from Rectal Microbicides?”
• Invited Speaker, Contribution of Sexual Behaviour in the Global Heterosexual HIV Epidemic, NIH, Bethesda, Sept. 15-16, 2016
  • “Overview and History of the Sexual Epidemic”
  • “Implications for HIV Prevention: The Product Landscape”
• Invited Speaker, “Ranpirnase Exhibits Dose-Dependent Inhibition of Rectal Explant Infection with HIV-1”, HIVR4P Meeting, Chicago, USA, Oct. 19, 2016
- Invited Speaker, University of Health Sciences, Faculty of Medicine, Phnom Penh, Cambodia, Jan. 25, 2017
  - HIV Cure Eradication
  - Rectal Microbicide Development
  - Long-Acting Antiretrovirals for PrEP
- Chief Medical Officer, Aelix Therapeutics, Barcelona, Spain, 2017-present

Kevin McGrath MD
- Ad hoc Reviewer, American Journal of Gastroenterology, 1998-present
- Director, Endoscopic Ultrasound, 2001-present
- Ad hoc Reviewer, Digestive Diseases and Science, 2002-present
- GI Consultant, Clinical Faculty for Gastroenterology Fellowship Program, 2002-present
- Laser Safety Committee, UPMC, 2002-present
- Director, GI Endoscopy Lab, 2003-present
- Course Director, EUS Conference, 2004-present
- Ad hoc Reviewer, Endoscopy, 2005-present
- Ad hoc Reviewer, Pancreatology, 2006-present
- Ad hoc Reviewer, Journal of Clinical Gastroenterology, 2006-present
- Ad hoc Reviewer, Diseases of the Esophagus, 2006-present
- Ad hoc Reviewer, Journal of Clinical Oncology, Pancreatology, and Gastrointestinal Endoscopy, 2006-present
- Ad hoc Reviewer, Digestive and Liver Disease, 2007-present
- Co-Director, Barrett’s Esophagus Specialty Treatment Clinic, UPMC, 2008-present
- Leader, Gastroenterology Fellows/ Peer Faculty, 2008-present
- eRecord Physician Advisory Committee, UPMC, 2008-present
- Ad hoc Reviewer, Scandinavian Journal of Gastroenterology, 2008-present
- Ad hoc Reviewer, Annals of Thoracic Surgery, 2009-present
- Editorial Review Board, Gastrointestinal Endoscopy, 2012-present
- Best Doctors, Pittsburgh Magazine, 2012-present
- Ad hoc Reviewer, Gastroenterology and Hepatology, 2013-present

Sudhir Narla MD
- Chief, GI Unit and Division of Gastroenterology, UPMC McKeesport Hospital, McKeesport, PA, 1997-present
- Clinical Assistant Professor, University of Pittsburgh School of Medicine, 2009-present

Stephen O’Keefe MD MSc
- Member, American Gastroenterological Association, American Society for Parenteral and Enteral Nutrition, 1989-present
- Clinical Lecturer, Annual State of Art Lectures, 2003-present
- Chair, Research in Nutritional Gastroenterology Group, 2004-present
- Editorial Board, World Journal of Gastroenterology, 2005-present
• International Chair, Data Monitoring Committee, “Reducing Deaths due to Oxidative Stress” (The REDOXS© Study), PI, Dr. Daren Heyland, Queens University, Kingston, Ont. Funding: Canadian Institute of Health Research, 2006-present
• Editor, Gastroenterology Research and Practice, 2009-present
• Associate Editor, Frontiers in Gastroenterology Physiology and Science, 2010-present
• Assistant Editor-in-Chief, World Journal of Gastroenterology, 2011-present
• Reviewer, South African Research Foundation, 2013-present
• AGA Nominating Committee, Nutrition and Obesity Section, 2014-present

Georgios Papachristou MD PhD
• Reviewer, Pancreas, 2005-present
• Reviewer, American Journal of Gastroenterology, 2006-present
• Director of Endoscopy, Veterans Affairs Health Systems, 2006-present
• Reviewer, Gastrointestinal Endoscopy, 2007-present
• Board Member, World Journal of Gastroenterology, 2008-present
• Colorectal Cancer Prevention Committee, Pittsburgh Veteran Affairs Health System, 2009-present
• Member, Dutch Digestive Foundation 2009-present
• Editorial Board, Annals of Gastroenterology, 2010-present
• Co-Director in Pancreas Research, University of Pittsburgh Medical Center, 2010-present
• Editorial Board, Annals of Gastroenterology, 2010-present
• Reviewer, Gastroenterology, 2010-present
• Reviewer, Clinical Gastroenterology and Hepatology, 2010-present
• Reviewer, Dutch Digestive Foundation for International Grant Proposals, 2010-present
• Publications Committee, American Society of Gastrointestinal Endoscopy, 2011-present
• Fellow, American Society of Gastrointestinal Endoscopy (ASGE), 2012-present
• Clinical Practice Committee, American Gastroenterology Association, 2012-present
• Educational Affairs Committee, American College of Gastroenterology, 2012-present
• Board Member, Pennsylvania Society of Gastroenterology (PSG), 2013-present
• Member, American College of Gastroenterology (ACG) Educational Affairs Committee, 2013-present
• Treasurer, Collaborative Alliance for Pancreas Research and Education (CAPER), 2014-present
• Region Councilor, Pennsylvania Society of Gastroenterology, 2015-present
• President, Collaborative Alliance for Pancreas Education & Research (CAPER), 2016-present
• NIH SHARP Committee (PSHincterotomy for the Treatment of Acute Recurrent Pancreatitis), January 2017

Mordechai Rabinovitz MD
• Reviewer, Digestive Diseases and Sciences, 1987-present
• Reviewer, Hepatology, 1992-present
• Reviewer, Gastroenterology, 1993-present
• Reviewer, Mayo Clinic Proceedings, 2003-present

Vikrant Rachakonda MD
• Member, American Association for the Study of Liver Diseases, 2010-present
• Member, American Gastroenterology Association, 2010-present
• Member, American Society of Gastrointestinal Endoscopy, 2010-present
Miguel Regueiro MD

- Speaker’s Bureau/Physician Consultant, Crohn’s and Colitis Foundation of America, 1998-present
- Chairman, Medical Advisory Board, Member, and Executive, 1998-present
- Medical Advisory Board, Crohn’s and Colitis Foundation of America, Western Pennsylvania and West Virginia Chapter, January 1999-present
- Reviewer, Cleveland Clinic Journal of Medicine, 2000-present
- Co-Director and Clinical Head, Inflammatory Bowel Disease Center, 2000-present
- Reviewer, Drugs and Aging, Current Drugs, 2001-present
- Reviewer, American Journal of Gastroenterology, 2001-present
- Reviewer, Digestive Disease and Sciences, 2001-present
- Reviewer, Gastroenterology, 2003-present
- Reviewer, Inflammatory Bowel Disease, 2003-present
- Reviewer, Clinical, Gastroenterology and Hepatology, 2003-present
- Reviewer, Gastroenterology, 2003-present
- Reviewer, Clinics of North America, 2003-present
- Faculty Mentor Scholarly Project Initiative, University of Pittsburgh Medical School, 2004-present
- Director, GI Fellowship Program, 2005-present
- Associate Chief of Education, 2006-present
- Associate Editor, Inflammatory Bowel Disease Journal, 2006-present
- Best Doctors, Pittsburgh Magazine, 2014-present
- Co-Director, Total Care-IBD (IBD Medical Home), 2014-present
- Maintenance of Certification Subcommittee, American College of Gastroenterology, 2016-present
- UPMC Quality Improvement Committee, 2016-present
- Vice Chairman, Advances in Inflammatory Bowel Disease National Annual Meeting, 2016-2019
- Named to Crohn’s & Colitis Foundation “Cost of IBD” Task Force, September 2016
- Invited Speaker, 6th Congresso Brasileiro de Coloproctologia, The Burril Bernard Crohns Conference Keynote Award for Lecture, Sao Paolo, Brazil, October 2016
- Named to Healio Gastroenterology 200 Innovators in Gastroenterology and Hepatology, November 2016
- Invited Speaker, Advances in IBD Meeting, Orlando, FL, December 2016
  - What Will the IBD Hot Topics be In 2017?
  - Can We Better Position Biologics to Optimize the Management of Crohn’s Disease?
  - New Models of Care for IBD: The Patient Centered Medical Home and Increasing Patient Engagement Case Studies
- Invited Speaker, Controversies in Patient Populations: Phenotyping, CCF IBD Clinical Trials Workshop, Nashville, TN, 2017
- Invited Speaker, Specialty Medical Home: Are We Ready for This New Healthcare Model?, 4th Annual Houston Methodist IBD Lectureship, Houston, Texas, 2017
- Invited Speaker, Postoperative Management of Crohn’s Disease” and “Ustekinumab in Crohn’s Disease, Big Gut Seminars: Focus on Complex IBD, New York University School of Medicine, New York, NY, 2017
- Invited Speaker, Positioning Currently Approved Biologics and Update on Emerging Therapies for IBD, Kansas City Live Endoscopy and Update in Gastroenterology Course University of Kansas Medical Center, Kansas, 2017
- Invited Speaker, Prevention of Postoperative Recurrence, Baylor Management of IBD–State of the Art Baylor University Medical Center, Texas, 2017
- Invited Speaker, Digestive Disease Week (DDW), Chicago, IL, May, 2017
  - Highlights on the Guidelines of Management of Crohn’s Disease After Surgery
  - Guest Chair for CME-Certified Symposium, The Evolving Therapeutic Armamentarium for IBD: Is Our Target in Reach? - Case 1 Role of Emerging biologics in UC superimposed with anti-TNF-failure - Case 2 Role of Mucosal Healing, Capsule Endoscopy and Therapeutic Drug Monitoring in Treating Moderate to Sever Refractory CD
- Invited Speaker, Prevention of Post-operative Crohn’s Disease, Prevention and Identification of Infectious Complications in Patients with IBD, University of Maryland Updates in Inflammatory Bowel Disease Symposium, Baltimore, College Park, MD, 2017

Shari Rogal MD MPH (adjunct)
- Medical Student Gastroenterology Course, 2011-present
- American Society for Transplantation Education Committee, 2014-present
- Director, Simulated Endoscopy Training for Gastroenterology Fellows, 2015-present
- John J. Fung Endowed Assistant Professorship in Transplant Surgery, 2016-present
- Jointed Division of Gastroenterology, Hepatology and Nutrition as Adjunct Assistant Professor of Medicine, 2016

Robert Schoen MD MPH
- Member, Sub-Committee, UPMC Health Plan Quality Improvement Committee, 1998-present
- Publications Sub-Committee, Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial, 1998-present
- Publications Sub-Committee, Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial, 2002-present
- Chair, Colon Organ Site Committee, Prostate, Lung, Colorectal & Ovarian Cancer Screening Trial, 2002-present
- Member, Quality Assurance Task Group, National Colorectal Cancer Roundtable, 2003-present
- Program Project Review, Clinical Research Training Fellowship, Cancer Research United Kingdom, 2006-present
- Editorial Board, American Journal of Gastroenterology, 2006-present
- Editorial Board, Clinical Gastroenterology and Hepatology, 2007-present
- Program Project Review, Cancer Risk Evaluation Program (CaRE), 2007-present
- Program Project Review, American College of Gastroenterology, 2007-present
- Program Project Review, Colorectal Cancer Prevention, 2007-present
- Reviewer, multiple journals (Gastroenterology, Digestive Diseases and Sciences, Preventive Medicine, American Journal of Gastroenterology, Journal of the National Cancer Institute, Cancer Epidemiology, International Journal of Cancer, JAMA, Oncology, Gut, New England Journal of Medicine), 2007-present
- President, Pittsburgh Gut Club, 2008-present
- Best Doctors, Pittsburgh Magazine, 2012-present
- Interim Chief, Division of Gastroenterology, Hepatology and Nutrition, 2016-present

Marc Schwartz MD
- Physician Member, Crohn's & Colitis Foundation of America (CCFA), 2009-present
Obaid S Shaikh MD
- Director, Center for Liver Diseases, 2001-present
- Member, DSMB, A2ALL: Adult to Adult Living Donor Liver Transplantation Cohort (NIDDK 5U01 A1052748-02), 2003-present
- Member, Royal College of Physicians, London (UK)--Fellow (FRCP), 2003-present
- Editorial Board, Liver Transplantation, 2005-present
- Member, Clinical Research Committee, AASLD, 2007-present
- Reviewer, Gastroenterology, 2007-present
- Reviewer, Hepatology, 2007-present
- Lecturer, State of the Art Lecture Series, University of Pittsburgh, 2007-present
- Lecturer, Digestive Disease Course Workshop, 2007-present
- Reviewer, Liver Transplantation, 2007-present
- Reviewer, Digestive Diseases & Sciences, 2007-present
- Reviewer, American Journal of Gastroenterology, 2007-present
- Reviewer, Archives of Internal Medicine, 2007-present
- Member, Liver Transplantation and Surgery Committee, American Association for the Study of Liver Diseases, 2008-present
- Member, Liver Transplantation and Surgery (Special Interest Group), American Association for the Study of Liver Diseases, 2008-present

Adam Slivka MD PhD
- Reviewer, New England Journal of Medicine, 1994-present
- Reviewer, Endoscopy, 1994-present
- Reviewer, Gastroenterology, 1994-present
- Reviewer, American Journal of Gastroenterology, 1996-present
- Editorial Review Board, Gastroenterology, 1996-present
- Associate Chief, Clinical Affairs, 2003-present
- Reviewer, Gastrointestinal Endoscopy, 1999-present
- Member, Clinical Operations Committee, University of Pittsburgh Physicians (UPP), 1999-present
- Member, Compliance Advisory Committee, University of Pittsburgh Physicians (UPP), 1999-present
- Advisory Committee Member, Medicine Program Line, 1999-present
- Member, Technology Committee, American Society for Gastrointestinal Endoscopy, 1999-present
- Member, Budget and Financial Planning Committee, American Society for Gastrointestinal Endoscopy, 1999-present
- Member, Surgical/Interventional/Trauma/Transplant Subcommittee, UPMC Technology Assessment Committee, 2002-present
- Section Editor, Up to Date, 2006-present
- Editorial Review Board, Gastrointestinal Endoscopy, 2007-present
- Best Doctors, Pittsburgh Magazine, 2009-present

Jason M Swoger MD MPH (resigned 7/17)
- Training Committee, American College of Gastroenterology, 2006-present
- Clinical Research Alliance Member, Crohn's & Colitis Foundation of America (CCFA), 2010-present
- Patient Education Committee, Crohn's and Colitis Foundation of America, 2012-present
- Editorial Board (International), Alimentary Pharmacotherapy and Therapeutics, 2014-present
Eva Szigethy MD PhD

- Member, American Psychiatric Association, 1993-present
- Member, American Academy of Child and Adolescent Psychiatry, 1997-present
- Member, CCFA, 2002-present
- Editorial Board, Experience Journal, Department of Psychiatry, Children’s Hospital, Boston, 2002-present
- Pediatric Affairs Committee, Crohn’s and Colitis Foundation, 2003-present
- Association of Women Psychiatrists, 2003-present
- American Board of Psychiatry and Neurology Board Examiner of Child Psychiatry, 2003-present
- President, New England Chapter of Hungarian American Medical Association, 2004-present
- Medical Advisor, CCFA comic book for children with IBD, 2006-present
- Medical Advisory Committee, IBD Support Foundation, 2007-present
- American Society of Clinical Hypnosis, 2007-present
- American Academy of Psychoanalysis and Dynamic Psychiatry, 2009-present
- The National Association of Professional Women, 2010-present
- Chair, Task Force on Research, American Hypnosis Society of Clinical Hypnosis (ASCH) 2012-present
- Annual Meeting Editor, American Academy of Child & Adolescent Psychiatry (AACAP), 2012-present
- Member, Professional Education Committee (PEC), American Psychosomatic Society, 2012-present
- Friends of Hungary Recognition for Contributions to Profession Award, 2016
- American Academy of Child and Adolescent Psychiatry (AACAP), 2016
- Klingenstein Foundation Research Award, best published paper on depression and suicide, 2016
- Co-Director, IBD Subspecialty Medical Home (IBD Total Care)—UPMC Health Plan Supported Project, 2016
- Behavioral Consultant, UPMC Enterprises, 2016
- Recipient, Beckwith Grant for Development of RELATE Curriculum to improve physician communication, 2016
- Inaugural Recipient, Sherman Prize for Excellence in IBD, January 2016

Lee Weinberg MD

- Member, Allegheny County Medical Society, 1981-present
- Member, Pennsylvania Medical Society, 1981-present
- Member, Pennsylvania Society of Gastroenterology, 1981-present

David C Whitcomb MD PhD

- Member, American Gastroenterological Association, 1992-present
- Member, American College of Gastroenterology, 1996-present
- Member, American Society for Clinical Investigators, 2000-present
- Member, American Pancreatic Association, 2000-present
- Member, International Association of Pancreatology, 2000-present
- Member, European Pancreas Club, 2002-present
- Endowed Chair, Giant Eagle Foundation Professor of Cancer Genetics, 2006-present
- Associate Editor, Pancreas, Pancreatology and Digestive Disease and Science, 2007-present
- Editorial Board, Pancreas, 2007-present
- Editorial Board, Pancreatology, 2007-present
- Editorial Board, American Journal Physiology: Gastrointestinal and Liver Physiology, 2007-present
• Editorial Board, Nature Reviews: Gastroenterology and Hepatology, 2007-present
• Section Editor, Current Treatment Options in Gastroenterology, 2007-present
• Committee Member, National Pancreas Foundation, 2007-present
• Founder/Member, Collaborative Alliance for Pancreatic Education and Research, 2012-present
• Director, PancreasFest, Pittsburgh, 2016

Kirk Works MD
• American College of Gastroenterology, 1991-present

Dhiraj Yadav MD MPH
• Member, American College of Gastroenterology, 1998-present
• Member, Mayo Clinic Alumni Association, 2002-present
• Member, American Pancreatic Association, 2003-present
• Member, American Gastroenterological Association, 2005-present
• Course Director, Gastroenterology Fellowship Journal Club, 2007-present
• Member, Scientific Advisory Committee, Montefiore University Hospital, Clinical and Translational Research Center, UPMC, 2007-present
• Reviewer, Journal of Gastroenterology and Hepatology, Pancreatology, Nutrition and Cancer, Pancreas, 2007-present
• Facilitator, Problem-Based Learning Small Groups, second-year medical student workshop, University of Pittsburgh School of Medicine, 2007-present
• Editorial Board Member, World Journal of Gastroenterology, 2010-present
• Member, Collaborative Alliance for Pancreatic Education and Research, 2010-present
• Editorial Board, Pancreas, 2013-present
• Editorial Board, Pancreatology, 2014-present
• Member, Research Review Panel, American Gastroenterological Association, 2014-present
• Member, Nominating Committee, Pancreas Disorders Section, AGA, 2014-2016
• Member, Steering Committee, NPF Registry, 2015-present
• Course Director, Advanced Endoscopy Series, 2016-present
• Named to NIH SHARP Committee (PSHinterotomy for the Treatment of Acute Recurrent Pancreatitis), January 2017
## GRANTS AND CONTRACTS AWARDED

<table>
<thead>
<tr>
<th>PUBLIC HEALTH SERVICE</th>
<th>REINFORCEMENT-ENHANCING EFFECTS OF NRT</th>
<th>NIDA</th>
<th>DIRECT COSTS</th>
<th>INDIRECT COSTS</th>
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<tbody>
<tr>
<td>BINION, DAVID</td>
<td>LEADERSHIP OPERATIONS CENTER (LOC): MICROBICIDE TRIALS NETWORK MTN 026 YEAR 10 PROTOCOL FUNDS</td>
<td>MAGEE WOMENS RESEARCH INSTITUTE AND FOUNDATION/NI</td>
<td>$3,388</td>
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<td>DUERR, RICHARD H.</td>
<td>NIDDK IBD GENETICS CONSORTIUM GENETIC RESEARCH CENTER</td>
<td>NIDDK</td>
<td>$243,368</td>
<td>$127,769</td>
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<td>DUERR, RICHARD H.</td>
<td>DIPYRIDAMOLE AS A MODULATOR OF HIV-1 INFLAMMATION BY ADENOSINE REGULATION</td>
<td>NIAID</td>
<td>$16,882</td>
<td>$9,116</td>
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<td>LEVINTHAL, DAVID J.</td>
<td>CEREBRAL CORTICAL INFLUENCES ON THE STOMACH</td>
<td>NIDDK</td>
<td>$136,690</td>
<td>$10,935</td>
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<tr>
<td>LIU, YANG</td>
<td>REPAIR OF DNA STRAND BREAKS AT ACTIVE TRANSCRIPTION SITES</td>
<td>NIGMS</td>
<td>$18,611</td>
<td>$10,050</td>
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<td>LIU, YANG</td>
<td>NOVEL NANOSCALE SINGLE-CELL ANALYSIS OF EXFOLIATIVE CYTOLOGY</td>
<td>NIBIB</td>
<td>$214,389</td>
<td>$115,770</td>
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<td>LIU, YANG</td>
<td>PQC2 ALTERATION OF 3D NUCLEAR ORGANIZATION AT NANOSCALE IN BREAST TUMORIGENESIS</td>
<td>NCI</td>
<td>$172,258</td>
<td>$93,020</td>
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<td>O'KEEFE, STEPHEN J.</td>
<td>RANDOMIZED CONTROLLED TRIAL OF RESISTANT STARCH TO REDUCE COLON CANCER IN ALASKA NATIVE PEOPLE</td>
<td>NCI</td>
<td>$203,844</td>
<td>$69,894</td>
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<td>PAPACHRISTOU, GEORGIOS</td>
<td>STENT VS. INDOMETHACIN</td>
<td>MEDICAL UNIVERSITY OF SOUTH CAROLINA/NIDDK</td>
<td>$83,426</td>
<td>$45,050</td>
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<td>REGUEIRO, MIGUEL</td>
<td>EVALUATING A PREDICTION TOOL AND DECISION AID FOR PATIENTS WITH CROHN'S DISEASE</td>
<td>DARTSMOUNT H COLLEGE/AHRQ</td>
<td>$984</td>
<td>$516</td>
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<td>SCHOEN, ROBERT E.</td>
<td>MEASURING AND IMPROVING COLONOSCOPY QUALITY USING NATURAL LANGUAGE PROCESSING</td>
<td>HARVARD UNIVERSITY/NCI</td>
<td>$120,304</td>
<td>$64,964</td>
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<td>SCHOEN, ROBERT E.</td>
<td>MOLECULAR RISK STRATIFICATION FOR COLONOSCOPIC SURVEILLANCE</td>
<td>MASSACHUSETTS GENERAL HOSPITAL/NCI</td>
<td>$44,896</td>
<td>$18,844</td>
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<td>SCHOEN, ROBERT E.</td>
<td>RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL OF MUC1 VACCINE IN PATIENTS WITH NEWLY DIAGNOSED ADVANCED ADENOMAS - TASK ORDER 11</td>
<td>MAYO FOUNDATION/NCI</td>
<td>$11,904</td>
<td>$2,976</td>
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<td>SCHOEN, ROBERT E.</td>
<td>PROSTATE, LUNG, COLORECTAL AND OVARIAN (PLCO) CENTRAL DATA COLLECTION CENTER</td>
<td>WESTAT, INC./NIH</td>
<td>$11,684</td>
<td>$6,427</td>
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<td>SCHOEN, ROBERT E.</td>
<td>CTDNA FOR THE EARLY DETECTION AND MONITORING OF COLORECTAL CANCER</td>
<td>NCI</td>
<td>$528,223</td>
<td>$228,206</td>
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<td>SCHOEN, ROBERT E.</td>
<td>FORTE SUPPLEMENT</td>
<td>NRG ONCOLOGY/ NCI</td>
<td>$29,027</td>
<td>$15,820</td>
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<tr>
<td>SCHOEN, ROBERT E.</td>
<td>MOLECULAR PATHOLOGICAL EPIDEMIOLOGY OF COLORECTAL CANCER</td>
<td>FRED HUTCHINSON CANCER RESEARCH CENTER/ NCI</td>
<td>$11,458</td>
<td>$6,187</td>
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<td>SCHOEN, ROBERT E.</td>
<td>BID-MEDIATED KILLING OF ONCOGENIC STEM CELLS IN CHEMOPREVENTION</td>
<td>NCI</td>
<td>$17,027</td>
<td>$9,195</td>
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<td>SCHOEN, ROBERT E.</td>
<td>COLORECTAL TUMOR RISK PREDICTION IN PLCO TRIAL</td>
<td>NCI</td>
<td>$9,166</td>
<td>$4,950</td>
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<td>SHAIKH, A. OBAID</td>
<td>HEPATITIS B CLINICAL RESEARCH NETWORK - DATA COORDINATING CENTER</td>
<td>NIDDK</td>
<td>$18,160</td>
<td>$9,806</td>
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<tr>
<td>WHITCOMB, DAVID C.</td>
<td>DIGESTIVE DISEASES TRAINING PROGRAM</td>
<td>NIDDK</td>
<td>$167,380</td>
<td>$11,750</td>
</tr>
<tr>
<td>WHITCOMB, DAVID C.</td>
<td>PANCREASFEST 2016: RISK FACTORS WHICH ALTER THE INJURY RESPONSE AND NEW TARGETS FOR THERAPY</td>
<td>NIDDK</td>
<td>$15,000</td>
<td>$0</td>
</tr>
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<td>WHITCOMB, DAVID C.</td>
<td>VALIDATION OF BIOMARKERS FOR EARLY DIAGNOSIS AND RISK PREDICTION OF PANCREATIC NEOPLASMS</td>
<td>NCI</td>
<td>$31,852</td>
<td>$17,201</td>
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<tr>
<td>YADAV, DHIRAJ</td>
<td>CONSORTIUM FOR THE STUDY OF CHRONIC PANCREATITIS, DIABETES AND PANCREATIC CANCER: COORDINATING AND DATA MANAGEMENT CENTER (CSCDPC_CDMC)</td>
<td>MD ANDERSON CANCER CENTER/ NIDDK</td>
<td>$75,530</td>
<td>$0</td>
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<tr>
<td>YADAV, DHIRAJ</td>
<td>CONSORTIUM FOR THE STUDY OF CHRONIC PANCREATITIS, DIABETES AND PANCREATIC CANCER: PITTSBURGH CLINICAL CENTER</td>
<td>NIDDK</td>
<td>$245,747</td>
<td>$133,318</td>
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<td>YADAV, DHIRAJ</td>
<td>MINOR ENDOSCOPIC SPHINCTEROTOMY FOR RECURRENT ACUTE PANCREATITIS WITH PANCREAS DIVISUM</td>
<td>MEDICAL UNIVERSITY OF SOUTH CAROLINA/ NIDDK</td>
<td>$30,385</td>
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**TOTAL PUBLIC HEALTH SERVICE** | **$2,465,599** | **$1,032,246**
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<tr>
<th>FEDERAL</th>
<th>RECTAL SAMPLE COLLECTION AND ANALYSIS AND PROCESSING OF SAMPLES FOR EXPLORATORY PHARMACOKINETICS AND PHANNACODYNAMICS STUD OF ORAL FFIAF FOR PREVENTION OF IIIV ACQUISITION, PROTOCOL AIS-137</th>
<th>MAGEE WOMENS HOSPITAL/ USAID</th>
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<tr>
<td>BRAND, RANDALL</td>
<td>ACUTE PANCREATITIS AS A MODEL TO PREDICT TRANSITION OF SYSTEMIC INFLAMMATION TO ORGAN FAILURE IN TRAUMA AND CRITICAL ILLNESS</td>
<td>DEPARTMENT OF DEFENSE</td>
<td>$186,695</td>
<td>$73,868</td>
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<td>TOTAL FEDERAL</td>
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<td><strong>$200,112</strong></td>
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<td>SOCIETY AND FOUNDATIONS</td>
<td>NON-INVASIVE ASSESSMENT OF ADVANCED FIBROSIS IN PATIENTS WITH NONALCOHOLIC FATTY LIVER DISEASE USING SHARE-WAVE ELASTOGRAPHY, TRANSIENT ELASTOGRAPHY, AND MAGNETIC RESONANCE ELASTOGRAPHY</td>
<td>GENERAL ELECTRIC COMPANY</td>
<td>$2,351</td>
<td>$588</td>
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<td>BEHARI, JAIDEEP</td>
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<td>$64,457</td>
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<td>BRAND, RANDALL</td>
<td>PHASE 1 ASSESSMENT OF TMC-278 LA</td>
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<td>$5,334</td>
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<td>BRAND, RANDALL</td>
<td>UTILIZING A MULTI-GENE TESTING APPROACH TO IDENTIFY HEREDITARY PANCREATIC CANCER IN CONSECUTIVE CASES UNSELECTED FOR FAMILY HISTORY</td>
<td>AMBRY GENETICS CORPORATION</td>
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<td>BRAND, RANDALL</td>
<td>TREATING ANORECTAL DYSFUNCTION ASSOCIATED WITH MULTIPLE SCLEROSIS</td>
<td>CROHNS &amp; COLITIS FOUNDATION</td>
<td>$54,980</td>
<td>$4,724</td>
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<td>DUERR, RICHARD H.</td>
<td>STUDY OF A PROSPECTIVE ADULT RESEARCH COHORT WITH INFLAMMATORY BOWEL DISEASE</td>
<td>CROHNS &amp; COLITIS FOUNDATION</td>
<td>$67,584</td>
<td>$6,758</td>
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<td>LEVINTHAL, DAVID J.</td>
<td>TREATING ANORECTAL DYSFUNCTION ASSOCIATED WITH MULTIPLE SCLEROSIS</td>
<td>CONSORTIUM OF MULTIPLE SCLEROSIS CENTERS</td>
<td>$18,182</td>
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<td>SVOGER, JASON M.</td>
<td>CLINICAL RESEARCH ALLIANCE</td>
<td>UNIVERSITY OF PENNSYLVANIA A/ CCFA</td>
<td>$4,091</td>
<td>$409</td>
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<tr>
<td>WHITCOMB, DAVID C.</td>
<td>TUMOR DRIVER IDENTIFICATION</td>
<td>UNIVERSITY OF PITTSBURGH MEDICAL CENTER</td>
<td>$3,894</td>
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<td>BEHARI, JAIDEEP</td>
<td>A PHASE 2 DOUBLE-BLIND, RANDOMIZED, PLACEBO-CONTROLLED, DOSE-FINDING STUDY TO EVALUATE THE SAFETY, TOLERABILITY AND EFFICACY OF VOLIXIBAT POTASSIUM, AN APICAL SODIUM-DEPENDENT BILE ACID TRANSPORTER INHIBITOR (ASBTI) IN ADULTS WITH NONALCOHOLIC STEATOHEPATITIS</td>
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<td>A PHASE 3, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY EVALUATING THE SAFETY AND EFFICACY OF SELONSERTIB IN SUBJECTS WITH NONALCOHOLIC STEATOHEPATITIS (NASH) AND BRIDGING (F3) FIBROSIS</td>
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<td>A PHASE 3, DOUBLE-BLIND, RANDOMIZED, LONG-TERM, PLACEBO-CONTROLLED, MULTICENTER STUDY EVALUATING THE SAFETY AND EFFICACY OF OBETICHOLIC ACID IN SUBJECTS WITH NONALCOHOLIC STEATOHEPATITIS</td>
<td>INTERCEPT</td>
<td>$68,898</td>
<td>$9,105</td>
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<td>A PHASE 3, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY EVALUATING THE SAFETY AND EFFICACY OF SELONSERTIB IN SUBJECTS WITH COMPENSATED CIRRHOSIS DUE TO NONALCOHOLIC STEATOHEPATITIS (NASH)</td>
<td>GILEAD SCIENCES, INC.</td>
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<td>BINION, DAVID</td>
<td>TEDUGLUTIDE IN REFRACTORY CROHN'S DISEASE</td>
<td>SHIRE</td>
<td>$16,633</td>
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<td>BRAND, RANDALL</td>
<td>CELL-FREE DNA AS A POTENTIAL BIOMARKER FOR PANCREATIC CANCER</td>
<td>FREENOME, INC.</td>
<td>$26,021</td>
<td>$12,313</td>
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<td>DUNN, MICHAEL</td>
<td>A PHASE 2, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, DOSE-FINDING, CLINICAL TRIAL EVALUATING THE EFFICACY AND SAFETY OF OBETICHOLIC ACID IN SUBJECTS WITH PRIMARY SCLEROSING CHOLANGITIS</td>
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<td>A Phase 3 randomised, double-blind, placebo-controlled study to assess the safety and efficacy of S-888711 (Lusutrombopag) for the treatment of thrombocytopenia in patients with chronic liver disease undergoing elective invasive procedures (L-Plus 2)</td>
<td>Shionogi Ltd</td>
<td>$17,363</td>
<td>$3,007</td>
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<td>A Phase II, randomised, open-label clinical trial to study the efficacy and safety of the combination regimen of MK-5172 and MK-3682 with either MK-8742 or MK-8408 in subjects with chronic HCV GT1, GT2, and GT4 infection</td>
<td>Merck</td>
<td>$19,887</td>
<td>$1,776</td>
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<td>An open label study of Sofosbuvir/GS-5816 fixed-dose combination in subjects with chronic HCV infection</td>
<td>Gilead</td>
<td>$2,200</td>
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<td>Incidence of exocrine pancreatic insufficiency, nutritional deficiencies, and impaired quality of life following an attack of acute pancreatitis</td>
<td>AbbVie Inc.</td>
<td>$56,343</td>
<td>$16,649</td>
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<td>A Phase 3, global, multicenter, randomized, double-blind, placebo-controlled study to investigate the safety and efficacy of Sofosbuvir/Velpatasvir/GS-9857 fixed-dose combination for 12 weeks in direct-acting antiviral-experienced subjects with chronic HC</td>
<td>Gilead</td>
<td>$19,869</td>
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<td>A Phase 3, global, multicenter, randomized, open-label study to investigate the safety and efficacy of Sofosbuvir/Velpatasvir/GS-9857 fixed-dose combination for * weeks compared to Sofosbuvir/Velpatasvir for 12 weeks in direct-acting antiviral naive subject</td>
<td>Gilead</td>
<td>$5,354</td>
<td>$378</td>
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<td>An open-label study to evaluate the safety and efficacy of Sofosbuvir/Velpatasvir/Voxilaprevir fixed dose combination for 12 weeks in subjects who participated in a prior Gilead-sponsored HCV treatment study</td>
<td>Gilead</td>
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<td>A long term follow-up study to evaluate the durability of virologic response and/or viral resistance patterns of subjects with chronic hepatitis C who have been previously treated with MK 5172 in a prior clinical trial</td>
<td>Merck &amp; Co., Inc.</td>
<td>$490</td>
<td>$122</td>
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<td>A phase II, randomized, open-label clinical trial to study the efficacy and safety on the combination regimen of MK-5172 and MK-3682 with either MK-8742 or MK-8408 in subjects with chronic HCV GT 1, GT 2 and GT 3 infection</td>
<td>Merck &amp; Co.</td>
<td>$13,826</td>
<td>$216</td>
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<td>A registry for subjects with cirrhosis who achieve a sustained virologic response following treatment with a sofosbuvir-based regimen without interferon for chronic hepatitis C infection in Gilead-sponsored trials</td>
<td>Gilead</td>
<td>$30,226</td>
<td>$4,181</td>
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<td>A randomized, global, double-blind, placebo-controlled, parallel-group study to evaluate the efficacy and safety of once-daily oral avatrombopag for the treatment of adults with thrombocytopenia associated with liver disease prior to an elective procedure</td>
<td>Eisai Medical Research</td>
<td>$50,259</td>
<td>$9,145</td>
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<td>Procurement of blood samples from subjects with diagnosed nonalcoholic steatohepatitis (NASH) or nonalcoholic fatty liver disease (NAFLD) for the use in the development of a liver fibrosis test</td>
<td>Prometheus Laboratoires</td>
<td>$23,780</td>
<td>$3,570</td>
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<td>Multicenter, randomized, double-blind, placebo-controlled phase III study to evaluate the efficacy and safety of elafibranor in patients with nonalcoholic steatohepatitis (NASH) and fibrosis</td>
<td>Genfit</td>
<td>$24,345</td>
<td>$3,086</td>
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<td>RABINOVITZ, MORDECHAI</td>
<td>MULTICENTER, RANDOMIZED PHASE 2B STUDY TO EVALUATE THE EFFICACY, SAFETY AND TOLERABILITY OF OCR-002 (ORNITHINE PHENYLACETATE) IN HOSPITALIZED PATIENTS WITH CIRRHOSIS AND ASSOCIATED HYPERAMMONEMIA WITH AN EPISODE OF HEPATIC ENCEPHALOPATHY – STOP-HE STUDY</td>
<td>OCERA THERAPEUTICS INC.</td>
<td>$8,715</td>
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<td>RABINOVITZ, MORDECHAI</td>
<td>A PHASE 2, OPEN-LABEL CLINICAL TRIAL TO STUDY THE EFFICACY AND SAFETY OF 12 WEEKS OF THE COMBINATION REGIMEN OF MK-3682 + MK-8408 IN SUBJECTS WITH CHRONIC HEPATITIS C VIRUS GENOTYPE 1, 2, 3, 4, 5, OR 6 INFECTION</td>
<td>MERCK SHARP &amp; DOHME CORP.</td>
<td>$103,795</td>
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<td>RABINOVITZ, MORDECHAI</td>
<td>A PHASE 3, GLOBAL, MULTICENTER, RANDOMIZED, OPEN-LABEL STUDY TO INVESTIGATE THE SAFETY AND EFFICACY OF SOFOSBUVIR/VELPATAVIR/GS-9857 FIXED-DOSE COMBINATION FOR 12 WEEKS AND SOFOSBUVIR/VELPATAVIR FOR 12 WEEKS IN DIRECT-ACTING ANTIVIRAL-EXPERIENCED SUBJECTS</td>
<td>GILEAD SCIENCES</td>
<td>$14,019</td>
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<td>RABINOVITZ, MORDECHAI</td>
<td>A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, PARALLEL GROUP, MULTIPLE DOSE STUDY TO EVALUATE THE SAFETY, PHARMACOKINETICS AND PHARMACODYNAMIC EFFECTS OF BMS-986036 IN ADULTS WITH NON-ALCOHOLIC STEATOHEPATITIS</td>
<td>BRISTOL-MEYERS SQUIBB COMPANY</td>
<td>$75,968</td>
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<td>RABINOVITZ, MORDECHAI</td>
<td>A PHASE 3, RANDOMIZED, DOUBLE-BLIND, CONTROLLED STUDY EVALUATING THE EFFICACY AND SAFETY OF PEGINTERFERON LAMBDA-1A, WITH AND WITHOUT DACLATASVIR, COMPARED TO PEGINTERFERON ALFA-2A, EACH IN COMBINATION WITH RIBAVIRIN, IN THE TREATMENT OF NAÏVE GENOTYPE 2</td>
<td>BRISTOL-MEYERS SQUIBB COMPANY</td>
<td>$38,372</td>
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<td>RABINOVITZ, MORDECHAI</td>
<td>A LONG TERM FOLLOW-UP REGISTRY FOR SUBJECTS WHO ACHIEVE A SUSTAINED VIROLOGIC RESPONSE TO TREATMENT IN GILEAD-SPONSORED TRIALS IN SUBJECTS WITH CHRONIC HEPATITIS C INFECTION</td>
<td>GILEAD SCIENCES, INC.</td>
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<td>An exploratory phase IIA, randomized, open-label trial to investigate the efficacy and safety of 12 weeks or 24 weeks of TMC435 in combination with PSI-7977 with or without ribavirin in chronic hepatitis C genotype 1-infected prior null responders to PEGI</td>
<td>$161</td>
<td>$734</td>
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<td>A long term follow-up registry study for subjects who did not achieve a sustained virologic response in Gilead-sponsored trials in subjects with chronic hepatitis C infection</td>
<td>$5,448</td>
<td>$1,362</td>
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<td>A phase 2, global, multicenter, randomized, open-label study to investigate the safety and efficacy of GS-9857 plus sofosbuvir/BS-5816 fixed dose combination in subjects with chronic non-genotype 1 HCV infection</td>
<td>$2,590</td>
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<td>An open-label, multicenter study to evaluate the efficacy, safety, and pharmacokinetics of co-administration of ABT-493 and ABT-530 in subjects with chronic hepatitis C virus (HCV) genotype 1 infection</td>
<td>$42,495</td>
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<td>A phase II/III randomized clinical trial to study the efficacy and safety of the combination regimen of MK-5172 and MK-8742 in subjects with chronic hepatitis C virus infection and chronic kidney disease</td>
<td>$2,125</td>
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<td>Randomized, observational study of entecavir to assess long-term outcomes associated with nucleoside/nucleotide monotherapy for patients with chronic HBV infection the REALM study</td>
<td>$36,330</td>
<td>$9,536</td>
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<td>A phase 3, open-label study to determine the long-term safety and efficacy of MLN0002 in patients with ulcerative colitis and Crohn's disease</td>
<td>$3,780</td>
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<td>SCHOEN, ROBERT E.</td>
<td>MACHINE LEARNING FROM ENDOSCOPIC IMAGES</td>
<td>MEDTRONIC</td>
<td>$12,587</td>
<td>$3,146</td>
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<td>SLIVKA, ADAM</td>
<td>FULLY COVERED SELF EXPANDING METAL STENTS (FCSEMS) FOR PANCREATIC DUCT STRICTURES IN PATIENTS WITH CHRONIC PANCREATITIS</td>
<td>BOSTON SCIENTIFIC</td>
<td>$8,950</td>
<td>$0</td>
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<td>SWOGER, JASON</td>
<td>A DOUBLE-BLIND, RANDOMIZED, MULTICENTER STUDY OF HIGHER VERSUS STANDARD ADALIMUMAB DOsing REGIMENS FOR INDUCTION AND MAINTENANCE THERAPY IN SUBJECTS WITH MODERATELY TO SEVERELY ACTIVE ULCERATIVE COLITIS</td>
<td>ABBVIE</td>
<td>$13,731</td>
<td>$713</td>
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<td>SWOGER, JASON</td>
<td>A NON-INTERVENTIONAL LONG-TERM POST-MARKETING REGISTRY OF PATIENTS TREATED WITH CERTOLIZUMAB PEGOL (CIMZIA®) FOR CROHN'S DISEASE</td>
<td>UCB, INC</td>
<td>$7,313</td>
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<td>SWOGER, JASON</td>
<td>A PHASE 3, MULTICENTER, RANDOMIZED, PLACEBO CONTROLLED, DOUBLE-BLIND STUDY TO EVALUATE THE SAFETY AND EFFICACY OF USTEKINUMAB MAINTENANCE THERAPY IN SUBJECTS WITH MODERATELY TO SEVERELY ACTIVE CROHN'S DISEASE</td>
<td>JANSSEN RESEARCH</td>
<td>$25,588</td>
<td>$4,646</td>
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<td>WHITCOMB, DAVID C.</td>
<td>EMPLOYING PHARMACOLOGY IN HUMAN DISEASE RELEVANT TISSUE TO SUPPORT PHARMACEUTICAL DISCOVERY IN INFLAMMATORY BOWEL DISEASE</td>
<td>JANSSEN PHARMACEUTICAL</td>
<td>$181,000</td>
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<td>WHITCOMB, DAVID C.</td>
<td>CATIONIC TRYSINOGEN (PRSS1) ACTIVITY IN HEREDITARY PANCREATITIS AND RELATED INFLAMMATORY AND FIBROTIC DISEASES OF THE PANCREAS</td>
<td>SHIRE</td>
<td>$142,711</td>
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<td><strong>TOTAL</strong></td>
<td><strong>$4,169,068</strong></td>
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<td><strong>$1,476,852</strong></td>
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TEACHING

The Division’s Gastroenterology Fellowship Program enjoyed a full complement of 17 gastroenterology fellows. More than 400 candidates applied for admission in FY17, with approximately 40 interviewed and seven selected. The Fellowship Program was led by Kenneth Fasanella, MD, program director, and Jason Swoger, MD, MPH, associate program director. Dr. Swoger left the Division in FY17, and a new associate program director will be selected in FY18.

The Division’s leadership in the School of Medicine’s Second-Year Medical School GI Course continues to be evaluated highly. Faculty member Julia B. Greer, MD, MPH, is the current co-course director. Co-course directors with Dr. Greer include Kenneth Lee, MD, from the Department of Surgery, and Gigi Duker, PhD, from the Department of Cell Biology. In FY17, the following course advancements were implemented:

- The esophageal pathology and pathophysiology lectures were streamlined to remove redundant information.
- A lecture on the gut microbiome was added.
- More comprehensive treatment algorithms for hepatitis C infection were provided.
- Two new pediatric gastroenterologists were added to the lecture series.
- New and younger faculty were recruited to lead the workshop sessions.

James B. McGee, MD, and his Laboratory of Educational Technology are exploring and addressing the changing educational expectations of students and the use of innovative, technological teaching approaches in the School of Medicine.

The Division hosted the following education conferences in FY17:

- The accredited international PancreasFest 2016 conference was held in July 2016 at the University Club in Oakland. Course directors included David Whitcomb, MD; Randall Brand, MD; Mark Lowe, MD, PhD; and Georgios Papachristou, MD, PhD. Attendance was excellent with participation by 230 national and international pancreatologists and related research and clinical subspecialists. There was also a robust poster session.
- Robert Schoen, MD, MPH, coordinated the 2017 Pittsburgh Gut Club accredited lecture series for regional gastroenterologists. Two guest speakers presented and attendance was about 65 physicians per session, many of whom were physicians in practice in the surrounding community. The 2017 Pittsburgh Gut Club Speakers included: Hans Herfarth, MD, PhD, (IBD) from UNC, and Arun Sanyal, MD, (Liver) from Virginia Commonwealth University.
- Dr. Schoen is the recipient of a generous donation from the Gerson family for the annual Sadie Gerson Distinguished Scholar. In December 2016, Dr. Schoen invited Thomas Imperiale, MD, Indiana University School of Medicine to discuss epidemiological colon cancer advancements. Dr. Imperiale also addressed Medical Grand Rounds during his visit.
- In November 2016, the Division received an American College of Gastroenterology (ACG) Edgar Achkar Visiting Professor Lecture visit by Charles Bernstein, MD, an IBD thought leader from the University of Manitoba in Winnipeg, Canada.
- Internal accredited symposia:
  - GI Grand Rounds with course director Dr. Kenneth Fasanella
  - Hepatology Rounds with course director Dr. Shahid Malik
  - Advanced Endoscopy Conference with course director Dr. Dhiraj Yadav
  - IBD LIVE with course director Dr. Miguel Regueiro
• Internal nonaccredited symposia:
  o GI Research Rounds with course director Dr. Yang Liu
  o Tuesday Educational Series for GI Fellows with course coordinator Dr. Yadav
  o Monday IBD Case Discussions with course coordinator Dr. Regueiro
  o State of the Art (SOTA) Lecture Series for GI Fellows with course director Dr. Randall Brand

• Patient program:
  o IBD Springboard pediatric-to-adult GI care with course director Dr. Helen Sysko

Most Division faculty served as keynote course faculty for accredited physician educational and research meetings throughout the world.

**Teaching Honors and Awards**

**David Binion MD**
- Pittsburgh’s Best Doctors, Pittsburgh Magazine, May 2017

**Randall Brand MD**
- Appointed, three-year term, National Cancer Institute (NCI) Pancreas Task Force, September 2016
- Governor, American College of Gastroenterology (ACG) Western Pennsylvania Region, October 2016
- Pittsburgh’s Best Doctors, Pittsburgh Magazine, May 2017

**Michael Dunn MD**
- Member, AASLD Federal Agencies Liaison Committee & AASLD Abstract Review Committee, November 2016

**Alison Jazwinski Faust MD MHS**
- AASLD Technology & Social Media Committee, November 2016

**Naudia Jonassaint MD MHS**
- Faculty Teaching Award 2017, Awarded by GI Fellows at Graduation, June 2017
- AASLD Diversity Committee, November 2016

**Kevin McGrath MD**
- Pittsburgh’s Best Doctors, Pittsburgh Magazine, May 2017

**Satdarshan (Paul) Monga MD**
- AASLD Abstract Review Committee & AASLD Liver Cell Biology SIG Steering Committee, November 2016

**Georgios Papachristou MD PhD**
- Named to NIH SHARP Committee (PsHinterotomy for the Treatment of Acute Recurrent Pancreatitis), January 2017

**Miguel Regueiro MD**
- Named to Crohn’s & Colitis Foundation (CCF) “Cost of IBD” Task Force, September 2016
- Lecture featured as "Best of the Day" segment from the American College of Gastroenterology's (ACG) 2016 Annual Scientific Meeting, October 2016
- Burril Bernard Crohns Keynote, 2016
• Award, Lecture, 65 Congresso Brasileiro de Coloproctologia in Sao Paolo, Brazil, October 2016
• Named to Healio Gastroenterology 200 Innovators in Gastroenterology and Hepatology, November 2016
• Named Vice Chair, Advances in IBD National Annual Meeting (November 2017), January 2017
• Pittsburgh’s Best Doctors, Pittsburgh Magazine, May 2017

Robert Schoen, MD MPH
• Pittsburgh’s Best Doctors, Pittsburgh Magazine, May 2017

Adam Slivka MD PhD
• Pittsburgh’s Best Doctors, Pittsburgh Magazine, May 2017

Eva Szigethy MD PhD
• Sherman Prize for Excellence in Crohn’s and Colitis, $100,000, September 2016

David Whitcomb MD PhD
• Named Editor-in-Chief for Clinical and Translational Gastroenterology journal, September 2016

Dhiraj Yadav MD MPH
• Named to NIH SHARP Committee (PsHinterotomy for the Treatment of Acute Recurrent Pancreatitis), January 2017
## Fellowship Program

<table>
<thead>
<tr>
<th>Current Fellow</th>
<th>Medical School</th>
<th>Residency</th>
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<tr>
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<td>Cherfane</td>
<td>Cynthia</td>
<td>Universite Saint Joseph, Lebanon</td>
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<td>Chintamaneni</td>
<td>Preethi</td>
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<td>Mohannad</td>
<td>Jordan University of Science &amp; Technology</td>
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<td>Evans</td>
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<td>Klinge</td>
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<td>Jorge</td>
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<td>University of Pittsburgh</td>
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## Departing Fellow

<table>
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<tr>
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<tr>
<td>Akpan</td>
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<td>Cynthia</td>
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<td>Desai</td>
<td>Shiv</td>
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<td>Evans</td>
<td>Anna</td>
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<tr>
<td>Zator</td>
<td>Zachary</td>
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</table>

Department of Medicine

[www.dom.pitt.edu/gi](http://www.dom.pitt.edu/gi)
**Fellow Publications**


**Cherfane C.** Gastric Carcinoids With Duodenal Ulcers: A Hint for the Diagnosis of Multiple Endocrine Neoplasia Type I (MEN I). Pitt Digest (national physician education newsletter). Fall 2016.


**Click B,** Whitcomb DC. Inflammatory Bowel Disease: Changing Associations to Mechanisms. Clin Transl Gastroenterol. 2016 Sep 8;7(9):e189.


Fellow Presentations


Fellow Abstracts & Posters


Kakar S, **Dugum M**, Humar A, Malik S. The Incidence of Allograft Cirrhosis in Patients Undergoing Liver Transplantation for Nonalcoholic Steatohepatitis [abstract 204], Annual Meeting of the American Association for the Study of Liver Diseases, Boston, MA, Nov. 11-15, 2016

CLINICAL CARE

Divisional Physician Productivity Improvement

The Digestive Disorders Center (DDC), located in UPMC Presbyterian, is the hub of outpatient gastroenterology care, while the Center for Liver Disease (CLD) in Kaufmann is the outpatient clinic for liver disease care. (Statistics below include all clinical services within the Division).

The Division excels in excellent clinical care among all aspects of gastrointestinal and hepatology patient care. Additionally, the Division’s Pancreas & Biliary Center and Inflammatory Bowel Disease Center are among the largest GI clinical subspecialty care teams operating in the U.S. The research and clinical productivity from these two GI subspecialty areas provide outstanding support and notoriety for the Division and department. Additionally, Center for Liver Diseases (CLD) collaborations with the Thomas E. Starzl Transplantation Institute (STI) and the Liver Pancreas Institute (LPI) have continued to expand and stabilize during the past fiscal year. In May 2017, we welcomed the recruitment of Dr. Ramon Bataller (from UNC) to serve as chief of hepatology. The Women’s Center for Digestive Health at Magee-Womens Hospital of UPMC includes full outpatient evaluations, inpatient consultations and clinical research protocols, and is a Division hub for biomedical infusions. The Division’s presence at the Pittsburgh VA Health System on University Drive remains well-staffed and progressive with active research and clinical support.

Clinical productivity was augmented by the following major clinical advancements in FY17:

**Total Care-IBD:** Led by Miguel Regueiro, MD, and Eva Szigethy, MD, PhD, in collaboration with the UPMC Health Plan, Total Care-IBD is among the first subspecialty medical home programs in the nation and is the first known medical home initiative for Inflammatory Bowel Disease (IBD) patient care. This major three-year initiative started in April 2015 with a goal of improving to patient care and reducing treatment costs for this chronically ill patient population. Total Care-IBD patients have seamless access to IBD team members including a social worker, nurse practitioner, and dietician in addition to their IBD subspecialty gastroenterologist. This targeted coordination of care has been shown to lead to better medical coordination, fewer hospital visits, and an improved quality of life. To date, Total Care-IBD is on track to meet all admission and clinical care goals, leading to noted research publications as well as marketing notoriety in both print and video media. Specific second-year data include:

- Enrollment of 538 patients, with 550 target close
- Retention: 95.4%
- ED visits reduced by 47%
- Hospitalizations decreased by 36%
- 9.7-point increase in quality of life scores.

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<th>Table 1: Gastro Historical Laboratory Volume</th>
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<tr>
<td>Category</td>
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<td><strong>TOTAL VOLUME</strong></td>
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<tr>
<th>Table 2: Gastro Historical Clinic Visit Volume</th>
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<td>Return</td>
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<td><strong>TOTAL VOLUME</strong></td>
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<th>Table 3: Gastro Historical Inpatient Consults</th>
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<td>Category</td>
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<tr>
<td>New Consults</td>
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<tr>
<td>Return</td>
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<tr>
<td><strong>TOTAL VOLUME</strong></td>
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</table>
• **Visceral Inflammation and Pain (VIP) Center:** Led by Dr. Szigethy, the VIP Center was initiated for adult IBD psychosocial care in FY12. In FY15, the VIP Center expanded its programming to include all adult GI patients. The VIP Center cares for patients with pain and coping issues related to their gastrointestinal diseases. An additional VIP Center psychiatrist will be hired in FY18.

• **GREAT (Genomic Resources to Enhance Available Therapies) Study:** Led by David Whitcomb, MD, PhD, this personalized medicine project aligns clinical database information to address research goals in “real time.”

The following faculty members arrived, departed, or changed roles in the Division during FY17:

• Gobind Sharma, MD, joined the faculty as a clinical assistant professor of medicine. His primary appointment is at UPMC Mercy.

• Elisabeth Kramer, MD, joined the faculty as a clinical assistant professor of medicine in the nutrition support subspecialty.

• Michael Kingsley, MD, joined the faculty as a clinical assistant professor of medicine in the GI motility subspecialty. He also cares for patients at the VAMC University Drive.

• Jason Swoger, MD, MPH, an assistant professor of medicine, left the faculty for an industry position.

• Rohit Das, MD, joined the faculty as an instructor of medicine, while he also pursues an additional training year in advanced endoscopy.

**Telemedicine**

The Division has expanded the gastroenterology patient market by offering telemedicine services in the following subspecialties:

• IBD by Arthur Barrie, MD, PhD, at UPMC Northwest

• Inflammatory Bowel Disease (IBD) by Jason Swoger, MD, MPH, at UPMC Bedford

• Psychosocial Therapy by Eva Szigethy, MD, PhD, throughout the UPMC service area.
### Clinic Locations

#### Central Locations

<table>
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<tr>
<th>Number</th>
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<tbody>
<tr>
<td>1</td>
<td>Division of Gastroenterology - Visceral Inflammation and Pain Center</td>
<td>Medical Arts Building&lt;br&gt;3708 Fifth Avenue, Suite 401&lt;br&gt;Pittsburgh, PA 15213</td>
</tr>
<tr>
<td>2</td>
<td>Digestive Disorders Center (DDC) - Primary Patient Center</td>
<td>UPMC Presbyterian&lt;br&gt;200 Lothrup Street, Third Floor&lt;br&gt;Pittsburgh, PA, 15213</td>
</tr>
<tr>
<td>3</td>
<td>Center for Women's Digestive Health at Magee-Womens Hospital of UPMC</td>
<td>Magee-Womens Hospital of UPMC&lt;br&gt;300 Halket Street, Suite 820&lt;br&gt;Pittsburgh, PA 15213</td>
</tr>
<tr>
<td>4</td>
<td>Division of Gastroenterology, Hepatology, and Nutrition at UPMC Shadyside</td>
<td>Shadyside Medical Building&lt;br&gt;5200 Centre Avenue, Suite 409&lt;br&gt;Shadyside, PA 15232</td>
</tr>
<tr>
<td>5</td>
<td>Division of Gastroenterology, Hepatology and Nutrition at UPMC Mercy, Dr. Gobind Sharma</td>
<td>UPMC Mercy Professional Building&lt;br&gt;1350 Locust Street, Suite 407&lt;br&gt;Pittsburgh, PA 15219</td>
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<tr>
<td>6</td>
<td>Center for Liver Diseases (CLD) - Primary Hepatology Patient Center</td>
<td>UPMC Montefiore&lt;br&gt;3459 Fifth Avenue, 7th Floor&lt;br&gt;Pittsburgh, PA 15213</td>
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## East Locations

<table>
<thead>
<tr>
<th>Location</th>
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</table>
| Center for Liver Diseases (CLD) at UPMC Altoona                         | UPMC Altoona  
9th Avenue, Station Medical Center  
Health Force Suite, First Floor  
Altoona, PA 16602 |
| Center for Liver Diseases (CLD) at UPMC McKeesport                      | UPMC McKeesport  
500 Hospital Way, Painter Building, Suite 401, McKeesport, PA 15132 |
| UPMC Gastroenterology at UPMC Monroeville                               | UPMC Monroeville  
125 Daugherty Drive, Suite 200  
Monroeville, PA 15146 |
| Center for Liver Diseases (CLD) at Monroeville                           | CLD at Monroeville  
125 Daugherty Drive, Suite 200  
Monroeville, PA 15146 |
| UPMC Gastroenterology-McKeesport, Sudhir K. Narla, MD                   | 500 Hospital Way  
Painter Building, Suite 401  
McKeesport, PA 15132 |
North and South Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
</tr>
</thead>
</table>
| Center for Liver Diseases at Butler | CLD – Butler  
104 Technology Drive, Suite 202  
Butler, PA 16001                 |
| Center for Liver Diseases at UPMC Passavant | North Hills Passavant  
9100 Babcock Boulevard, Basement Level  
Pittsburgh, PA 15237          |
| UPMC Gastroenterology at UPMC Horizon | UPMC Horizon  
110 North Main Street, Second Floor  
Greenville, PA 16125          |
| Center for Liver Diseases at West Mifflin | CLD – West Mifflin  
1907 Lebanon Church Road, Suite 201  
Pittsburgh, PA 15122     |
| UPMC Gastroenterology, South Hills | UPMC South Hills  
1300 Oxford Drive, Suite 1-D, Pod 1  
Bethel Park, PA 15102        |
| UPMC Gastroenterology at UPMC Horizon Kirk Works, MD | UPMC Horizon  
125 North Main Street, Suite 102  
Greenville, PA 16125         |
CLINICAL QUALITY IMPROVEMENT INITIATIVES

The safety and quality of patient care is a high priority for the Division. Related quality improvement projects occurring throughout FY17 include:

- **Clinical Pathway Development:**
  - Dr. Chopra is leading clinical pathway development for hepatitis C.
  - Dr. Schoen and Dr. Slivka are leading clinical pathway development for the management of GI bleeding.
- Dr. Chopra also chairs GI’s Clinical Operations Working Group to enhance Division outreach with community physicians, improve physician patients, and related clinical opportunities.
- Dr. Binion, in collaboration with the UPMC Safety Administration and UPMC Chartwell Home Infusion Pharmacy, is exploring a number of quality improvement initiatives including prevention of central line associated bloodstream infections (CLABSIs) in patients with home parenteral nutrition. He is working on a TPN Registry to track clinical trajectories in consented patients using home TPN. Regarding IBD research, he is studying the use of metadata to identify high risk patients for the development of dysplasia and cancer in IBD as well as treatment and monitoring of vitamin D deficiency in IBD patients.
- Michael Dunn, MD, is leading a consensus initiative with STI to convert post-liver-transplant standard immunosuppression from primary reliance on tacrolimus to combined everolimus/low-dose tacrolimus to avoid the kidney failure which affects up to half of all liver recipients.
- Charles Horn, PhD, is collaborating with Case Western Reserve University on nausea/vomiting research.
- Dr. Jonassaint has accepted the service position of co-director of Transplant Quality and will reinstitute Liver Morbidity & Mortality conferences.
- Dr. Malik is conducting a quality improvement project on the use of pigtail catheters and incidence of peritonitis at the CLD.
- Dr. Swoger led the QI Committee for the GI Fellowship Program. This committee meets quarterly to discuss patient care and quality improvement related to GI fellows. A replacement for Dr. Swoger will be selected in FY18.
- Dr. Whitcomb is leading the GREAT Study development, as is described in the research section of this annual report.
- In our Total Care-IBD program, we enrolled nearly 600 patients and decreased ED visits by 47% and hospitalizations by 37%.
FACULTY

Faculty in Core Divisions
Fiscal Year 2015-2017

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2003 (Base Year)</th>
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<th>FY 2017</th>
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Current Gastroenterology, Hepatology & Nutrition Faculty

Full-Time Faculty

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<tr>
<td>Abo</td>
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<td>R.</td>
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<tr>
<td>Al Hashash</td>
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<tr>
<td>Barrie</td>
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<tr>
<td>Bataller Alberola</td>
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<td>Naudia</td>
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<tr>
<td>Swoger</td>
<td>Jason</td>
<td>M.</td>
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## Affiliated Faculty with UPP Appointments

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<th>Name</th>
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<tr>
<td>Arnold</td>
<td>George</td>
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</tr>
<tr>
<td>Dubner</td>
<td>Howard</td>
<td>M. MD</td>
<td>Clinical Associate Professor of Medicine</td>
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<tr>
<td>Francis</td>
<td>Fadi</td>
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</tr>
<tr>
<td>Gulati</td>
<td>Christine</td>
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<td>Kingsley</td>
<td>Michael</td>
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<tr>
<td>Kramer</td>
<td>Elisabeth</td>
<td>H. M</td>
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<td>Shahid</td>
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</tr>
<tr>
<td>Narla</td>
<td>Sudhir</td>
<td>K. MD</td>
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</tr>
<tr>
<td>Sarkaria</td>
<td>Savreet</td>
<td>MD</td>
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<tr>
<td>Sharma</td>
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<td>Clinical Assistant Professor of Medicine</td>
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<tr>
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<td>Lee</td>
<td>M. MD</td>
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</tr>
<tr>
<td>Works</td>
<td>Kirk</td>
<td>L. MD</td>
<td>Clinical Assistant Professor of Medicine</td>
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## Affiliated Faculty without UPP Appointments

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<tr>
<td>Amin</td>
<td>Shirish</td>
<td>A. MD</td>
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<tr>
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<td>Ragunath</td>
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<td>Clinical Associate Professor of Medicine</td>
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<tr>
<td>Ayasso</td>
<td>M. Samir</td>
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<tr>
<td>Bauer</td>
<td>Anthony</td>
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<tr>
<td>Bender</td>
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</tr>
<tr>
<td>Cho</td>
<td>Su Min</td>
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<td>Craig</td>
<td>Wendy</td>
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</tr>
<tr>
<td>Fili</td>
<td>Daniela</td>
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</tr>
<tr>
<td>Ismail-Beigi</td>
<td>Farhad</td>
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<tr>
<td>Kelly</td>
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<tr>
<td>Petridis</td>
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<tr>
<td>Trellis</td>
<td>Dan</td>
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<tr>
<td>Wood</td>
<td>John</td>
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### New Faculty Hires

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<td>Ramon</td>
<td></td>
<td>MD</td>
<td>Professor of Medicine</td>
<td>Gastroenterology</td>
<td>Associate Professor of Medicine, U of N Carolina at Chapel Hill</td>
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<tr>
<td>Das</td>
<td>Rohit</td>
<td></td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
<td>Gastroenterology</td>
<td>Gastroenterology and Hepatology Fellow, UPMC</td>
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<tr>
<td>Ganesh</td>
<td>Swaytha</td>
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<td>MD</td>
<td>Assistant Professor of Medicine</td>
<td>Gastroenterology</td>
<td>Gastroenterology and Nephrology Fellow, UPMC</td>
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<tr>
<td>Kingsley</td>
<td>Michael J.</td>
<td>J</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Gastroenterology</td>
<td>Gastroenterology Fellow, U of Miami</td>
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<tr>
<td>Kramer</td>
<td>Elisabeth</td>
<td>H</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Gastroenterology</td>
<td>Gastroenterology Fellow, Memorial Sloan Kettering Cancer Center, NY</td>
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<td>Sharma</td>
<td>Gobind</td>
<td></td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Gastroenterology</td>
<td>Gastroenterology Fellow, Drexel U College of Medicine, PA</td>
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### Research Associates

<table>
<thead>
<tr>
<th>Fnu Shikhar</th>
<th>PhD</th>
<th>Research Associate</th>
</tr>
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<tbody>
<tr>
<td>Xu Jianquan</td>
<td>PhD</td>
<td>Research Associate</td>
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## POST DOCS

### Current Post Docs in FY 2016-2017

<table>
<thead>
<tr>
<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree Code</th>
<th>Current Title</th>
<th>Summary of Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alzu'bi</td>
<td>Amal</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Alzu'bi's research entails performing big data analysis of patient information in complex relational databases for pathway analysis. Genotype/phenotype associations are also studied. The databases will be utilized in clinical translational research to study the progression of IBD and correlate it with genomic, proteomic, and microbiome data that is being generated in tandem. The data processing needs will be determined by a collaboration among the research committee, principal investigators, and other colleagues.</td>
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<tr>
<td>Evans Phillips</td>
<td>Anna</td>
<td>MD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Phillips studies acute pancreatitis, genetic pancreatitis syndromes, and pancreatic malignancies. Specifically, she is working to define the relationship among—and the risk factors for—acute pancreatitis, chronic pancreatitis, and recurrent pancreatitis. Her research also includes the evaluation of genetic variances between patients that make them more susceptible to these complex disorders. Dr. Evans works with the Genomic Resources for Enhancing Available Therapies (GREAT) study to identify specific genetic abnormalities that correlate with phenotypic syndromes in complex patients.</td>
</tr>
<tr>
<td>Ma</td>
<td>Hongqiang</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Ma investigates advanced optical imaging methods and data analysis algorithms for super-resolution microscopy. He has developed a fast and accurate localization algorithm for astigmatism-based 3D localization microscopy, a marker-assisted 3D nanometer drift correction method and a defocusing based 3D super-resolution imaging method. He also develops high-throughput super-resolution microscopy and light-sheet super-resolution microscopy for deep tissue. (Mentor: Y. Liu, PhD)</td>
</tr>
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PUBLICATIONS

High-Impact Publications

The following notable research advances were published in FY17:

  - Manuscript highlighted by Faculty of 1000 (http://f1000.com/prime/72664066)
  - Research highlighted in several publications, including The Atlantic and MedScape, as well as full-length feature articles in both the Fall 2016 and Spring 2017 issues of PittMed Magazine.

  Modern medicine has generally viewed the concept of "psychosomatic" disease with suspicion. This view arose partly because no neural networks were known for the mind, conceptually associated with the cerebral cortex, to influence autonomic and endocrine systems that control internal organs. Here, we used transneuronal transport of rabies virus to identify the areas of the primate cerebral cortex that communicate through multisynaptic connections with a major sympathetic effector, the adrenal medulla. We demonstrate that two broad networks in the cerebral cortex have access to the adrenal medulla. The larger network includes all of the cortical motor areas in the frontal lobe and portions of somatosensory cortex. A major component of this network originates from the supplementary motor area and the cingulate motor areas on the medial wall of the hemisphere. These cortical areas are involved in all aspects of skeletomotor control from response selection to motor preparation and movement execution. The second, smaller network originates in regions of medial prefrontal cortex, including a major contribution from pregenual and subgenual regions of anterior cingulate cortex. These cortical areas are involved in higher-order aspects of cognition and affect. These results indicate that specific multisynaptic circuits exist to link movement, cognition, and affect to the function of the adrenal medulla. This circuitry may mediate the effects of internal states like chronic stress and depression on organ function and, thus, provide a concrete neural substrate for some psychosomatic illness.


  Background & Aims: Genome-wide association studies have identified 200 inflammatory bowel disease (IBD) loci, but the genetic architecture of Crohn's disease (CD) and ulcerative colitis remain incompletely defined. Here, we aimed to identify novel associations between IBD and functional genetic variants using the Illumina ExomeChip (San Diego, CA).

  Methods: Genotyping was performed in 10,523 IBD cases and 5,726 non-IBD controls. There were 91,713 functional single-nucleotide polymorphism loci in coding regions analyzed. A novel identified association was replicated further in independent cohorts. We further examined the association of the identified single-nucleotide polymorphism with microbiota from 338 mucosal lavage samples in the Mucosal Luminal Interface cohort measured using 16S sequencing.

  Results: We identified an association between CD and a missense variant encoding alanine or threonine at position 391 in the zinc transporter solute carrier family 39, member 8 protein (SLC39A8 alanine 391 threonine, rs13107325) and replicated the association with CD in 2 replication cohorts (combined meta-analysis P = 5.55 × 10(-13)). This variant has been associated previously with distinct phenotypes including obesity, lipid levels, blood
pressure, and schizophrenia. We subsequently determined that the CD risk allele was associated with altered colonic mucosal microbiome composition in both healthy controls (P = .009) and CD cases (P = .0009). Moreover, microbes depleted in healthy carriers strongly overlap with those reduced in CD patients (P = 9.24 × 10(-16)) and overweight individuals (P = 6.73 × 10(-16)).

Conclusions: Our results suggest that an SLC39A8-dependent shift in the gut microbiome could explain its pleiotropic effects on multiple complex diseases including CD.


BACKGROUND: CA19-9, which is currently in clinical use as a pancreatic ductal adenocarcinoma (PDAC) biomarker, has limited performance in detecting early-stage disease. We and others have identified protein biomarker candidates that have the potential to complement CA19-9. We have carried out sequential validations, starting with 17 protein biomarker candidates to determine which markers and marker combination would improve detection of early-stage disease compared with CA19-9 alone.

METHODS: Candidate biomarkers were subjected to enzyme-linked immunosorbent assay based sequential validation using independent multiple sample cohorts consisting of PDAC cases (n = 187), benign pancreatic disease (n = 93), and healthy controls (n = 169). A biomarker panel for early-stage PDAC was developed based on a logistic regression model. All statistical tests for the results presented below were one-sided.

RESULTS: Six out of the 17 biomarker candidates and CA19-9 were validated in a sample set consisting of 75 PDAC patients, 27 healthy subjects, and 19 chronic pancreatitis patients. A second independent set of 73 early-stage PDAC patients, 60 healthy subjects, and 74 benign pancreatic disease patients (combined validation set) yielded a model that consisted of TIMP1, LRG1, and CA19-9. Additional blinded testing of the model was done using an independent set of plasma samples from 39 resectable PDAC patients and 82 matched healthy subjects (test set). The model yielded areas under the curve (AUCs) of 0.949 (95% confidence interval [CI] = 0.917 to 0.981) and 0.887 (95% CI=0.817 to 0.957) with sensitivities of 0.849 and 0.667 at 95% specificity in discriminating early-stage PDAC vs healthy subjects in the combined validation and test sets, respectively. The performance of the biomarker panel was statistically significantly improved compared with CA19-9 alone (P < .001, combined validation set; P = .008, test set).

CONCLUSION: The addition of TIMP1 and LRG1 immunoassays to CA19-9 statistically significantly improves the detection of early-stage PDAC.

mice with EnCore lipid nanoparticles (LNP) loaded with a Dicer substrate small interfering RNA targeting catenin beta 1 (CTNNB1; CTNNB1-LNP), scrambled sequence (Scr-LNP), or phosphate-buffered saline for multiple cycles. A significant decrease in tumor burden was evident in the CTNNB1-LNP group versus all controls, which was associated with dramatic decreases in β-catenin targets and some K-Ras effectors, leading to reduced tumor cell proliferation and viability. Intriguingly, in relatively few mice, non-GS-positive tumors, which were evident as a small subset of overall tumor burden, were not affected by β-catenin suppression.

CONCLUSION: Ras activation downstream of c-Met is sufficient to induce clinically relevant HCC in cooperation with mutant β-catenin. β-catenin suppression by a clinically relevant modality is effective in treatment of β-catenin-positive, GS-positive HCCs.

Peer-Reviewed Publications


Pinsky PF, Schoen RE. Colorectal Cancer Incidence by Age Among Patients Undergoing Surveillance Colonoscopy. JAMA Intern Med. 2015 May 1;175(5):858-60.


The Division of General Internal Medicine (DGIM) continues its success in clinical care, research, teaching, and administration. The inpatient clinical activities have expanded in volume and outpatient services remain strong. The Institute for Clinical Research Education (ICRE) has grown substantially and is the organization that supports the Clinical and Translational Science Institute (CTSI), serving as a research training resource for medical students, residents, fellows, and junior faculty members throughout the six Schools of the Health Sciences at the University of Pittsburgh. The DGIM continues to receive excellent funding from the National Institutes of Health (NIH).

**RESEARCH**

The DGIM has more than 40 research faculty members (MDs and PhDs) who devote the majority of their efforts to research. The Division has six current career development awards, including KL2, K12, and VA Career Development Awards. More than 50% of the DGIM’s research budget is from external funding. Faculty members are well funded, largely from NIH, the Agency for Healthcare Research and Quality, the VA, the pharmaceutical industry, and private foundations. This year, more than 51 grant proposals were submitted.

The DGIM’s major research foci include studies on comparative effectiveness and quality, women’s health, prevention, health care disparities, mental health services, prevention, cost effectiveness, decision making, use of technology in healthcare, and substance abuse. Research education is also a major part of Division activities and is executed through the ICRE. Much of the research is carried out through the Center for Research on Health Care (CRHC) and the Center for Health Equity Research and Promotion (CHERP). These
centers provide a mechanism for interdisciplinary collaboration and research with faculty members throughout the University of Pittsburgh and with members of the RAND-University of Pittsburgh Health Institute (RUPHI).

The CRHC Data Center, under the direction of Doris Rubio PhD, greatly facilitates the conduct of research and supports investigators from the entire institution. The Data Center brings together a team of experts, along with a data management group, to oversee and supervise the team. Statisticians are involved in all phases of the studies, from pre-award (conducting power analyses and consulting on the methodology) to post-award (running statistical applications and consulting with principal investigators to interpret the findings). The Data Center serves as the CTSI's evaluation core and supports the education training and career development core.

**Collaborative Research Centers and Programs**

The Clinical Data Research Network (PATH Network) is a major program funded through the Patient-Centered Outcomes Research Institute (PCORI) to develop multi-institutional databases to be used for research. We are collaborating with Johns Hopkins University, Temple University, Geisinger, University of Utah, and Penn State University. The program will have a major impact on our capacity to conduct patient-centered outcomes research. The program is led by Kathleen McTigue, MD, MPH.

The PCORI K12 is a career-development program that trains junior faculty from the Schools of the Health Sciences. The program is in its fourth year of funding, supporting scholars from multiple disciplines.

The Section of Treatment, Research, and Education in Addiction Medicine (STREAM), led by Kevin Kraemer, MD, MSc, seeks to build programs and human capital at the University of Pittsburgh in this area. STREAM leverages existing substance use disorder research, training, and clinical care programs at the VA Pittsburgh Healthcare System, UPMC, and the University of Pittsburgh. This research program conducts studies on approaches to substance use disorders in non-specialty settings, fosters research collaborations across disciplines, and endeavors to gain program project funding. STREAM leads the Center for Opioid Recovery. We have recruited two new faculty interested in opioid addiction research.

The Center for Research on Media, Technology, and Health (CRMTH), led by Brian Primack, MD, PhD, conducts research investigating associations between media messages, technological innovations, and health outcomes. Media messages include social media, internet, television, films, music, video games, and advertisements of all types. Of particular interest are health outcomes related to substance use, mental health, sexual behavior, violence, and communications between patients and healthcare providers. The center's goal is to develop, implement, and evaluate interventions related to media messages and technological advances to improve health outcomes. We recruited a new faculty member (Kar-Hai Chu, funded through PCOR K12) to work in this center.

The Center for Women's Health Research and Innovation (CWHRI), led by Sonya Borerro, MD, MS, comprises an interdisciplinary group of health services researchers dedicated to improving women's health through innovative, high-quality, health services research. The research encompasses all aspects of women's health, with particular attention to vulnerable populations, women in the military, racial disparities, and sex- and gender-based differences in health and disease. CWHRI seeks to foster collaboration across academic communities to advance the field of women's health and provide mentorship and training opportunities to students, residents, fellows, and junior faculty committed to women's health services research.
The Center for Behavioral Health and Smart Technology is a cross-disciplinary group formed in 2015 within the Center for Research on Health Care and the University’s Department of Medicine. The center facilitates research conducted at the intersection of clinical medicine, computer science, health services research, and healthcare delivery—with the ultimate aim of improving population health. The center offers an annual conference attended by University and local community stakeholders. It also provides an academic home to foster multidisciplinary collaborations among clinicians, investigators, and other innovators within the University of Pittsburgh’s Schools of the Health Sciences and UPMC who are interested in applying cutting-edge technology and behavior-change strategies to improve health and healthcare delivery.
**Faculty Research Interests**

**Kaleab Abebe PhD**
Dr. Abebe’s collaborative research focuses on the design, conduct, and analysis of multicenter, randomized, controlled trials (RCTs), namely in polycystic kidney disease (PKD). He is the Data Coordinating Center (DCC) principal investigator for the HALT-PKD Network, comprising two, seven-site RCTs evaluating the impact of hypertensive medications and blood pressure control on PKD. He leads the DCC for an early phase RCT assessing safety and tolerability of metformin in PKD.

Dr. Abebe also oversees statistical cores of several comparative-effectiveness studies for gestational diabetes, collaborative care, HIV, and adolescent medicine. In addition, he is the founding director of the Center for Clinical Trials & Data Coordination, created to standardize the design, conduct, and analysis of RCTs.

**Robert Arnold MD**
Dr. Arnold focuses on how clinicians operationalize ethical precepts in the care of seriously ill patients. He works at the interface of communication skills training, medical ethics, and palliative care, all in an effort to improve clinicians’ skills. Current research focuses on teaching palliative care communication skills to clinicians using both face-to-face courses and new technologies and understanding the impact of these educational interventions. He also works with junior investigators to better understand the impact of primary palliative care interventions in oncology and cardiology. Finally, Dr. Arnold is interested in studying health system-wide interventions to improve seriously ill patients’ and families’ experiences.

**Amber Barnato MD MPH MS**
Dr. Barnato’s research focuses on the provider and organizational determinants of variation in Medicare beneficiaries’ use of intensive care services at the end of life—and on racial and socioeconomic disparities in end-of-life health services use.

**Sonya Borrero MD MS**
Through her research, Dr. Borrero strives to advance reproductive health equity. She is interested in understanding multilevel influences on contraceptive and pregnancy decision-making in vulnerable populations to identify targets for interventions that will optimize reproductive health care provision and decrease women’s risk for undesired pregnancy. As a clinician and researcher at VA Pittsburgh, Dr. Borrero’s research has also focused on VA reproductive health care to help inform efforts to ensure high-quality, comprehensive care for the growing number of women veterans. Her research has been supported by grants from NIH, VA, and private foundations.

**Thuy Bui MD**
Dr. Bui researches the global health workforce as well as training and interventions to address social determinants of health.

**Peter Bulova MD**
Among Dr. Bulova’s research interests are Down syndrome and Alzheimer’s disease, improving the quality of life for adults with special needs, and improving the quality of outpatient medical education.

**Gregory Bump MD**
Dr. Bump focuses on medical education about patient safety and quality improvement.
Raquel Buranosky MD MPH
Dr. Buranosky investigates the areas of domestic violence screening, women's health, medical education and curriculum development. Along with publishing and mentoring others in this area, she also is a member of the Medical Education Research Committee, within the Division of General Internal Medicine, which reviews and approves research proposals for funding. Dr. Buranosky has been a Schweitzer fellow mentor to many medical students in the area of underserved women's health.

(Joyce) Chung-Chou Chang PhD
Dr. Chang has a wide range of interests in theoretical and applied statistics, including time-to-event (survival) and longitudinal data analysis, missing data (competing risks and informative dropout), causal effect modeling (propensity score and marginal structural modeling), design and analysis of observational studies and clinical trials, design and analysis of studies of biomarkers in risk prediction, dynamic prediction, and machine learning techniques. She has served as the lead statistician on numerous research projects and has been the consulting statistician for several K-award projects. In these roles, she has helped investigators throughout the University develop new research protocols and data analysis plans for a wide range of biomedical studies and has overseen the data management and analyses of these studies.

Rather than limiting her role to applying traditional statistical methodology to projects, Dr. Chang actively encourages and promotes the use of the most up-to-date appropriate statistical methods. She has applied these methods to a wide range of investigations, including research on aging, HIV/AIDS and other infectious diseases, heart diseases, liver transplantation, health services research, and acute illness.

Julie Childers MD MS
Dr. Childers' research interests are in teaching communication and in opioid prescribing for patients with a history of addiction.

Molly Conroy MD MPH FACSM
Dr. Conroy joined the faculty at the University of Pittsburgh in 2004 after completing residency, a General Internal Medicine Fellowship, and an MPH at Massachusetts General Hospital/Harvard School of Public Health. Since residency, her primary research interest has been cardiovascular disease (CVD) risk reduction and lifestyle change, with a focus on primary care. Her past grants include a career development award from NIH/NHLBI focused on subclinical CVD and physical activity promotion in middle-aged women. She has been PI or co-investigator of several clinical trials related to lifestyle change and CVD risk reduction and has received funding from NIH, AHRQ, and PCORI for her work. Current grants include funding from AHRQ to investigate innovative technology to assist with weight maintenance in primary care settings and a PCORI grant to study an exercise intervention to reduce fracture risk in older adults. Dr. Conroy is also the site-PI of the NIH-funded SPRINT study at the University of Pittsburgh; this large multi-site trial demonstrated the effectiveness of intensive blood pressure control in reducing CVD events in high-risk older adults compared to standard control. She is actively involved with efforts to disseminate SPRINT findings and investigate models of using technology and other innovative strategies to promote better blood pressure treatment in primary care settings.

Jennifer Corbelli MD MS
Dr. Corbelli has presented nationally and has published work in a variety of research content areas, including systematic review, medical education research such as curriculum development and evaluation, and women's health. In addition, she continues to actively mentor residents and fellows in their own research and education projects.
**Esa Davis MD MPH FAAFP**

Dr. Davis is an NIH-funded clinical researcher with a patient-oriented research program focused on obesity-related maternal and child health outcomes and in comparative effectiveness research in obesity and tobacco. Much of her work has focused on understanding the development of obesity in women. She has contributed to the field specifically by investigating the perinatal, cultural, and behavioral factors associated with the racial and socioeconomic disparities in obesity among women that have persisted for decades. She published a novel conceptual framework that has been highly cited to help guide the testing of hypotheses associated weight change during pregnancy and the long-term development of obesity and related disparities. Dr. Davis has contributed new analytic methods in investigating pregnancy-factors associated with the development of maternal obesity and related outcomes. She is currently the principal investigator of a NIH funded randomized controlled trial titled, “Comparison of Two Screening Strategies for Gestational Diabetes, GDM2 Study,” which aims to examine differences in perinatal outcomes of women randomized to two screening/diagnostic strategies for gestational diabetes. She has also conducted studies that investigate the association between obesity and cardiac recovery and remodeling in women with postpartum cardiomyopathy.

Dr. Davis also investigates the reduction reducing risk factors such as hypertension, obesity, smoking and patient attitudes associated with cardiovascular disease. She is currently a co-investigator on three NIH/FDA-funded randomized control trials that are investigating effective strategies for treating hospitalized smokers and evaluating new nicotine standards for cigarettes.

**Anna Donovan MD MS**

Dr. Donovan has extensive experience presenting her work and teaching both locally and nationally. She maintains an interest in medical education research, with current projects in curriculum design, implementation, and evaluation. She recently designed and evaluated a new curriculum teaching interns how to teach, which she has integrated into a longitudinal residents-as-teachers curriculum for Internal Medicine residents. Additionally, she is involved in medical education research projects related to teaching high-value care and also projects focused on improving inpatient care through educational interventions.

**Anwar Dudekula MD**

Dr. Dudekula has a strong interest in gastroenterology.

**D. Elnicki MD**

The primary focus of Dr. Elnicki's research is medical education, at both the UGME and GME levels. He has published on educational topics that include improving aspects of the internal medicine clerkship, early clinical exposures for medical students, assessment issues, improving the learning environment, teaching evidence based medicine skills, providing feedback to learners and teaching telephoone medicine skills to residents. He currently is part of programs to develop curricula on pain management issues, to address issues of student mistreament and improving residents' continuity clinics.

**Kristian Feterik MD**

Kristian Feterik’s research interests include: inpatient consultative medicine, venous thromboembolism, health information technology, and medical-decision support systems.

**Michael Fine MD MSc**

Dr. Fine is a Professor of Medicine at the University of Pittsburgh School of Medicine and Director of the Center for Health Equity Research and Promotion (CHERP), a VA Center of Innovation in Health Services Research at the VA Pittsburgh Healthcare System. His research focuses on ways to improve the quality and equity of medical care for patients with common medical problems. As Director of CHERP, he is particularly interested in conducting research to detect, understand, and eliminate disparities in health and health care among vulnerable patient populations. His past research employed retrospective and prospective cohort designs, with extensive emphasis on assessment of
patient-centered outcomes. His research has also utilized randomized clinical trial design to test the effectiveness and safety of medical practice guidelines to improve the quality and efficiency of care for patients with common medical illnesses.

**Gary Fischer MD**
Dr. Fischer conducts research in several areas related to quality improvement: (1) the use of health information technology (HIT) and clinical decision support to improve quality of care; (2) the use of patient-facing HIT tools to improve patient outcomes, including with weight loss, diabetes care, hypertension, and prevention; (3) electronic communication between patients and health care providers; and (4) ambulatory quality improvement.

**Walid Gellad MD MPH**
Dr. Gellad’s research focuses on physician prescribing practices and on policy issues affecting access and adherence to medications for patients. He was the recipient of a career development award from the Department of Veterans Affairs to study the quality and efficiency of prescribing in the VA and is currently funded by the VA, NIH, CDC, and the state of Pennsylvania on multiple studies of pharmaceutical policy and prescription use. His work spans clinical areas, from diabetes and hepatitis C to prescription drug and substance abuse. His field of policy expertise is prescription drug pricing and spending. Dr. Gellad is a former member of the Food and Drug Administration (FDA) advisory committee on nonprescription drugs and is an alternate member of the FDA Drug Safety Oversight Board.

He is a nationally recognized authority on improving the measurement of medication adherence. In 2015, he founded and chaired the first national conference focused on improving the science behind medication adherence measurement. He is board certified in internal medicine and completed a residency and chief residency in internal medicine at Brigham and Women’s Hospital and Harvard Medical School. He sees primary care patients in the VA Pittsburgh Heathcare System and attends on the inpatient general medical service.

**Daniel Giesler MD**
Dr. Giesler is interested in community-acquired pneumonia.

**Christine Glaser MD**
Dr. Glaser’s research activities focus on quality improvement in the inpatient hospice setting.

**C. Good MD MPH**
As the Chair of the Medical Advisory Panel for Pharmacy Benefits Management for the Department of Veterans Affairs, Dr. Good’s research centers on the safe, effective provision of medications. He has published recently in the area of drug safety, appropriate prescribing, conflicts of interest, and costeffectiveness.

**Adam Gordon MD MPH FACP DFASAM CMRO**
Dr. Gordon is a Professor of Medicine, Professor of Clinical and Translational Science, and Advisory Dean at the University of Pittsburgh. He has a 16-year track record of conducting research on quality, equity, and efficiency of health care provision for vulnerable populations (e.g., persons with opioid use disorders, persons who are homeless, persons with hazardous alcohol use and other addiction disorders). He is a previous VA Health Services and Research Development (HSR&D) Career Awardee. Dr. Gordon’s current research foci include investigating the outcomes and implementation of evidence-based identification, assessment, and treatment for patients with addiction disorders within primary care, primary care medical homes, and other non-specialty clinical environments. He is the Editor-in-Chief of *Substance Abuse* journal.
Janel Hanmer MD PhD
Dr. Hanmer’s primary research focus is on health-related quality of life measurement, particularly health utility measurement. Her previous work has focused on the use of legacy measures. Are the measures comparable? What happens if modes of administration are mixed? What are population averages for these measures? She has often worked with population-based datasets, such as the Medical Expenditures Panel Survey.

Dr. Hanmer’s recent work has focused on developing a new health utility score for the Patient-Reported Outcomes Measurement Information System (PROMIS). This work combines item response theory and econometric theory.

In addition, Dr. Hanmer has training in epidemiology and health services research. She has been involved in projects comparing physician and computer estimates of clinical deterioration for patients admitted to the hospital, as well as projects that evaluate how much physician estimates converge within a team.

Reem Hanna MD
Dr. Hanna is currently working with others researching primary care providers’ views and compliance with an online lifestyle modification intervention.

Peggy Hasley MD MHSc
Dr. Hasley has taken a scholarly approach to the development of medical education. She has developed evaluations of her curricula and presented her findings locally and at national meetings—and she has received internal and foundational funding to support her work. Dr. Hasley serves on the Faculty and Fellows Grant Committee for the Division of General Medicine. She mentors multiple residents and her scholarly contributions to the primary care of transplant patients has led to two review publications and a book chapter published in the Textbook of Organ Transplantation.

Leslie Hausmann PhD
Dr. Hausmann is a social psychologist who conducts multidisciplinary research and quality improvement projects focused on identifying, understanding, and reducing disparities in health and health care for vulnerable patient populations. While much of her work has focused on issues of discrimination and bias in the healthcare setting, she also has extensive experience leading large-scale, multisite, mixed methods evaluations of the longitudinal impact of efforts to improve quality of care overall or for specific vulnerable groups.

Brian Heist MSc
Dr. Heist’s research interests include Japanese medical education, clinical reasoning, and web-based education.

Ana Inashvili MD
Dr Inashvili’s research focuses on hospital medicine, cardiology, and rheumatology.

Elena Jiménez Gutiérrez MD
Dr. Jiménez Gutiérrez’s current research projects focus on CMV seropositivity in HIV-negative participants of the Multicenter AIDS Cohort Study and hospital readmissions.

Charles Jonassaint PhD
The goal of Dr. Jonassaint’s research program is to reduce healthcare disparities by using multimedia technology to deliver evidence-based interventions to underserved populations. He has focused on patients with sickle cell disease (SCD), a condition that disproportionately affects those of African descent and is associated with significant disparities in both funding and treatment. Prior to arriving at the University of Pittsburgh, his research helped identify maladaptive psychological and biological stress responses that contribute to poorer health among underserved populations. He is now working with an interdisciplinary team of investigators to help address these risk factors through the development and testing of mobile health interventions. Dr. Jonassaint is currently funded through an
AHRQ PCOR K12 grant to lead a program of research in sickle cell disease focused on designing mobile technology-delivered stress and pain management interventions, which patients can easily access on their own mobile phones or tablets. He is the co-inventor of an SCD specific self-management app called SMART: The Sickle Cell Disease Mobile Application to Record Symptoms via Technology. Testing of SMART has led to two publications and is now being used in four funded studies at three institutions.

Sarah Jones MD
Dr. Jones is interested in women's health and the doctor-patient relationship experienced through encounters that are not face-to-face office visits as well as the quality of care that is delivered through these encounters.

Dayakar Kancherla MD
Dayakar Kancherla is interested in adult hospital medicine.

Wishwa Kapoor MD MPH
Dr. Kapoor has conducted groundbreaking work in syncope and community-acquired pneumonia (CAP). Broadly, his interests are in health services and outcomes of common medical problems, including a focus on improving outcomes, reducing cost and providing high-quality care. His work has been published in prestigious journals, including the New England Journal of Medicine, JAMA, Circulation, and Annals of Internal Medicine. His studies have provided the building blocks for the evaluation and management of syncope, forming the foundation for guidelines on the condition. His work is used and quoted by physicians nationally and internationally.

His contributions in CAP, funded by AHRQ under Patient Outcomes Research Team (PORT), led to the assembling of a team of scientists from diverse disciplines. Dr. Kapoor served as the leader of this large multicenter and multidisciplinary group, which redesigned the approach to the prevention, treatment, and prognosis of CAP. PORT produced more than 100 publications in major journals and books. The studies led to several large, randomized, controlled trials, directed by Michael Fine, MD MSc, his main collaborator and mentee on PORT.

Dio Kavalieratos PhD
Dr. Kavalieratos is a health services researcher whose work focuses on development, evaluation, and implementation of patient-centered models of palliative care in serious cardiopulmonary illness. He has expertise in qualitative methods, patient-reported outcomes, and evidence synthesis. A recipient of the 2013 Young Investigator Award from the American Academy of Hospice and Palliative Medicine (AAHPM), he serves as Chair of the AAHPM’s Scientific Subcommittee. Dr. Kavalieratos’ work has been supported by the National Palliative Care Research Center (Career Development Award, 2014), AHRQ (K12, 2014), the Cystic Fibrosis Foundation (Pilot Study Grant, 2014), and NHLBI (K01, 2016). His research has appeared in journals, including JAMA, the Journal of the American Heart Association, the Journal of Pain and Symptom Management, and Heart (BMJ), among others. He serves as an Associate Editor of the Journal of Palliative Medicine, and serves on the Editorial Board of the American Journal of Public Health.

Amar Kohli MD
Dr. Kohli’s primary research interests include consultation medicine and doctor-to-doctor communication.

Kevin Kraemer MD MSc
Dr. Kraemer researches the delivery and implementation of patient-centered strategies for the detection and early intervention of unhealthy alcohol and drug use. He also studies the application of cost-effectiveness methodology to alcohol and drug detection and treatment programs, and the comparative effectiveness of alcohol and drug addiction treatment on HIV outcomes and quality of HIV care. He serves as co-investigator and Pittsburgh Principal Investigator for the national, multi-site Veterans Aging Cohort Study (VACS), which is assessing the impact of multi-substance use and use in a prospective cohort of 9,000 HIV-infected and uninfected veterans and a “virtual” cohort of all 47,000+ HIV-infected Veterans in care since 1998. He is currently Principal Investigator of a five-year NIAAA R01
“Comparative Effectiveness of Alcohol and Drug Treatment in HIV-Infected Veterans,” which aims to compare the impact of different alcohol and illicit drug treatment approaches on the outcomes of HIV virologic control and quality of HIV care. Dr. Kraemer has extensive research mentoring experience across a spectrum of predoctoral students, postdoctoral fellows, and junior and mid-level faculty. Currently, he is primary mentor to several University of Pittsburgh junior faculty, fellows, and residents. He serves as a Master Mentor in the ICRE Training Early Academic Mentors program, is co-leader for the ICRE’s annual Mentoring Matters half-day workshop, and teaches in the University of Pittsburgh Office for Academic Career Development’s professional development workshop series, including the session on K awards. Nationally, he has served on the AAMC Committee on Training Physicians to be Clinical-Translational Investigators.

Douglas Landsittel PhD
Dr. Landsittel has worked for the last 20 years in the areas of occupational injury and exposures, biomarkers and prognostic models, and, more recently, causal inference. He is PI of three projects, including a data coordinating and imaging analysis center (with KT Bae) for the NIDDK Consortium for Radiological Imaging Studies of PKD (or CRISP), a statistical methods contract from the Patient-Centered Outcomes Research Institute on developing a decision tool for observational CER, and a training and education program in patient-centered outcomes research that is being conducted in partnership with six Minority-Serving Institutions. He is Director of the Section for Biomarkers and Prediction Modeling and Director of Biostatistics for the Starzl Transplant Institute, as well as a faculty member in the Comparative Effectiveness Research Center and the Center for Research on Healthcare. He also collaborates with faculty in Rhuematology, Surgery, and Nephrology.

Bruce Ling MD MPH
Dr. Ling joined the faculty of the Division of General Internal Medicine and the Center for Research on Health Care in 1999. He subsequently received a career development award from the National Cancer Institute to assess the delivery and utilization of colorectal cancer screening and evaluate the patient-provider interaction as it relates to screening. The results of this work have led to additional funding from the National Cancer Institute and to a VA merit award for a multisite intervention trial. Previously, he served as the Associate Director for research in the Institute for Doctor-Patient Communication at the University of Pittsburgh. He is currently the Chair of the Institutional Review Board at the VA Pittsburgh Healthcare System.

Colleen Mayowski EdD MLIS
Dr. Mayowski has published and presented on the use and prevalence of institution-level eportfolios for accreditation and outcomes assessment. Her current research interests focus on assessment, evaluation, and impact of higher education programs.

David McAdams MD MS SFHM FACP
Dr. McAdams’ research interests include hospital quality improvement and patient safety, as well as developing tools for billing and hospital length of stay.

Melissa McNeil MD MPH
Dr. McNeil research interests include the development and evaluation of innovations in medical education and in the care of women. She is the Director of the joint VA/University of Pittsburgh Women’s Health Fellowship and also serves as the Program Director for the NIH-sponsored Building Interdisciplinary Careers in Women’s Health grant, which is an institutional career development award for faculty members interested in developing research careers in women’s health. She has more than 50 peer-reviewed publications on diverse topics ranging from the evaluation of women’s health educational efforts, the impact of women’s health fellowships on career trajectory, an evaluation of the implementation of new breast cancer screening guidelines, and the evaluation of burnout in medical residents, with a particular interest on gender differences in burnout. In 2014, Dr. McNeil was named the Society of General Internal Medicine’s Distinguished Professor of Women’s Health in recognition of her wide-ranging and diverse initiatives in the field of women’s health.
Kathleen McTigue MD MPH MS
Dr. McTigue is interested in the prevention of chronic disease, with a focus on obesity, women's health, and information technology. Her research interests are in the prevention of chronic disease, with a focus on obesity, women's health, and information technology. She has considered both evidence-based clinical medicine and public health approaches to escalating U.S. weight trends. She led the development, implementation and evaluation of the first online adaptation of the Diabetes Prevention Program’s lifestyle intervention. This work uses technology to bring evidence-based self-management support to primary care patients. Dr. McTigue’s work on improving the quality of patient care comprises a focus on the development of infrastructure for supporting patient-centered clinical research, via the PaTH Clinical Data Research Network, a member of the National Patient-Centered Clinical Research Network (PCORnet).

Alexandra Mieczkowski MD MS
Dr. Mieczkowski’s research interests are educational, focusing on trainee autonomy and wellness, and, in particular, trainee financial wellness.

Natalia Morone MD MS
Dr. Morone conducts research to evaluate the effectiveness of mind-body and complementary interventions for chronic pain and high blood pressure, particularly mindfulness meditation. She is also interested in identifying the psychological contributors to chronic pain. For health care providers, Dr. Morone is interested in curriculum development regarding treatment of patients with chronic pain.

She has published more than 30 peer-reviewed articles in well-respected journals on topics such as chronic pain management and the effects of mindfulness meditation on chronic low back pain. She is and has been both a principal investigator and a co-investigator on research grants studying chronic pain management. Her work has been funded by the NIH.

Muhammad Munir MD
Along with his clinical duties, Dr. Munir is an active participant in cardiac electrophysiology research with his mentor, Samir Saba, MD, and has published various manuscripts in the field.

Larissa Myaskovsky PhD
With multidisciplinary training in social psychology and clinical epidemiology and more than 20 years of experience, Dr. Myaskovsky has pursued a research career focused on bringing social and behavioral science to bear on the field of health services research. Her NIH- and VA-funded research uses a multi-method and multidisciplinary approach to identify and understand disparities in health care processes and outcomes, and to develop interventions to reduce health disparities in people with disabilities and chronic disease. She has extensive experience with the recruitment and retention of more than 2,000 minority and non-minority participants in her ongoing federally-funded longitudinal, multisite research projects aimed at understanding and reducing health care disparities in kidney transplantation. Further, she has conducted research on the patient, provider, and system factors related to wheelchair service delivery, and quality and equity of care in patients with spinal cord injury.

Marie Norman PhD
Dr. Norman’s research interests include the application of research-based learning principles to teaching (whether face-to-face or online), the uses of video for learning, factors affecting faculty satisfaction and retention, and cross-cultural issues in education.

She co-authored the book, How Learning Works: Seven Research-Based Principles for Smart Teaching, which has been translated into seven languages and is used widely as a teaching resource in higher education. Dr. Norman speaks regularly about teaching and learning and writes a blog for Synapse, an education publication on the blogging platform, Medium.
Seo Young Park PhD
Dr. Park joined the faculty in 2011 as an Assistant Professor of Medicine in the Institute for Clinical Research Education and Center for Research on Health Care Data Center. She collaborates with investigators on the development of clinical research projects. Before joining the University of Pittsburgh, she worked as a Research Associate (Assistant Professor) in the Biostatistics Lab, Department of Health Studies, at the University of Chicago. Her research interests are in disease prediction models, modern regression techniques, high-dimensional data analysis, variable selection techniques, bioinformatics, and clinical trials.

Lisa Podgurski MD
Dr. Podgurski's research interests focus on assessing outcomes for her educational interests, which include teaching medical professionals the skills involved in high-quality palliative care, including symptom management, prognostication, and communication skills required for delivering serious news, managing conflict, and advance care planning. She has served as a facilitator for intensive, practice-based communication skills training workshops following the VitalTalk model, and she organized the first GynOncoTalk workshop in this model in 2016.

Ruth Preisner MD
Dr. Preisner's research focuses on finding the best way to employ simulation for learning procedures that are commonly performed by internists.

Brian Primack MD PhD
Dr. Primack has been the principal investigator on multiple federal grants from NCI, NIDA, and AHRQ (e.g., R01-CA140150, R01-DA034629, R21-HS022927, and R21-CA185767). He has also been a co-investigator on multiple NIH research projects funded by NICHD (R24-HD080194), NIAAA (R01-AA021347), NHLBI (R01-HL130388) and NIMHD (U54-GM119023-S1). The diversity of these award sources reflect his multifaceted research interests, his penchant for collaboration, the marketability of his innovative ideas, and his passion for bridging disciplines.

Dr. Primack is broadly interested in improving interpersonal communication, health care, and health outcomes in an increasingly technological and media-driven world. This includes trying to improve the patient-provider bond, reducing mental health problems, and decreasing addiction.

His work in these areas has been published in a wide variety of leading peer-reviewed journals in public health, medicine, and social science, including American Journal of Public Health, American Journal of Preventive Medicine, Journal of the National Cancer Institute, Preventive Medicine, JAMA Pediatrics, JAMA Psychiatry, Public Health Reports, Tobacco Control, Journal of Adolescent Health, American Journal of Health Promotion, and Addiction.

Aditi Puri MD
Dr. Puri is currently working on developing educational curricula on management of geriatric hip fracture patients.

Mark Roberts MD MPP
The majority of Dr. Roberts’ research is in the applications of methods from decision sciences, operations research, and management science. He conducts research both in the performance and advancement of the methodology itself, as well as the application of rigorous modeling methodology to specific health care problems. Dr. Roberts has used decision analysis to examine clinical, costs, policy, and allocation questions in liver transplantation, as well as the treatment of HIV, vaccination strategies, operative interventions, and the use of many medications. He is interested in the use of observational data analysis for causal inference, as well as in the measurement and inclusion of patient preferences into treatment decisions and the use of electronic health records for research.
Bruce Rollman MD MPH
Dr. Rollman’s research focuses on developing novel interventions to treat depression and anxiety disorders in non-psychiatric settings. He has been principal investigator on six NIH-funded R01 clinical trials, including the Online Treatment for Mood and Anxiety Disorders Trial that evaluated the impact of incorporating a computerized cognitive behavioral therapy program and Internet support group into a collaborative care intervention; and the Hopeful Heart Trial presently testing the effectiveness of a “blended” collaborative care model for treating heart failure and depression simultaneously.

Dr. Rollman has served as a co-investigator and consultant on numerous other research projects and has published nearly 100 scientific papers, including first-authored papers in the New England Journal of Medicine, Journal of the American Medical Association, and Annals of Internal Medicine. He has four U.S. patents for health-related inventions. He has become highly experienced with state-of-the-art techniques for treating mood and anxiety disorders in non-psychiatric settings, and with the conduct of comparative effectiveness trials.

Doris Rubio PhD
Since joining the University in 2002, Dr. Rubio has collaborated on numerous research grants across several fields, serving in a leadership role on the majority of these projects. Her research is diverse, and her grants have been funded by multiple institutes and centers at NIH, as well as the National Research Mentoring Network.

Dr. Rubio focuses much of her current research on diversifying the workforce. She is the director of two federally funded grants that aim to help trainees from diverse backgrounds launch and sustain successful careers in the biomedical sciences. In addition, she has also investigated and published in fields such as psychometrics, structural equation modeling, quality-of-life indicators, alcoholism, and career development. During her career, she has published more than 70 peer-reviewed articles in well-respected, high-impact journals.

Jane Schell MD
Dr. Schell’s research centers on physician communication skills training. She has developed and measured outcomes for a communication curriculum for nephrology fellows on palliative care topics.

Yael Schenker MD MAS
Since joining the Department of Medicine in 2010, Dr. Schenker has collaborated on numerous palliative care research projects. Her primary focus is understanding and improving provision of primary palliative care in oncology. Using mixed methods, her work has uncovered barriers to receipt of specialty palliative and led to the development and evaluation of a nurse-led primary palliative care intervention called CONNECT. Dr. Schenker has also published widely on topics, including surrogate decision making, informed consent, healthcare advertising, and language barriers.

Nikhil Seth MD
Dr. Seth has taken an active role in research in the Gastroenterology Department. He has presented his work in Inflammatory Bowel Disease at the national American College of Gastroenterology and Digestive Disease Week conferences. He has also published a first-author manuscript in the Journal of Pacing and Clinical Electrophysiology.

Gaetan Sgro MD
Dr. Sgro’s research interests lie at the intersection of quality improvement and medical education. His current grants focus on developing innovative curricula to teach patient safety and quality improvement in graduate medical education, on improving transitions of care between inpatient and outpatient settings, and on the use of simulation to improve invasive procedure training for medical residents.
Kenneth Smith MD MS
Dr. Smith is a Professor of Medicine and Clinical and Translational Science and a core faculty member of the Center for Research on Health Care at the University of Pittsburgh. His research centers on the cost-effectiveness of common medical interventions, most notably on pneumococcal, influenza, and varicella vaccination and on the impact of racial disparities in vaccination rates. He has published in many other areas, including pelvic inflammatory disease, influenza management strategies, diabetes prevention and treatment, VA formulary decisions, anticoagulation and thrombotic disorder management, and hospital-physician communication. In addition, he is Deputy Editor of the journal *Medical Decision Making*.

Neal Spada MD
Dr. Spada is currently researching the relationship between genomic instability and response to chemotherapy in patients with gastric and gastroesophageal cancer. His mentor is Weijing Sun, MD.

Carla Spagnoletti MD MS
Dr. Spagnoletti's research interest is within the field of medical education, with a focus on patient-doctor communication, the patient experience, and professional development. In addition to leading and mentoring numerous medical education research projects, she has mentored many others to obtain competitive funding through Divisional, institutional, and foundational sources for scholarly educational work.

Jamie Stern MD MPH

Leigh Swartz MD
Dr. Swartz has done research in palliative chemotherapy and tumor vaccines.

Galen Switzer PhD
Dr. Switzer is an expert regarding the motives and experiences of individuals who join an adult stem-cell donation registry and volunteer to donate to a stranger. In collaboration with the U.S.-based National Marrow Donor Program, U.K.-based Anthony Nolan Registry, and German-based D.K.M.S., his research group has become internationally known for its findings about registry members’ experience at critical points leading to donation, as well motivations for joining the registry and factors associated with opting-out after having preliminarily matched a patient in need of a transplant. Dr. Switzer has also investigated the donation experience from the donor perspective. Finally, for more than 20 years, he has developed and evaluated clinical and psychosocial research measures—and compiled validated measures for research projects across multiple contexts.

Gary Tabas MD
Dr. Tabas is interested in studying Bayesian virtual patient design to teach the management of diabetic ketoacidosis. He collaborates with Dmitriyi Babichenko, University of Pittsburgh School of Information Science.

Winifred Teuteberg MD
Dr. Teuteberg has been the clinical expert for several research endeavors, including a randomized trial of palliative care for adult patients with cystic fibrosis. She is interested in evaluating how we can better use our existing electronic health record to leverage goals of care conversations and advance care planning documents over the continuum of care.

Brent Thiel MD
Dr. Thiel's research interest centers on improving health care value through physician practices and high-value care medical education.
Holly Thomas MD MS
Dr. Thomas seeks to conduct innovative, interdisciplinary, patient-centered clinical research that will improve the health and quality of life of women as they age. In particular, she is interested in understanding the physical and psychosocial factors that contribute to sexual dysfunction in midlife and in older women—and developing behavioral treatment options for this population.

Sarah Tilstra MD MS
Dr. Tilstra has participated in several medical education research projects. Her main research interests include clinical reasoning; physician wellness, burnout and coping; curriculum development and evaluation; and the state of women in academic medicine.

Andrew Trifan MD
Dr. Trifan is researching the education of housestaff and other clinical support on the appropriate indications for the placement of peripherally inserted central catheter lines.

Dana Tudorascu PhD
Dr. Tudorascu joined the faculty in 2011 as an Assistant Professor of Medicine and Biostatistics. She collaborates with investigators on design and analysis of clinical research projects. Her specific interests are in the analysis of structural MRI, functional MRI (task/resting state/connectivity), and PET data with applications in healthy aging population and patients with Alzheimer's disease. She is also interested in investigating and improving registration and classification methods for individuals with white-matter disease.

In addition to neuroimaging analysis, Dr. Tudorascu is also the lead statistician on two clinical trails: a PCORI trial on spinal stenosis and a weight management trial (MAINTAIN). She received an Honorable Mention in 2014 from the Aging Institute at the University of Pittsburgh for investigating the potential mechanism of resilience to brain aging.

Chandraprakash Umapathy MD
Dr. Umapathy's research interests include readmissions and quality improvement in hospital-based medicine, natural history and long-term outcomes in pancreatic necrosis, quality of life in inflammatory bowel disease patients, natural language processing in acute pancreatitis, natural history of hereditary pancreatitis, and liver transplant waitlist outcomes.

Peri Unligil MD
Dr. Unligil researches the health effects of air pollution.

Kishore Vipperla MD FACP
Dr. Vipperla's research is aimed at understanding the clinical course of pancreatitis. In his research team's retrospective review of prospectively enrolled acute pancreatitis patient registry, one-third of these patients required readmission for recurrent attacks, symptom control, or management of their complications. The risk of endocrine insufficiency is greater than 20% after a sentinel acute pancreatitis event. In their NIH-funded study, switching the high-fat/low-fiber diet of high colon-cancer risk African Americans to a high-fiber/low-animal fat dramatically influenced the risk of biomarkers of colon cancer — and vice versa in low colon-cancer risk native South Africans.

Jonathan Yabes PhD
Dr. Yabes is a statistician in the Center for Research on Health Care (CRHC) Data Center, and he collaborates with various investigators in the Schools of Health Sciences on diverse clinical research projects. His research has focused on the analysis of large administrative databases and the design, conduct, and analysis of clinical trials. He is involved in health services research of urologic diseases using the SEER-Medicare data, and he serves as a biostatistician in trials on insomnia, palliative care, and critical care. Dr. Yabes has worked on several research
studies on renal disease, hematology, and pediatrics. His methodological interest includes survival and competing risks-regression methods, analysis of longitudinal data, missing data techniques, and joint modeling.

**Lan Yu PhD**
Dr. Yu’s research has focused on applying advanced psychometric theories such as item-response theory and structural equation modeling to health-related outcomes. She has been the lead psychometrician for the NIH Roadmap Initiative, Patient-Reported Outcome Measurement Information System (PROMIS) Pittsburgh research site since 2007. Her research interests include large survey data, secondary data analysis, psychometrics, and item-bank development for various patient-reported outcomes.
Faculty Research and Other Scholarly Activities

Kaleab Abebe PhD
- Member, Data and Safety Monitoring Board, Maintaining Activity and Nutrition through Technology-Assisted
  Innovation in Primary Care (MAINTAIN-PC) Trial, Department of Medicine, 2013-present
- Faculty Judge, Health Disparities Poster Competition, School of Medicine, 2014-present
- Member, Data and Safety Monitoring Board, Comparison of Sub-dissociative Intranasal Ketamine Plus
  Standard Pain Therapy Versus Standard Pain Therapy in the Treatment of Pediatric Sickle Cell Disease
  Vaso-Occlusive Pain Crises in Resource-Limited Settings, Department of Emergency Medicine, Carolinas
  Health Care System, 2015-present
- Member, Data and Safety Monitoring Board, Randomized Controlled Trial of Intranasal Ketamine Compared
  to Intranasal Fentanyl for Analgesia in Children with Suspected Forearm Fractures in the Pediatric
  Emergency Department, Department of Emergency Medicine, Carolinas Health Care System, 2015-present
- Executive Committee Member, Leading Emerging and Diverse Scientists to Success (LEADS), Institute for
  Clinical Research Education, University of Pittsburgh School of Medicine, 2016-present
- Executive Committee Member, Professional Mentoring Skills Enhancing Diversity (PROMISED), Institute for
  Clinical Research Education, University of Pittsburgh School of Medicine, 2016-present
- Co-Chair, Program Committee, 2017 Society for Clinical Trials Annual Conference (Liverpool, EN), 2016-
  2017
  Clinical Trials, 2011-present
- Member, Advisory Panel on Clinical Trials, Patient-Centered Outcomes Research Institute (PCORI), 2016-
  present
- Reviewer, Special Emphasis Panel ZDK1 GRB (O3), Pilot Clinical Trials in Pediatric Chronic Kidney
  Disease, NIDDK, June 2017
- Chapter Representative, Pittsburgh Chapter, American Statistical Association, 2016-present

Eric Anish MD
- Member, Abstract Review Board, National Abstract Competition in Internal Medicine, American College of
  Physicians, 2006-present
- Director, Sports / Musculoskeletal Medicine, University of Pittsburgh School of Medicine, 2009-present
- Director, Pittsburgh Public High School Football Program, UPMC Center for Sports Medicine, Pittsburgh,
  Pennsylvania, 2010-present
- Guest Faculty, Arthrocentesis and Joint Injection, Annual Session of the American College of Physicians,
  San Diego, CA, May 2017
- Special Recognition Award, Dedication to Commitment and Quality, presented by UPMC Shadyside Medical
  Staff, June 2017
- Head Tournament Physician, Atlantic-10 Conference Basketball Championship Tournament, PPG Paints
  Arena, Pittsburgh, PA, March 2017

Robert Arnold MD
- Editorial Board, Journal of Palliative Medicine, 1997-present
- Member, Hospice and Palliative Care Interest Group, American Society of Bioethics and Humanities, 1998-
  present
- Editorial Board, Journal of Opioid Management, 2008-present
- Editorial Board, Supportive Care in Cancer, 2008-present
- Member, Educational Exchange Review Committee, American Academy of Hospice and Palliative Medicine,
  2009-present
Amber Barnato MD MPH MS

- Appointed, Susan J. and Richard M. Levy 1960 Distinguished Professor in Health Care Delivery, Dartmouth Institute, beginning July 2017
- Member, Data Safety and Monitoring Board, Improving Palliative Care for Older Seriously Patients and Their Families: A Randomized Trial of an Informed Assent Communication Intervention about CPR (University of Vermont; Stapleton PI), NIA, Burlington, VT, 2016-present
- Elected Member, Executive Committee of the Faculty, University of Pittsburgh School of Medicine, 2016-17
- Member, Policy Committee, Society for Medical Decision Making, 2013-present
- Editorial Board, Intensive Care Medicine, 2013-present
- Editorial Board, Health Services Research, 2012-present
- Co-Chair, Education Committee, Society for Medical Decision Making, 2012-present
- Co-Chair, Lee Lusted Student Prize Committee, Society for Medical Decision Making, 2011-present
- Member, FAIR Health Scientific Advisory Board, 2011-present
- Member, Palliative Care and Symptom Management Peer Review Committee, American Cancer Society, 2010-present
- Member, Committee on Geographic Variation in Health Care Spending and Promotion of High-Value Care, Institute of Medicine, 2010-present
- Trustee, Society for Medical Decision Making, 2009-present

Lori Bigi MD MS

- Best Doctors, Pittsburgh Magazine, 2017

Sonya Borrero MD MS

- Member and Group Leader, NIH Study Section, U54 Contraceptive Centers, NICHD, 2017
- Member, Governor’s Advisory Council on Veterans Services, 2017-present
- Standing member, NIH Study Section, Health, Behavior, and Context, NICHD, 2016-present
- Member, Stakeholder Committee, RK Mellon Foundation Infant Mortality Initiative, 2016-present
- Member, Advisory Council, New Voices Pittsburgh, 2015-present
- Member, Medical Standards Committee, Adagio Health, 2014-present
- Co-Chair, Scientific Committee, Meeting of the North American Forum on Family Planning, 2014-present
- Member, Advisory Committee, Upstream, 2014-present
- Chair, Membership Committee, Society of Family Planning, 2014-present
- Member, Board of Directors, Society of Family Planning, 2013-present
- Site Lead and Co-Lead, VA Women’s Health Practice-Based Research Network, VA Health Services Research and Development Service, 2012-present
Thuy Bui MD
- Abstract Reviewer, Society of General Internal Medicine, 2010-present
- Abstract Reviewer, Consortium of Universities for Global Health, 2011-present
- Gold Humanism Honor Society Advisory Council, 2014-present
- Reviewer, Malawi Medical Journal, 2015-present

Peter Bulova MD
- Director, Center for Adults with Down Syndrome, University of Pittsburgh, 2003-present
- Co-Director, Magee-Womens Hospital Center for Woman with Disabilities, University of Pittsburgh, 2004-present
- Member, National Down Syndrome Medical Interest Group, National Down Syndrome Society, 2004-present
- Member, International Medical Graduates Interest Group, Society of General Internal Medicine, 2011-present
- Member, Transitional Care for Youth with Chronic Disease Interest Group, Society of General Internal Medicine, 2011-present
- Member, Executive Council, National Down Syndrome Medical Interest Group, 2011-present
- Member, Clinical Symposium Planning Committee, National Down Syndrome Medical Interest Group, 2012-present
- Ad Hoc Reviewer, Advances in Health Sciences Education, 2012-present
- Abstract Reviewer, National Down Syndrome Medical Interest Group, 2013-present
- Ad Hoc Reviewer, Journal of Intellectual Disability Research, 2013-present
- Member, National Down Syndrome Registry Operations Board, National Institutes of Health, 2013-present
- Reviewer, American Journal on Intellectual and Developmental Disabilities, 2015-present
- Ad Hoc Reviewer, New England Journal of Medicine, 2015-present
- Vice President, Executive Council, National Down Syndrome Medical Interest Group, 2016-present

Gregory Bump MD
- Director, GME Quality and Safety, Wolff Center for Quality, Safety, and Innovation, 2014-present

Chung-Chou Ho Chang PhD
- Statistical Consultant, Circulation, 2010-present
- Member and Statistical Advisor, Editorial Board, International Psychogeriatrics, 2011-present

Kar-Hai Chu PhD
- Co-Chair, Network Analysis of Digital and Social Media Minitrack, HICSS Conference

Rene Claxton MD MS
- Member, UPMC Graduate Medical Education Committee, Accreditation, Review and Quality Sub-Committee, 2017-present

Molly Conroy MD MPH
- Member, Ad Hoc Committee on Diversity, American College of Sports Medicine, 2011-present
- Chair, Exercise Is Medicine for Underserved Populations Committee, American College of Sports Medicine, 2012-present
- Fellow, American College of Sports Medicine, 2014-present
Jennifer Corbelli MD MS
- Nominee, Society of General Internal Medicine Frederick L. Brancati Mentorship and Leadership Award, 2017
- Elected Fellow, American College of Physicians, 2017
- Named Top Reviewer, American Journal of Preventive Medicine, 2017
- Abstract Reviewer, Society of General Internal Medicine, 2014-present
- Reviewer, Women’s Health Issues, 2014-present
- Reviewer, American Journal of Preventive Medicine, 2014-present

Esa Davis MD MPH
- Member, Workshop Committee on Strategies for Eliminating Sugar Sweetened Beverages in Children Age 0-5 Yrs, National Academy of Medicine, February-June 2017
- Member, Research Committee, American Academy of Family Physician Foundation, 2017-present
- Board Member, Greater Pittsburgh Region, American Heart Association, 2017-present
- Member, Executive Leadership Committee, ENACT R25 Training Program in Comparative Effectiveness Research, 2014-present
- Education Committee Chair, Executive Leadership Committee, American Heart Association, Pittsburgh Region, 2012-present
- Fellow, American Academy of Family Physicians, 2012-present
- Member, Selection Committee, Amy Roberts Health Promotion Research Award, 2011-present
- Member, General Internal Medicine Residency Diversity Committee, 2011-present
- Reviewer, Annals of Internal Medicine 2009-present
- Reviewer, Annals of Family Medicine 2009-present

D Michael Elnicki MD
- Academy of Master Educators, University of Pittsburgh School of Medicine, 2006-present
- Abstract and Paper Reviewer, Research in Medical Education (RIME) Committee, Association of American Medical Colleges, 2010-present
- Abstract Reviewer and Member, Associate of Medical Education in Europe (AMEE), 2010-present
- Deputy Editor, Journal of General Internal Medicine, 2013-present
- Member, Alliance of Academic Internal Medicine, 2015-16
- Director, International Medical Education Programs, University of Pittsburgh School of Medicine
- Master, American College of Physicians, 2015-present
- Chairman, Academy of Master Educators, 2017-present
- Member, National Board of Medical Examiners (NBME) Committee for Review of Internal Medicine Exams, 2017-present
- Best Doctors, Pittsburgh Magazine, 2017

Michael Fine MD MSc
- Fellow, American College of Physicians, 1998-present
- Member, American Society for Clinical Investigation, 1999-present
- Member, Association of American Physicians, 2009-present
- Member, American Thoracic Society/Infectious Diseases Society of America Joint Guideline on Community and Hospital Community Acquired Pneumonia Committee, 2014-present
- Best Doctors, *Pittsburgh Magazine*, 2012-17
Gary Fischer MD
- Recipient, Quality and Practice Innovation Award, Society of General Internal Medicine, 2016
- Member, Innovations in Practice Management Abstract Committee, Society of General Internal Medicine Annual Meeting, 2016

Walid Gellad MD MPH
- Alternate Member, Drug Safety Oversight Board, FDA, 2009-present
- Member, Scientific Advisory Board, Health Prize, 2015-present
- Member, Data Safety Monitoring Board, Telepharmacy Intervention to Improve Treatment Adherence (R01 HL117918), 2016-present
- Member, Editorial Board, Journal of General Internal Medicine, 2016-present

Alda Maria Gonzaga MD MS
- Recipient, Division of General Internal Medicine Chief’s Discretionary Award, August 2016
- Recipient, UPSOM Donald S. Fraley Award for Outstanding Contributions as a Mentor to Future Physicians, October 2016
- Recipient, J. Nadine Gracia Award for excellent mentorship, UPSOM Student National Medical Association (SNMA), April 2017
- Recipient, 2017 SGIM National Award for Mid-Career Education Mentorship, April 2017
- Member, Subcommittee on Curriculum, Medicine-Pediatrics Program Directors Association (MPPDA), 2011-present
- Consultant, Consultation Program, Medicine-Pediatrics Program Directors Association (MPPDA), 2012-present
- Member, Subcommittee on Accreditation, Medicine-Pediatrics Program Directors Association (MPPDA), 2012-present
- Member, Subcommittee on Diversity and Inclusion, Alliance of Academic Internal Medicine (AAIM), 2016-present
- Facilitator, Subcommittee on Diversity and Inclusion Committee, Recruitment Strategies Work Group, (AAIM), 2016-present

C Bernie Good MD MPH
- Chair, Medical Advisory Panel, Veterans Health Administration Pharmacy Benefits Management Strategic Healthcare Group, Department of Veterans Affairs, 1999-present
- Member, Pharmacy and Therapeutics Committee, VISN 4, 1999-present
- Co-Director, Center for Medication Safety, Department of Veterans Affairs, 2003-present
- Member, Computerized Patient Record System Clinical Workgroup, Department of Veterans Affairs, 2004-present
- Member, Drug Safety Oversight Board, Food and Drug Administration, 2005-present
- Member, Board of Directors, Shoulder to Shoulder, Pittsburgh-San Jose, 2005-present
- Member, VA Adverse Drug Event Reporting System (VA ADERS) Advisory Group, 2008-present
- Member, Vancouver Group of Competent Prescription Authorities, 2009-present
- Member, Evidence Synthesis Program Steering Committee, Department of Veterans Affairs, 2010-present
- Member, National Clinical Pharmacy Executive Board, Department of Veterans Affairs, 2012-present
- Member, National Pharmacy Efficiency Program Savings Opportunities Workgroup, Department of Veterans Affairs, 2013-present
- Member, Veterans Affairs Choosing Wisely Taskforce, 2013-present
- Member, VA Department of Defense Clinical Practice Guidelines for the Treatment of Diabetes Work Group, 2015-present
- Member, VA Precision Medicine Workgroup, Department of Veterans Affairs, 2015-present
- Member, VA Department of Defense Uniform Formulary Task Force, Department of Veterans Affairs, 2015-present

Adam Gordon MD MPH
- Director, Buprenorphine in the VA (BIV) Program, 2006-present
- Chair, Continuing Medical Education Committee, American Society of Addiction Medicine, 2009-present
- Review Committees, NIH, PCORI, VA Grant Review Panels, 2010-present
- Member, Steering Committee, Physician Clinical Support System for Office-Based Opioid Treatment-Buprenorphine, representing Association of Medical Education Research on Substance Abuse, 2011-present
- Director, Addiction Triage for Homeless: Enhancing VA Medical Homes (ANTHEM), 2012-present
- Editor-in-Chief, Substance Abuse, 2012-present
- Director, Interdisciplinary Addiction Program for Education and Research (VIPER), VA Pittsburgh Healthcare System, 2012-present
- Director, Advancing VA Interdisciplinary Addiction Training in Education, Research, and Scholarship (AVIATORS), National Coordinating Center for the VA’s Interprofessional Advanced Fellowships in Addiction Treatment, Pittsburgh, PA, 2014-present
- Co-Director of Research, Section of Treatment, Research, and Education in Addiction Medicine (STREAM)
- Board of Directors, International Society of Addiction Journal Editors, 2016-present

Janel Hanmer MD PhD
- Reviewer, Medical Decision Making, 2014-present
- Reviewer, Quality of Life Research, 2014-present
- Sentinel Reader for Evidence-Based Medicine, Health Information Research Unit, McMaster University, 2014-Present
- Member, Abstract Reviewer, Society of General Internal Medicine Annual Meeting, 2015-present
- Member, Abstract Reviewer, Society for Medical Decision Making Annual Meeting, 2015-present
- Reviewer, Value in Health, 2015-present
- Editorial Board, Medical Decision Making, 2016-18
- Consultant to INCITE at Columbia University to develop a Domestic Health Index, 2017

Peggy Hasley MD MHSc
- Reviewer, Medical Education Innovations, Society of General Internal Medicine Annual Meeting, 2003-present
- Best Doctors, Pittsburgh Magazine, 2012-17

Leslie Hausmann PhD
- Abstract Reviewer, Society of Behavioral Medicine, 2014-present
- Member, VA Health Services Research & Development Scientific Merit Review Board, 2014-present
- Advisory Board Member, National Minority AIDS Council
- Member (Alternate), Research and Development Committee, VA Pittsburgh Healthcare System

Brian Heist MD MSc
- Coordinator, Partnership with UPMC Department of Internal Medicine and Teine Keijinkai Hospital General Internal Medicine Residency Program, 2012-present
- Abstract Reviewer, Society of General Internal Medicine, 2014-present
- Reviewer, Journal of Graduate Medical Education, 2014-present
Scott Herrle MD MS
- Member, Academy of Master Educators, 2015-present
- Fellow, American College of Physicians, 2013-present
- Recipient, 2016 William I. Cohen Excellence in Clinical Skills Instruction
- Member, General Internal Medicine Writing Committee, Medical Knowledge Self-Assessment Program (MKSAP 18), 2016-present

Erika Hoffman MD
- Recipient, Clinical Excellence Award, VA Pittsburgh Healthcare System, 2016
- Member, VISN Advisory Group for PACT Advancement, 2015-present
- Member, Risk Evaluation for Mitigation Strategy, FDA Advisory Panel for Extended-Release Long-Acting Opiates, 2015-present
- Best Doctors, Pittsburgh Magazine, 2017

Franziska Jovin MD
- Best Doctors, Pittsburgh Magazine, 2017

Wishwa Kapoor MD MPH
- Member, External Advisory Board, Clinical and Translational Science Institute of New York University and New York City Health and Hospitals Corporation, 2009-present
- Member, External Advisory Board, Institute for Integration of Medicine and Science, University of Texas Health Sciences Center, San Antonio, TX, 2010-present
- Member, External Advisory Board, Mayo Clinic Center for Translational Science Activities, 2011-present
- Member, External Advisory Board, Georgetown Howard University Center for Clinical and Translational Science, 2011-present
- Member, Internal Advisory Board, Emergency Medicine K12, Pittsburgh, 2011-present
- Best Doctors, Pittsburgh Magazine, 2012-17
- Recipient, Chief's Recognition Award, Association of Chiefs and Leaders of General Internal Medicine, Society of General Internal Medicine, 2016

Dio Kavalieratos PhD
- Co-Chair, Palliative Care Guidelines Development Committee, Cystic Fibrosis Foundation, 2016-present
- Recipient, Top Abstract among Junior Faculty, Health Services Research Day, University of Pittsburgh Department of Medicine, 2016
- Member, Palliative Care Research Cooperative Study Section, 2016-present
- Member, Scientific Review Committee, National Palliative Care Research Center, 2016-present
- Chair, Scientific Subcommittee, American Academy of Hospice and Palliative Medicine, 2016-present
- Advisor, Investigator Development Core, Palliative Care Research Cooperative, 2015-present
- Editorial Board, American Journal of Public Health, 2011-present

Kevin Kraemer MD MSc
- Member, Task Force on Substance Abuse, Society of General Internal Medicine, 1996-present
- Member, National Conference Scientific Abstract Review Committee, Association for Medical Education and Research in Substance Abuse, 2000-present
- Associate Editor, Alcohol, Other Drugs, and Health: Current Evidence, 2003-present
- Ad Hoc Study Reviewer, AA-2 Health Services, Prevention, and Epidemiology Research, National Institutes of Health and National Institute on Alcohol Abuse and Alcoholism, 2006-present
Frank Kroboth MD
- George H. Taber Chair in General Internal Medicine, 2004-present

Douglas Landsittel PhD
- Ad Hoc Reviewer, Safety and Occupational Health Study Section, National Institute of Occupational Safety and Health, Centers for Disease Control and Prevention, 2002-present
- Member, Kidney, Nutrition, Obesity, and Diabetes Study Section, Center for Scientific Review, National Institutes of Health; 2013-17
- Member, Data Safety Monitoring Board for the Improving Chronic Disease Management with Pieces Trial, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, 2014-present
- Editorial Board, Journal of Clinical Oncology, 2013-18
- Chair, University Senate Educational Policies Committee, 2016-17
- Member, External Expert Panel, Prevention of Lower Urinary Tract Symptoms (PLUS) Research Consortium, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, 2016-present

William Levin MD
- Best Doctors, Pittsburgh Magazine, 2017

Melissa McNeil MD MPH
- Member, Women Veterans Health Strategic Task Force, 2009-present
- Member, Curriculum Design Committee, VA Women's Health National Mini-Residency Program, 2009-present
- Associate Editor, Journal of Women's Health, 2015-current
- Reviewer, Journal of Women's Health, 2015-current
- Reviewer, Journal of General Internal Medicine, 2015-current
- Reviewer, Women's Health Issues, 2015-current
- Program Director, Building Interdisciplinary Careers in Women's Health, 2015-current
- Member, National Board of Medical Examiners Test Material Development Committee, 2014-current
- Member, American College of Obstetrics and Gynecology Task Force, Women's Preventive Services Initiative, 2016-present
- Invited Speaker, Women's Health Update, American College of Physicians National Meeting, 2017
- Invited Speaker, The Annual Pelvic Exam, to Do or Not to Do: Women's Health Congress, 2017

Kathleen McTigue MD MPH MS
- Member, Obesity Subcommittee, Nutrition, Physical Activity, and Metabolism Council, American Heart Association, 2011-15
- Member, Obesity Interest Group, Society of General Internal Medicine, 2015-present
- Member, PCORnet Publications Committee, 2016

Alexandra Mieczkowski MD
- Fellow, American Academy of Pediatrics, 2013-present
- Reviewer, Journal of General Internal Medicine, 2015-present
- Workshop Reviewer, Society of General Internal Medicine, 2015-present
Natalia Morone MD MS
- Member, Editorial Board, Pain Medicine, 2009-present
- Chair, Data Safety and Monitoring Body, Mindfulness-Based Stress Reduction and Cognitive Behavioral Therapy for Chronic Back Pain, National Center for Complementary and Integrative Health, 2012-present
- Member, Steering Committee, Center for Integrative Medicine, UPMC, 2014-present
- Grant reviewer, Panel ZAT1 HS-23, Clinical Research on Mind-Body Interventions, National Institutes of Health and National Center for Complementary and Integrative Health, 2015-present
- Best Doctors, Pittsburgh Magazine, 2017

Larissa Myaskovsky PhD
- Reviewer, Journal of Behavioral Medicine, 2008-present
- Reviewer, Clinical Transplantation, 2010-present
- Reviewer, American Journal of Transplantation, 2012-present
- Faculty Member, Protocol Review Committee and Data Safety Monitoring Board, Thomas E. Starzl Transplantation Institute, University of Pittsburgh School of Medicine, 2013-present
- Reviewer, Small Projects in Rehabilitation Research (SPIRE), Veterans Administration Rehabilitation Research and Development Service, 2014-present
- Reviewer, Health Disparities and Equity Promotion (HDEP) Study Section, National Institutes of Health, 2014-present
- Executive Committee Member, Psychosocial Community of Practice, American Society of Transplantation, 2014-17

Marie Norman PhD
- Provost's Innovation in Education Award, University of Pittsburgh, 2017

Seo Young Park PhD
- Discussant, Special Emphasis Panel for Clinical Research on Mind-Body Interventions Study Section, NCCIH, 2017
- Deputy Statistical Editor, Journal of Thoracic and Cardiovascular Surgery, 2017-present
- Reviewer, Journal of Thoracic and Cardiovascular Surgery, 2016-17
- Reviewer, Clinical Research on Mind-Body Interventions Study Section, National Center for Complementary and Integrative Health (NCCIH), 2016

Brian Primack MD PhD
- Guest Speaker, Mass Media and Public Health in 2017, State of Pennsylvania Health Career Scholars Academy (formerly Pennsylvania Governor’s School for Health Care), 2017
- Dean and Bernice L. and Morton S. Lerner Chair, University Honors College
- Director, Center for Research on Media, Technology, and Health

Thomas Radomski MD
- Abstract and Workshop Reviewer, National and Mid-Atlantic Regional Meetings, Society of General Internal Medicine, 2013-present
- Abstract Reviewer, Western Pennsylvania Regional Meeting, American College of Physicians, 2015
- Reviewer, Journal of General Internal Medicine, 2016-present
• Reviewer, INQUIRY: The Journal of Health Care Organization, Provision, and Financing, 2017
• Co-Chair, Scientific Abstracts Committee, Mid-Atlantic Regional Meeting Planning Committee, Society of General Internal Medicine, 2017
• Best Poster Presentation by a Junior Faculty Member in Health Services Research, University of Pittsburgh Department of Medicine Research Day, 2017
• Finalist, Milton W. Hamolsky Junior Faculty Award for best research abstract, Society of General Internal Medicine National Meeting, 2017

Bruce Rollman MD MPH
• President-elect, American Psychosomatic Society, 2016
• Named, UPMC Endowed Professor of General Internal Medicine, 2016
• Participant, Advanced Faculty Leadership Academy, 2017
• Member, Technical Expert Panel, Identification and Treatment of Post-Acute Coronary Syndrome Depression, Agency for Healthcare Research and Quality/Duke Evidence-Based Practice Center Comparative Effectiveness Review, 2016-17
• Invited Speaker, Opening Plenary Session, Society of General Internal Medicine Annual Meeting, 2016
• Founding Director, Center for Behavioral Health and Smart Technology, University of Pittsburgh, 2015-present
• Member, Editorial Board, General Hospital Psychiatry, 2011-present
• Chair, Internal Research Review Committee, Center for Research on Health Care, 2010-present

Doris Rubio PhD
• Honorary Knowledge & Discovery Award, American Health Council, 2017
• Association for Clinical and Translational Science Distinguished Educator Award, 2016
• Member, External Advisory Committee, Emory University CTSA, 2016-present
• Member, External Advisory Board, Penn State University CTSA, 2016-present
• Appointed Member, School of Medicine Executive Committee, 2016-present
• Member, External Advisory Board, University of New Mexico CTSA, 2015-present
• Chair, Common Metrics Workgroup on Education, CTSA, 2015-16
• Ad hoc member, Health Services Organization and Delivery (HSOD), National Institutes of Health, 2014-present
• Chair, External Advisory Committee, Duke University CTSA, 2014-present
• Member, External Advisory Board, University of Iowa CTSA, 2014-present
• Member, Association for Clinical and Translational Science, 2012-present
• Chair, External Advisory Board, University of Michigan CTSA, 2012-present
• Member, External Advisory Board, University of Minnesota CTSA, 2012-present
• Member, External Advisory Board, The Ohio State University CTSA, 2012-17
• Member, External Advisory Committee, University of Colorado CTSA, 2011-present
• Ad hoc member, Education Review Panel, National Center for Complementary and Integrative Health (NCCIH), National Institutes of Health, 2010-present
• Member, External Advisory Committee, University of Cincinnati CTSA, 2010-2016
• Member, Internal Advisory Committee, Research Education and Career Development Core, CTSI, 2006-present
- Member, Advisory Committee, Career Education and Enhancement for Health Care Research Diversity Program, ICRE, 2006-present
- Member, Multidisciplinary Advisory Committee, Multidisciplinary Clinical Research Scholars Program (CRSP), ICRE, 2004-present

Jane Schell MD MHSc
- Member, Education Committee, National Kidney Foundation, 2015-17
- Ambassador for Supportive Care Online Community, American Society of Nephrology, 2016-present
- President, Kidney Special Interest Group, American Academy of Hospice and Palliative Medicine, 2017-present
- Editorial Board, American Journal of Kidney Disease, 2016-present
- Editorial Board, Clinical Journal of American Society of Nephrology, 2014-16

Yael Schenker MD MS
- Outstanding Junior Investigator of the Year Award, Society of General Internal Medicine, 2017
- Early Career Investigator Award, American Academy of Hospice and Palliative Medicine, 2016
- Invited Speaker, Multinational Association of Supportive Care in Cancer (MASCC) Annual Meeting, June 2017
- Invited Keynote Speaker, US-Sino Nursing Forum, June 2017
- Associate Director, Team Science, University of Pittsburgh Clinical and Translational Science Institute, 2017-present
- Member, Scientific Review Committee, National Palliative Care Research Center, 2016-present
- Director, Palliative Care Research, Section of Palliative Care and Medical Ethics, Division of General Internal Medicine, University of Pittsburgh, 2014-present
- Abstract Reviewer, Society of General Internal Medicine National Meeting, 2009-present

Kenneth Smith MD MS
- Fellow, American College of Physicians, 1995-present
- Member, Abstract Selection Committee, Society for Medical Decision Making, 1994-99, 2001-present
- Member, Abstract Selection Committee, Society of General Internal Medicine, 2004-present
- Expert Contributor, Herpes Zoster Content, Point of Care/Best Practice, British Medical Journal Evidence Centre, 2013-present
- Deputy Editor, Medical Decision Making, 2015-present
- Excellence in Teaching Award, Institute for Clinical Research Education, University of Pittsburgh, 2017
- Co-Chair, Society for Medical Decision Making Annual North American Meeting, 2017

Carla Spagnoletti MD MS
- Faculty Advisor, Chapter of the American Medical Women’s Association, University of Pittsburgh School of Medicine, 2013-present
- Chair, Patient Experiences Committee, Division of General Internal Medicine, University of Pittsburgh, 2013-present
- Director, Academic Clinician-Educator Scholars Fellowship, Division of General Internal Medicine, UPMC and University of Pittsburgh, 2014-present
- Founding Member, UPMC Patient Experience Physician Advisory Council, 2014-present
- Recipient, Scholarship in Medical Education Award, Society of General Internal Medicine, 2015
- Director, Masters and Certificate Program in Medical Education, Institute for Clinical Research Education, University of Pittsburgh, 2015-present
- Member, Abstract Committee, Graduate Medical Leadership Conference, University of Pittsburgh School of Medicine, 2015-present
- Member, Education Committee, Society of General Internal Medicine, 2015-present
- Ad Hoc Reviewer, Medical Education, 2015-present
- Consultant, Patient Experiences and Transparency, 2015-present
- Recipient, Association of Chiefs and Leaders in General Internal Medicine Leadership Award, Society of General Internal Medicine, 2016
- Conference Co-Leader, Graduation Medical Education Leadership Conference, UPMC, 2016
- Physician Reviewer, UPMC Health Beat, 2016
- Member, Med Ed Day Development Committee, University of Pittsburgh School of Medicine, 2016
- Member, Supporting Education Scholarship Committee, Academy of Master Educators, University of Pittsburgh School of Medicine, 2016
- Member, Mentoring Committee, Academy of Master Educators, University of Pittsburgh School of Medicine, 2016
- Poster Judge, Resident Research Day, University of Pittsburgh School of Medicine, 2016
- Poster Judge, Research Day, University of Pittsburgh School of Medicine, 2016
- Member, Medical Education Scholarship Abstract Review Committee, 39th Annual Meeting of the Society of General Internal Medicine, 2015-17
- Recipient, Association of Chiefs and Leaders in General Internal Medicine Leadership Award, 2016
- Nominee, Sheldon Adler Innovation Award, University of Pittsburgh School of Medicine, 2016
- Recipient, Best Abstract Award, UPSOM Med Ed Day, September 2016
- Recipient, Best Abstract Award, UPMC Graduate Medical Education Leadership Conference, 2017
- Recipient, Best Abstract in Medical Education Award, UPSOM Department of Medicine Research Day, 2017
- Abstract reviewer, Department of Medicine Research Day, 2017
- Member, University of Pittsburgh School of Medicine Med Ed Day Planning Committee, 2016-present
- Member, UPSOM Academy of Master Educators Medical Education Scholarship Mentoring Committee, 2016-present
- Contributor, UPMC Press Ganey Executive Retreat, 2017
- Member, UPMC Quality 3.0 Leadership and Collaboration Team, 2017
- Small Group Facilitator, Educational Leadership, Association of Chiefs and Leaders in General Internal Medicine, Leon Hess Management Training and Leadership Institute, 2016
- Member, Leadership and Administration Workshop Review Committee, 40th Annual Meeting of the Society of General Internal Medicine, 2016
- Member, Society of General Internal Medicine TEACH Program Selection Committee, 2017
- Chair-Elect, Society of General Internal Medicine Education Committee, 2017 (2-year term)
- Member, Obstetric Medicine Interest Group, Society of General Internal Medicine, 2005-present

Brielle Spataro MD MS
- Member, Society of General Internal Medicine, 2014-present
• Member, Collaborative Research Work Group, Alliance for Academic Internal Medicine Collaborative on Healing and Renewal in Medicine, 2016

**Galen Switzer PhD**
• Co-Chief, Measurement Core, Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, 2001-present
• Core Faculty member, Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, 2001-present
• Mentor, Medical Student Scholarly Project Program, University of Pittsburgh School of Medicine, 2004-present
• Member, Donor/Patient Safety Monitoring Board, National Marrow Donor Program, 2004-present
• Associate Director, Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, 2005-present
• Chair, PhD Core Faculty Group, Veterans Administration, Center for Health Equity Research and Promotion, VAPHS, 2005-present
• Member, Education Core Committee, Clinical and Translational Science Institute, University of Pittsburgh School of Medicine, 2006-present
• Member, Quality of Life Working Group, Stem Cell Therapeutic Outcomes Database, Center for International Blood and Marrow Transplant Research, Milwaukee, WI, 2006-present
• Director, PhD Program in Clinical Research, Clinical and Translational Science, Institute, University of Pittsburgh School of Medicine, 2007-present
• Member, Career Education and Enhancement for Health Care Research Diversity (CEED) Executive Committee, University of Pittsburgh School of Medicine, 2011-present
• Member, PhD Security Task Force, University of Pittsburgh School of Medicine, 2015-present
• Co-Chair, Donor Health and Safety Working Committee, Center for International Blood and Marrow Transplant Research, 2015-present
• Co-Director, VA Post-Doctoral Fellowship in Health Services Research, Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, 2015-present

**Gary Tabas MD**
• Editor, Annals Virtual Patients, Annals of Internal Medicine, and American College of Physicians, 2011-present
• Honoree, University of Pittsburgh Honors Convocation, 2016

**Holly Thomas MD**
• Top-Rated Abstract Award, North American Menopause Society, 2016
• Recipient, New Investigator Award, North American Menopause Society, 2016

**Andrew Thurston MD**
• Guest Lecturer, Mercer County Medical Society, 2017
• Guest Lecturer, Meadville Medical Center, 2017
• Guest Lecturer, Palliative and Supportive Institute Updates in Palliative Care, 2017
• Simulation Facilitator, UPMC Mercy, 2017
• Simulation Facilitator, OBECS Program, Wiser Institute, 2016-17
• Noon Lecturer, Resident Conference Series, UPMC Mercy, 2016-17

**Sarah A Tilstra MD MS**
• Ad hoc Reviewer, Journal of Women's Health, 2016-present
• Chair, Women’s Health Oral Abstract Awards, Society of General Internal Medicine, 2016-17
• Co-Chair, Member, Women’s Health Education Interest Group, Society of General Internal Medicine 2015-present
• Fellow, American College of Physicians, 2015-present
• Ad hoc Reviewer, the British Medical Journal, 2015-present
• Workshop Reviewer, Society of General Internal Medicine, 2014-present
• Ad hoc Reviewer, Journal of General Internal Medicine, 2013-present
• Ad hoc Reviewer, Current Women’s Health Reviews, Bentham Science Publishers, 2013-present
• Abstract Reviewer, Society of General Internal Medicine, 2012-present
• Subcommittee Member, Career Advising Program, Women’s Health Task Force, Society of General Internal Medicine, 2012-17
• Member, Women’s Health Task Force, Society of General Internal Medicine, 2011-17

Dana Tudorascu PhD
• Ad hoc Reviewer, Neuroimage, 2014-present
• Ad hoc Reviewer, Depression and Anxiety, 2014-present
• Ad hoc Reviewer, Neuroimage Clinical, 2016
• Statistical Reviewer, Journal of Thoracic and Cardiovascular Surgery, 2017-present

Reed Van Deusen MD MS
• Member, Curriculum Committee, Medicine-Pediatrics Program Directors Association, 2009-present
• Abstract Reviewer, Research in Medical Education (RIME) Section, American Association of Medical Colleges, 2007-present
• Member, Transitions Committee, Medicine-Pediatrics Program Directors Association, 2011-present
• Member, Health Policy Committee, Society of General Internal Medicine, 2012-present
• Member, Young Adult with Special Health Care Needs Interest Group, Society of General Internal Medicine, 2013-present

Jonathan Yabes PhD
• Reviewer, Journal of Mechanics in Medicine and Biology, 2013-present
• Reviewer, Pre-Hospital Emergency Care, 2014-present
• Reviewer, Journal of International Medical Research, 2017

Lan Yu PhD
• Internal Grant Reviewer, Department of Psychiatry Research Committee 2010-present
• Ad Hoc Reviewer, Behavioral Sleep Medicine, 2012-present
<table>
<thead>
<tr>
<th>GRANTS AND CONTRACTS AWARDED</th>
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<tr>
<td><strong>PUBLIC HEALTH SERVICE</strong></td>
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<tr>
<td>ABEBE, KALEAB</td>
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<tr>
<td>COLLEGE HEALTH CENTER-BASED</td>
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<td>ALCOHOL AND SEXUAL VIOLENCE</td>
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<td>INTERVENTION</td>
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<td>DIPYRIDAMOLE AS A MODULATOR</td>
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<td>OF HIV-1 INFLAMMATION BY</td>
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<td>A CLUSTER-RANDOMIZED TRIAL</td>
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<td>VIOLENCE PREVENTION PROGRAM</td>
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<td>IMPACT OF COGNITIVE FUNCTION</td>
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<td>IN WEIGHT MANAGEMENT</td>
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<td>OUTCOMES IN ADOLESCENTS</td>
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<td>DEVELOPING A TABLET-BASED</td>
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<td>AND SHARED DECISION MAKING</td>
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<td>AMONG CLINICIANS AND SURROGATES</td>
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<td>DECISION MAKERS IN ICUS</td>
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<td>FAMILY MEMBERS IN ICUS</td>
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<td>ORGANIZATIONAL DETERMINANTS</td>
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<td>NOVEL APPROACHES TO</td>
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<td>IDENTIFYING OPTIMAL CARE</td>
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<td>STRUCTURES AND PROCESSES IN</td>
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<td>LONG TERM ACUTE HOSPITALS</td>
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<td>BORRERO, SONYA</td>
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<td>PITTSBURGH GIRLS STUDY:</td>
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<td>SUBSTANCE USE AND HIV RISK</td>
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<td>BEHAVIORS/STI IN YOUNG ADULTHOOD</td>
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Department of Medicine  www.dom.pitt.edu/dgim
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<td>A PATIENT-CENTERED PATH TO ADDRESSING DIABETES: IMPACT OF STATE HEALTH POLICIES ON DIABETES OUTCOMES AND DISPARITIES</td>
<td>PENN STATE/PCORI</td>
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<td>WASHINGTON UNIVERSITY</td>
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<td>PRIMARY PALLIATIVE CARE FOR PATIENTS WITH ADVANCED HEMATOLOGIC MALIGNANCIES</td>
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<td>National Marrow Donor Program</td>
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<td>American College of Physicians</td>
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<td>Patient-Centered Outcomes Research Institute</td>
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<td>Measuring the Context of Healing: Using PROMIS in Chronic Pain</td>
<td>Patient-Centered Outcomes Research Institute</td>
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<td>West Virginia University</td>
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<td>Review and Update of the IKDC Subjective Knee Form</td>
<td>American Orthopaedic Society for Sports Medicine</td>
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<td>Bayer Corporation</td>
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<td>Non-Invasive Assessment of Advanced Fibrosis in Patients with Non-Alcoholic Fatty Liver Disease Using Share-Wave Elastography, Transient Elastography, and Magnetic Resonance Elastography</td>
<td>General Electric Company</td>
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TEACHING

DGIM faculty members have extensive roles in all phases of the education of medical students. Division faculty members hold major administrative roles, teach and direct courses, and precept and mentor students throughout their four years of medical school. This year, three faculty members received awards from residents for outstanding teaching. Twenty faculty members within the DGIM are members of the Academy of Master Educators, an elected five-year honor that signifies excellence in education. Division faculty generated nearly 19,000 education credit units for the School of Medicine. In addition, DGIM members continue to direct and serve on the Advisory Board for the Clinical Science Training Program.

The Internal Medicine Residency Training Program continues to excel in recruitment and curricular innovations. The residents are all involved in scholarly work organized by the Leadership and Discovery Program (LEAD) program, which provides a structured curriculum for residents at UPMC Presbyterian to learn and develop the skills necessary to design and implement academic projects. The Internal Medicine Residency prioritizes individualized training within the various tracks and programs that the DGIM offers, including Generalist Track, the Geriatrics Track, the Global Health Track, the Women’s Health Track, and the Clinical Scientist Track. Division faculty continue to focus on a number of priorities to maintain the training program’s excellence, including developing innovative teaching methods, promoting continuous healing relationships, developing effective communication, using evidence-based practice, enhancing patient safety, improving chronic disease management and preventive care, and developing evaluation methods and competencies.

The Division continues to expand ICRE’s education programs, including programs for medical students, residents, doctoral students, and other graduate students. This year, the ICRE had 12 students in the PhD in Clinical and Translational Science program, 64 students in the Master of Clinical Research program, 41 in the Certificate of Clinical Research program, 33 in the Master of Medical Education program, and 9 in the Certificate of Medical Education program.
Teaching Activities

Kaleab Abebe PhD
- Co-Director, Career Education and Enhancement for Health Care Research Diversity (CEED) Program, Institute for Clinical Research Education, University of Pittsburgh, 2012-present
- Clinical Trials Track Director, Masters in Clinical Research, Institute for Clinical Research Education, University of Pittsburgh, 2015-present
- Guest Lecturer, Correlated Data Analysis, Institute for Clinical Research Education, University of Pittsburgh, 2016
- Invited Lecture, Clinical Trials: Design, Conduct, & Analysis, University of Pittsburgh Surgical Outcomes Research Center, 2016
- Course Director, Fundamentals of Clinical Trials, Institute for Clinical Research Education, 2016-present
- Course Director, Statistical Methods and Issues in Clinical Trials, Institute for Clinical Research Education, University of Pittsburgh, 2016-present

Jill Allenbaugh MD
- Frank Kroboth Travel Award, best oral presentation, University of Pittsburgh GME Research Day
- First Place, Afternoon Poster Session, Academy of Master Educators First Annual Med Ed Day, University of Pittsburgh School of Medicine, Sept 30, 2016

Eric Anish MD
- Member, Academy of Master Educators, University of Pittsburgh School of Medicine, 2012-present
- Director, Sports/Musculoskeletal Medicine Elective, Internal Medicine Residency Program, UPMC Shadyside, 2013-present
- Workshop Director, Lecturer, and Instructor, Musculoskeletal Examination Skills, Combined Ambulatory Medicine Clerkship, University of Pittsburgh School of Medicine, 2015-present
- Instructor, Adult Physical Diagnosis, University of Pittsburgh School of Medicine, 2015-present
- Preceptor, Combined Ambulatory Medicine Clerkship, University of Pittsburgh School of Medicine, 2015-present
- Preceptor, Internal Medicine Residents’ Clinic, Internal Medicine Residency Program, Shea Medical Center, UPMC Shadyside, 2015-present
- Invited Lecturer, Hypertrophic Cardiomyopathy, Seminar in Sports Medicine, Department of Sports Medicine and Nutrition, University of Pittsburgh School of Health and Rehabilitation Sciences, 2016

Robert Arnold MD
- Academy of Master Educators, University of Pittsburgh School of Medicine, 2006-present
- Named Distinguished Service Professor, 2016

Amber Barnato MD MPH MS
- Director, Clinical Scientist Training Program, Institute for Clinical Research Education, University of Pittsburgh, 2003-present
- Director, Training Early Academic Mentors, Institute for Clinical Research Education, University of Pittsburgh, 2013-present
- Course Director, CLRES 2075 Seminar for Understanding Principles and Practices of Research Techniques (SUPPORT), Institute for Clinical Research Education, University of Pittsburgh, 2006-present
Sonya Borrero MD MS
• Co-Director, VA Advanced Fellowship Program in Women's Health, VA Pittsburgh Healthcare System, 2014-present
• Director, Career Education and Enhancement for Health Care Research Diversity Program for Medical Students (CEED II), 2012-present
• Invited participant, Capitol Hill Briefing held by Network for Excellence in Health Innovation and the National Partnership for Women & Families, Feb. 15, 2017

Robert C. Brooks MD PhD
• Associate Program Director, UPMC Internal Medicine Residency Training Program, VA Medical Center, 2002-present
• Interim Section Chief, Director of Internal Medicine Residency Continuity Clinics, UPMC Internal Medicine Residency Training Program, VA Medical Center, 2012-present
• Clerkship Preceptor of the Year, UPSOM, November 2016

Lauren Broyles PhD RN
• Instructor, CLRES 2071 & CLRES 2072, Research Design and Development, Institute for Clinical Research Education, Clinical and Translational Science Institute (CTSI), University of Pittsburgh, 2011-present

Thuy Bui MD
• Elective Director, Community and Underserved Populations, University of Pittsburgh School of Medicine, 1999-present
• Course Director, Mini Elective: Master Diagnostician; Underserved Care, University of Pittsburgh School of Medicine, 2000-present
• Co-Director, Area of Concentration: Global Health and Underserved Populations, University of Pittsburgh School of Medicine, 2003-present
• Director, Global Health and Underserved Populations Track, UPMC Internal Medicine Residency Training Program, 2006-present
• Course Director, Global Health Preparatory Seminar, UPMC internal medicine residency, Global Health track, 2007-present
• Academy of Master Educators, University of Pittsburgh School of Medicine, 2009-present
• Course Director, Mini Elective: Refugee Health, University of Pittsburgh School of Medicine, 2015-present
• Course Director, Special Topics in Global Health, University of Pittsburgh Graduate School of Public Health

Peter Bulova MD
• Member, Academy of Master Educators, University of Pittsburgh School of Medicine, 2009-present
• Clinical Track Director, International Scholars Track, UPMC Residency Training Program, 2011-present
• Director, Advanced Psychiatry for the Internist Medicine Elective, UPMC Internal Medicine Residency Training Program, 2011-present

Gregory Bump MD
• Member, Academy of Master Educators, University of Pittsburgh School of Medicine, 2012-present
• Course Director, Population Health, University of Pittsburgh School of Medicine, 2013-present
• Director, Internal Medicine Residency Morbidity and Mortality Conference, University of Pittsburgh School of Medicine, 2013-present
• Co-Chair, Patient Safety and Quality Improvement, UPMC Medical Education, 2014-present
• Outstanding Teaching Attending Award from the Interns (Senior Resident Awards), 2017
Raquel Buranosky MD MPH
- Clinic Director, Clinical Experiences, Women’s Center Clinic, 2000-present
- Member, Academy of Master Educators, University of Pittsburgh School of Medicine, 2006-present
- Director, Educational Innovation Project, UPMC Internal Medicine Residency Training Program, 2010-present
- Associate Program Director, UPMC Internal Medicine Residency Training Program, 2010-present
- Course Director, Mini-Elective: Intimate Partner Violence Across the Lifespan, 2013-present
- Chair, Program Evaluation Committee, Internal Medicine Residency Program, 2014-present

Chung-Chou Chang PhD
- Course Director, Biostatistics, Institute for Clinical Research Education, University of Pittsburgh, 1999-present
- Course Director, Survival Analysis, Institute for Clinical Research Education, University of Pittsburgh, 2001-present
- Course Director, Analysis of Cohort Studies, Department of Biostatistics, University of Pittsburgh, 2011-present

Rene Claxton MD
- Director, Palliative Care Undergraduate and Graduate Medical Education, University of Pittsburgh, 2011-present
- Course Director, Principles and Practice of Palliative Care, Institute for Clinical Research Education, University of Pittsburgh, 2012-present
- Program Director, Palliative Care Fellowship, Division of General Internal Medicine, University of Pittsburgh, 2012-present
- Preceptor, Outpatient Palliative Care Clinic, Division of General Internal Medicine, University of Pittsburgh, 2012-present
- Co-Course Director, Teaching Communication Skills, Institute for Clinical Research Education, University of Pittsburgh, 2013-present

Molly Conroy MD
- Assistant Dean, Medical Student Research, University of Pittsburgh School of Medicine, 2012-present
- Lecturer, Behavioral Medicine, Topic: Weight Management, University of Pittsburgh, 2012-present
- Faculty Preceptor, Clinical Experiences I, University of Pittsburgh, 2007-present
- Lecturer, Medical Writing and Presentation Skills (MEDEDU 2140) (course organizers: Michael Fine and Michael Elnicki), Institute for Clinical Research Education, University of Pittsburgh, 2011-present
- Course Co-Director and Lecturer, Medical Writing and Presentation Skills, Institute for Clinical Research Education, University of Pittsburgh, 2013-present
- Faculty Facilitator, Behavioral Medicine, 2012-present
- Core Faculty and Clinical Trials Module Leader, Clinical Research Methodology, Institute for Clinical Research Education, University of Pittsburgh, 2012-present
- Course Director, Seminar for Understanding Principles & Practices of Research Technology (SUPPORT), University of Pittsburgh, 2015-present
- Director, Clinical Scientist Training Program, University of Pittsburgh School of Medicine, 2015-present

Jennifer Corbelli MD MS
- Course Co-Director, Introduction to Systematic Review and Meta-Analysis, Institute for Clinical Research Education, University of Pittsburgh, 2014-present
- First Place, afternoon poster session, Academy of Master Educators First Annual Med Ed Day, University of Pittsburgh School of Medicine, Sept. 30, 2016
- Director, UPMC Internal Medicine Residency Training Program, 2016-present
- Director, UPMC Preliminary Year Residency Program
Esa Davis MD
- Small Group Facilitator, Methods and Logic in Medicine I, University of Pittsburgh School of Medicine, 2014-present
- Small Group Facilitator, Population Health, University of Pittsburgh School of Medicine, 2014-present
- Lecture and Faculty, Career Education and Enhancement for Health Care Research Diversity (CEED), 2014-present
- Member, Executive Leadership Committee for ENACT R25, 2014-present
- Instructor, Professional Mentoring Skills Enhancing Diversity (PROMISED) Program, 2015-present

Hollis Day MD
- Chair, Performance-Based Assessment Task Force, University of Pittsburgh School of Medicine, 2006-present
- Medical Student Advisory Dean, University of Pittsburgh School of Medicine, 2007-present
- Course Director, Assessment Week for fourth-year medical students, 2007-present
- Academy of Master Educators, University of Pittsburgh School of Medicine, 2009-present
- Program Director, Standardized Patient Program, University of Pittsburgh School of Medicine, 2012-present

David Demoise MD
- William M. Cooper Award (Senior Resident Awards), 2017

Anna K Donovan MD
- Curriculum Director, Residents-as-Teachers, 2014-present
- Curriculum Director, Intern Ambulatory Course, 2014-present
- Preceptor, Montefiore Hospital Resident Clinic, 2014-present
- Clinical Educator of the Year Award (UPSOM Teaching Award), November 2016
- Associate Program Director of Inpatient Medicine, UPMC Internal Medicine Residency Training Program

D Michael Elnicki MD
- Course Director, Combined Ambulatory Medicine-Pediatrics Clerkship, University of Pittsburgh School of Medicine, 2001-present
- Academy of Master Educators, University of Pittsburgh School of Medicine, 2006-present

Kristian Feterik, MD
- Alpha Omega Alpha Faculty Award, Pittsburgh Alpha Omega Alpha Society Class of 2017

Michael Fine MD MSc
- Instructor, Leadership Emerging and Diverse Scientists to Success (LEADS), Module on Writing and Communication Skills, Institute for Clinical Research Education, 2016
- Instructor, Leadership Emerging and Diverse Scientists to Success (LEADS), Module on Effective Peer Reviewing, Institute for Clinical Research Education, 2016
- 2016 Distinguished Research Mentor Award, Institute for Clinical Research Education

Walid Gellad MD MPH
- Presenter, National VA Primary Care Field Advisory Committee, 2016

Alda Maria Gonzaga MD MS
- Program Director, Medicine-Pediatrics Residency Training Program, UPMC Internal Medicine Residency Training Program, 2008-present
- Academy of Master Educators, University of Pittsburgh School of Medicine, 2012-present
C. Bernie Good MD MPH
- Faculty Preceptor, Global Health Honduras clinical experience, 2002-present
- Small Group Facilitator, Clinical Pharmacology, University of Pittsburgh School of Medicine, 2012-present

Adam Gordon MD
- Course Director, Substance Abuse, University of Pittsburgh School of Medicine, 2007-present
- Advisory Dean School of Medicine, University of Pittsburgh School of Medicine, 2007-present
- Co-Director, VA Pittsburgh Healthcare System’s Interdisciplinary Addiction Program for Education and Research (VIPER), VA’s Interprofessional Advanced Fellowships in Addiction Treatment, VA Pittsburgh Healthcare System, Pittsburgh, Pennsylvania, 2012-present
- Co-Director, Advancing VA Interdisciplinary Addiction Training in Education, Research, and Scholarship (AVIATORS), National Coordinating Center for the VA's Interprofessional Advanced Fellowships in Addiction Treatment, Pittsburgh, PA, 2014-present
- Allen Humphrey Excellence in Mentoring Award, Dean’s Summer Research Program (DSRP), October 2016

Thomas Grau MD
- Associate Program Director, UPMC Internal Medicine Residency Training Program, 2012-present
- William Cooper Excellence in Teaching Award, UPMC Shadyside, 2016
- Governor, Western Pennsylvania Region, American College of Physicians, 2016-present
- Member, American College of Physicians Awards Committee, 2016-present
- Course Director, Enhancing Teaching Skills for Clinician-Educators, Institute for Clinical Research Education, University of Pittsburgh, 2016-present

Janel Hanmer MD PhD
- Faculty Facilitator, Methods and Logic in Medicine, 2014-present
- Lecturer, Survey Design and Analysis (MEDEDU 2045), Institute for Clinical Research Education, 2015-present
- Small Group Facilitator, Population Health, University of Pittsburgh School of Medicine, 2015-present
- Invited Lecturer, Health Services Research Seminar Series, Estimation of a Preference-Based Score for the Patient-Reported Outcomes Measurement Information System (PROMIS), Center for Research on Health Care, University of Pittsburgh, 2016
- Invited Lecturer, International Melanoma Working, The PROMIS of PRO for Melanoma, Zagreb, Croatia, 2016
- Invited Lecturer, THETA Rounds, Construction of a Preference-Based Score for the Patient-Reported Outcomes Measurement System (PROMIS), University of Toronto, 2016

Peggy Hasley MD MHSc
- Instructor, Advanced Physical Exam, University of Pittsburgh School of Medicine, 1991-present
- Faculty Preceptor, Resident Clinic, 1991-present
- Track Director, Ambulatory Generalist Track, Internal Medicine Residency Program, UPMC, 2008-present
- Associate Program Director, Internal Medicine Residency Program, UPMC, 2009-present
- Chair, Ambulatory Training Committee, University of Pittsburgh, 2009-present
- Developer and Director, Practice Partnership Ambulatory Training for Generalists, University of Pittsburgh, 2009-present
- Course Developer and Director, Musculoskeletal Medicine, University of Pittsburgh School of Medicine, 2009-present
- Co-Developer and Director, Andrew Fisher Health Policy Journal Club, University of Pittsburgh School of Medicine, 2009-present
- Director, Patient-Centered Medical Home Curriculum, UPMC, 2010-present
- Student Teaching Attending, University of Pittsburgh School of Medicine, 2010-present
• Course Developer and Co-Director, Health Policy and Advocacy for the Busy Clinician, University of Pittsburgh School of Medicine, 2012-present
• Curriculum Co-Developer and Co-Director, High Value Cost Conscious Care, University of Pittsburgh School of Medicine, 2012-present
• Member, Academy of Master Educators, University of Pittsburgh School of Medicine, 2012-present
• Faculty Preceptor, Medical Student Experiences, University of Pittsburgh School of Medicine, 2014-present
• Developer and Director, Enhanced Handoffs Curriculum, University of Pittsburgh School of Medicine, 2014-present
• Fellow, American College of Physicians, 2015-present
• Senior Co-Developer, Primary Care for the LGBT Patient Curriculum, University of Pittsburgh School of Medicine, 2016
• Invited Lecturer, Internal Medicine Grand Rounds, University of Pittsburgh School of Medicine, 2016
• Poster Judge, Association of Program Directors in Internal Medicine Spring Meeting, 2016
• Outstanding Teaching Attending Award from the Residents, Senior Resident Awards, 2016

Leslie Hausmann PhD
• Course Co-Director, Introduction to Research on Healthcare Disparities, Institute for Clinical Research Education, University of Pittsburgh, (every other year) 2012-present
• Course Co-Director, Medical Writing and Presentation Skills, Institute for Clinical Research Education, University of Pittsburgh, (every other year) 2014-present
• Session Facilitator, Seminar for Understanding Principles and Practices of Research Technology (SUPPORT), University of Pittsburgh School of Medicine, 2014-present
• Faculty Facilitator, Diversity Awareness and Acceptance Seminar, University of Pittsburgh School of Medicine, 2014-present

Brian Heist, MD
• Co-Director, Adult Inpatient Medicine; Internal Medicine Clerkship, University of Pittsburgh School of Medicine,
• Co-Director, Internal Medicine Sub-Internship, University of Pittsburgh School of Medicine

Scott Herrle MD
• Course Director, Advanced Physical Exam, University of Pittsburgh School of Medicine, 2009-present
• Member, Academy of Master Educators, 2015-present
• William I. Cohen Award for Excellence in Clinical Skills Instruction (UPSOM Teaching Award), November 2016

Erika Hoffman MD
• Course Director, Adult Inpatient Medicine, University of Pittsburgh School of Medicine, 2008-present
• Co-Director, Adult Inpatient Medical Clerkship, University of Pittsburgh School of Medicine
• Co-Director, Internal Medicine Sub-Internship, University of Pittsburgh School of Medicine

Wishwa Kapoor MD MPH
• Director, Annual Internal Medicine Review Course, University of Pittsburgh School of Medicine, 1995-present
• Preceptor, Hospitalist Service, UPMC Presbyterian and UPMC Montefiore, 2001-present
• Course Director, Comparative Effectiveness Research, Institute for Clinical Research Education, University of Pittsburgh, 2012-present
• Executive Committee Member and Instructor, Leading Emerging and Diverse Scientists to Success (LEADS) Program, Institute for Clinical Research Education, University of Pittsburgh, 2016-present
• Instructor, Professional Mentoring Skills Enhancing Diversity (PROMISED) Program, Institute for Clinical Research Education, University of Pittsburgh, 2016-present

Dio Kavalieratos PhD
• Course Co-Director, Mentoring Matters, Institute for Clinical Research Education, University of Pittsburgh, 2015-present

Amar Kohli, MD
• Clerkship Director, Combined Ambulatory Medicine and Pediatrics Clerkship (CAMPC), University of Pittsburgh School of Medicine

Kevin Kraemer MD MSc
• Director, General Internal Medicine Clinician-Researcher Fellowship Program, University of Pittsburgh, 2003-present
• Course Director, Research Design and Development, Institute for Clinical Research Education, University of Pittsburgh, 2004-present

Frank Kroboth MD
• Member, Academy of Master Educators, University of Pittsburgh School of Medicine, 2006-present
• Assistant Dean, Graduate Medical Education, University of Pittsburgh School of Medicine, 2013-present
• Senior Director, Fellowships and Special Projects, UPMC Medical Education, 2013-present

Anna Marie Lewarchik MD
• Member, Combined Ambulatory Medicine and Pediatrics Clerkship (CAMPC) Curriculum Committee, 2009-2010, 2014-present
• Preceptor, UPMC Internal Medicine Residency, Shea Medical Center, Resident Continuity Clinic, 2014-present
• Faculty Preceptor, CAMPC, Shea Medical Center, University of Pittsburgh School of Medicine, 2014-present
• Faculty Preceptor, Clinical Experiences Course, University of Pittsburgh School of Medicine, 2014-present
• Faculty Facilitator, Advanced Medical Interviewing, University of Pittsburgh School of Medicine, 2014-present
• Faculty Facilitator, Introduction to Medical Interviewing, University of Pittsburgh School of Medicine, 2014-present
• Student Teaching Attending, Adult Inpatient Medicine Clerkship, University of Pittsburgh School of Medicine, 2014-present

Melissa McNeil MD MPH
• Director, VA Women’s Health Fellowship Program, VA Office of Academic Affiliation and Division of General Internal Medicine, University of Pittsburgh, 1994-present
• Course Director, Area of Concentration: Women’s Health, University of Pittsburgh School of Medicine, 1999-present
• Course Director, Introduction to Physical Examination, University of Pittsburgh School of Medicine, 2004-present
• Block Director, Introduction to Patient Care, University of Pittsburgh School of Medicine, 2004-present
• Founding Member, Academy of Master Educators, University of Pittsburgh School of Medicine, 2006-present
• Co-Chair, Mentoring Task Force, Academy of Master Educators, University of Pittsburgh School of Medicine, 2009-present
• Vice Chair of Education, Department of Medicine, 2016-present
• Award for Outstanding Mini-Elective (UPSOM Teaching Award), November 2016
• Co-Director, Adult Inpatient Medicine; Internal Medicine Clerkship, University of Pittsburgh School of Medicine, 2004-present
• Co-Director, Internal Medicine Sub-Internship, University of Pittsburgh School of Medicine
Kathleen McTigue MD MPH MS
- Track Director, Clinical Scientist Track, Internal Medicine Residency Training Program, UPMC 2010-present
- Course Director and Instructor, Clinical Research Methods, Institute for Clinical Research Education, 2010-present
- Guest Lecturer, Epidemiologic Basics of Disease Control, Obesity and Diabetes Prevention, University of Pittsburgh Graduate School of Public Health, 2011-present
- Research Track Director, International Scholars Track, UPMC Internal Medicine Residency Training Program, 2011-present

Sarah Merriam, MD, MS
- Poster Award in Medical Education, 15th Annual Department of Medicine Research Day, 2016
- 2017 Outstanding Thesis Award in Medical Education, Institute for Clinical Research Education

Alexandra Mieczkowski MD
- Associate Program Director, Internal Medicine-Pediatrics Residency Program, 2016-present
- Course Director, Topics in Medical Education and Medical Education Research (MEDEDU 2160), 2015-present
- Coordinator Internal Medicine-Pediatrics Residency Program, 2015-present
- Coordinator, Medical Education Journal Club, 2015-present
- Invited Lecturer, Financial Wellness: I Still Feel Poor with a Paycheck, Pediatric Residency Program Noon Conference

Natalia Morone MD MS
- Co-Director, Career Education and Enhancement for Health Care Research Diversity (CEED), Institute for Clinical Research Education, University of Pittsburgh, 2012-present
- Associate Director, Clinical Scientist Track, Internal Medicine Residency Program, UPMC, 2015-present
- Associate Director for Research, International Scholars Track, Internal Medicine Residency Program, UPMC, 2015-present

Larissa Myaskovsky PhD
- National Research Mentoring Network (NRMN) fellow, Professional Mentoring Skills Enhancing Diversity (PROMISED), Institute for Clinical Research Education (ICRE)
- Philip Troen, MD, Excellence in Medical Student Research Mentoring Award, UPSOM

Thomas Painter MD
- Director, Adult Inpatient Medicine; Internal Medicine Clerkship, University of Pittsburgh School of Medicine, 1982-present
- Director, Senior Medical Students Internal Medicine Sub-Internship, University of Pittsburgh School of Medicine, 1982-present
- Member, Academy of Master Educators, University of Pittsburgh School of Medicine, 2006-present

Seo Young Park PhD
- Instructor, Fundamentals of Clinical Trials, Institute for Clinical Research Education, University of Pittsburgh, 2016
- Instructor, Statistical Issues of Clinical Trials, Institute for Clinical Research Education, University of Pittsburgh, 2016
- Instructor, CLRES 2025 Design and Analysis of Biomarker Studies, Institute for Clinical Research Education, University of Pittsburgh, 2016
Brian Primack, MD PhD
- Guest Lecturer, Update on Teen Tobacco and Nicotine Use, University of Pittsburgh Cardiovascular Outcomes Research Retreat, Pittsburgh, 2016
- Lecturer and Assistant Course Developer, Professional Mentoring Skills Enhancing Diversity (PROMISED), Institute for Clinical Research Education, University of Pittsburgh, 2016-present

Lisa Podgurski, MD
- Organizer and Leader, Inaugural GynOncoTalk Communication Skills Workshop for gynecologic oncology fellows and advance care providers

Thomas Radomski MD
- Instructor, Advanced Physical Examination Course, University of Pittsburgh School of Medicine, 2012-present
- Facilitator, UPMC Internal Medicine Residency Evidence Based Medicine Curriculum, 2013-present
- Student Teaching Attending, Adult Inpatient Medicine Clerkship, University of Pittsburgh School of Medicine, 2014-present
- Preceptor, UPMC Internal Medicine Residency VA Pittsburgh Outpatient Continuity Clinic, 2014-present
- Preceptor, Clinical Experiences Course, University of Pittsburgh School of Medicine, 2014-present
- Invited Lecturer, Health Policy Elective, UPMC Internal Medicine Residency Program, 2014-present

Eva Reitschuler-Cross MD
- Coordinator, Subspecialty Education: Palliative Care, University of Pittsburgh School of Medicine, 2012-present
- William I. Cohen Award for Excellence in Clinical Skills Instruction (UPSOM Teaching Award), November 2016

Bruce Rollman MD MPH
- Lecturer, Epidemiology of Cardiovascular Disease, University of Pittsburgh Graduate School of Public Health, 2004-present
- Course Director, Introduction to Grant Writing, Institute for Clinical Research Education, University of Pittsburgh, 2013-present

Doris Rubio PhD
- Co-Director, Institute for Clinical Research Education, University of Pittsburgh, 2005-present
- Course Director, Computer Methods, Institute for Clinical Research Education, University of Pittsburgh, 2010-present
- Course Director, Best Practices in Clinical Research, Institute for Clinical Research Education, University of Pittsburgh, 2012-present
- Director, Academic Programs, Institute for Clinical Research Education, University of Pittsburgh, 2015-present
- Director and Instructor, Professional Mentoring Skills Enhancing Diversity (PROMISED) Program, Institute for Clinical Research Education, University of Pittsburgh, 2015-present
- Director and Instructor, Leading Emerging and Diverse Scientists to Success (LEADS) Program, Institute for Clinical Research Education, University of Pittsburgh, 2015-present

Gaetan Sgro, MD
- Leonard Tow Humanism in Medicine Faculty Award, presented by the Arnold P. Gold Foundation (voted by the medical school class of 2017), May 19, 2017
Kenneth Smith MD
- Course Director, Advanced Methods in Decision and Cost-Effectiveness Analysis, Institute for Clinical Research Education, 2005-present
- Director, Evidenced-Based Medicine Curriculum, UPMC Internal Medicine Residency Training Program, 2012-present
- Course Director, Directed Study in Decision and Cost-Effectiveness Analysis, Institute for Clinical Research Education, 2012-present
- Section Coordinator, Clinical Epidemiology, in the Clinical Research Methods course, Institute for Clinical Research Education, 2014-present

Carla Spagnoletti MD MS
- Inpatient Ward Attending, UPMC Montefiore Hospital, 2006-present
- Preceptor, Women’s Health Rotation, Division of General Internal Medicine, UPMC Montefiore Hospital, 2006-present
- Preceptor, Resident Clinic, UPMC Montefiore Hospital, 2006-present
- Course Co-Director, Advanced Medical Interviewing, University of Pittsburgh School of Medicine, 2010-present
- Course Co-Director, Teaching to Teach Communication Skills, Clinician-Educator Training Program, University of Pittsburgh School of Medicine, 2010-present
- Preceptor, Morning Report, UPMC Montefiore Hospital, 2011-present
- Facilitator, Obstetrics-Gynecology Resident Medical Error Disclosure, 2011-present
- Facilitator, Obstetrics-Gynecology Intern Communication Skills, 2012-present
- Academy of Master Educators, University of Pittsburgh School of Medicine, 2012-present
- Facilitator, Residents as Teachers Retreat, University of Pittsburgh School of Medicine, 2013-present
- Facilitator, Interns as Teachers Retreat, University of Pittsburgh School of Medicine, 2013-present
- Guest Speaker, Making the Most of Mentoring, Clinician-Educator Training Program, University of Pittsburgh School of Medicine, 2013-present
- Facilitator, Resident Leadership Retreat, University of Pittsburgh School of Medicine, 2014-present
- Facilitator, Resident Pre-Clinic Conference, University of Pittsburgh School of Medicine, 2014-present
- First Place, Afternoon Poster Session, Academy of Master Educators First Annual Med Ed Day, University of Pittsburgh School of Medicine, September 30, 2016
- Program Director, General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellowship

Brielle Spataro MD MS
- Lecturer, Women’s Health Elective, University of Pittsburgh School of Medicine, 2014-present
- Attending Physician, General Internal Medicine Wards, 2014-present
- Co-Director, Intern Ambulatory Medical Interviewing and Communication Skills, 2015-present

Jamie Stern MD
- Instructor, Faculty Introduction to Medical Interviewing, University of Pittsburgh School of Medicine, 2011-present

Galen Switzer, PhD
- Course Director, Measurement in Clinical Research, Institute for Clinical Research Education, 2000-present
Joanne Suffoletto MD
- Associate Chief of Staff, Education and Innovative Learning, VA Pittsburgh Healthcare System, 2012-present

Gary Tabas MD
- Director, Ambulatory Education, UPMC Shadyside Residency Program, 1999-present
- Academy of Master Educators, University of Pittsburgh School of Medicine, 2009-present
- Masters, American College of Physicians (ACP), 2017-present

Holly Thomas MD
- Lecturer, Women’s Health Elective, University of Pittsburgh School of Medicine, 2012-present
- Attending Physician, General Internal Medicine Wards, 2014-present

Andrew Thurston MD
- Guest Lecturer, Mercer County Medical Society, 2017
- Guest Lecturer, Meadville Medical Center, 2017
- Guest Lecturer, Palliative and Supportive Institute Updates in Palliative Care, 2017
- Simulation Facilitator, UPMC Mercy, 2017
- Simulation Facilitator, OBECS Program, Wiser Institute, 2016-17
- Noon Lecturer, Resident Conference Series, UPMC Mercy, 2016-17

Sarah A Tilstra MD MS
- Curriculum Director, Women’s Health, University of Pittsburgh School of Medicine, 2012-present
- Director, Women’s Health Track, Internal Medicine Residency Program, UPMC, 2015-present
- Course Director, Women's Health Elective, University of Pittsburgh School of Medicine, 2015-present
- Moderator, Clinical Reasoning Chief-of-Medicine Conference, Division of General Internal Medicine, University of Pittsburgh, 2016-present

Dana Tudorascu PhD
- Course Director, Linear Regression Analysis, Institute for Clinical Research Education, 2015-present

Jonathan Yabes PhD
- Co-Instructor, Biostatistics (CLRES2020), Institute for Clinical Research Education, 2013-present
- Co-Instructor, Survival Analysis (CLRES2023), Institute for Clinical Research Education, 2014-present
- Course Director, SAS for Data Management and Analysis (BIOST2093), Department of Biostatistics, 2014-present
- Course Director, Analysis of Correlated Data (CLRES2026), Institute for Clinical Research Education, 2015-present
- Course Director, Logistic Regression (CLRES2022), Institute for Clinical Research Education, 2015

Reed VanDeusen MD
- Course Director, Introduction to Interviewing, University of Pittsburgh School of Medicine, 2009-present
- Member, Academy of Master Educators, 2014-present
- Presenter: Teaching Communication Skills Course, GIM Fellowship, 2016-present
- Medical Director, Standardized Patient Program, Office of Medical Education, University of Pittsburgh School of Medicine, 2016-present
- Course Director, Assessment Week, University of Pittsburgh School of Medicine, 2016-present
## Fellowship Program

<table>
<thead>
<tr>
<th>Current Fellow</th>
<th>Medical School</th>
<th>Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allenbaugh</td>
<td>New York Medical College</td>
<td>UPMC</td>
</tr>
<tr>
<td>Bonifacino</td>
<td>University of Pittsburgh School of Medicine</td>
<td>UPMC</td>
</tr>
<tr>
<td>Carter</td>
<td>Northwestern University</td>
<td>UPMC</td>
</tr>
<tr>
<td>Eden</td>
<td>University of Maryland School of Medicine</td>
<td>UPMC</td>
</tr>
<tr>
<td>Farkas</td>
<td>University of Pittsburgh</td>
<td>UPMC</td>
</tr>
<tr>
<td>Merriam</td>
<td>University of Pittsburgh</td>
<td>UPMC</td>
</tr>
<tr>
<td>Nikiforova</td>
<td>Case Western Reserve University</td>
<td>UPMC</td>
</tr>
<tr>
<td>Parekh</td>
<td>University of Miami Miller School of Medicine</td>
<td>UPMC</td>
</tr>
<tr>
<td>Shroff</td>
<td>University of Pittsburgh School of Medicine</td>
<td>Boston Medical Center</td>
</tr>
<tr>
<td>Szymusiak</td>
<td>University of Cincinnati College of Medicine</td>
<td>UPMC</td>
</tr>
<tr>
<td>Ufomata</td>
<td>University of Kentucky College of Medicine</td>
<td>UPMC</td>
</tr>
<tr>
<td>Vanderberg</td>
<td>University of Virginia School of Medicine</td>
<td>UPMC</td>
</tr>
</tbody>
</table>

## Hospice and Palliative Medicine Fellows

<table>
<thead>
<tr>
<th>Christensen</th>
<th>April</th>
<th>Vanderbilt University School of Medicine</th>
<th>Vanderbilt University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cook</td>
<td>Tara</td>
<td>University of Maryland School of Medicine</td>
<td>University of Iowa</td>
</tr>
<tr>
<td>Lincoln</td>
<td>Taylor</td>
<td>University of Vermont College of Medicine</td>
<td>University of North Carolina Chapel Hill</td>
</tr>
<tr>
<td>Yu</td>
<td>Justin</td>
<td>Temple University School of Medicine</td>
<td>UPMC</td>
</tr>
</tbody>
</table>
General Internal Medicine

<table>
<thead>
<tr>
<th>Departing Fellow</th>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shroff Swati</td>
<td>Lennox Hill Hospital</td>
</tr>
<tr>
<td>Ufomata Eloho</td>
<td>Faculty, UPMC</td>
</tr>
<tr>
<td>Szymusiak John</td>
<td>Faculty, UPMC</td>
</tr>
<tr>
<td>Parekh Natasha</td>
<td>Faculty, UPMC</td>
</tr>
<tr>
<td>Merriam Sarah</td>
<td>VA Pittsburgh</td>
</tr>
</tbody>
</table>

Hospice and Palliative Medicine

<table>
<thead>
<tr>
<th>Departing Fellow</th>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christensen April</td>
<td>Faculty, UPMC</td>
</tr>
<tr>
<td>Cook Tara</td>
<td>Faculty, UPMC</td>
</tr>
<tr>
<td>Lincoln Taylor</td>
<td>Faculty, UPMC</td>
</tr>
<tr>
<td>Yu Justin</td>
<td>Faculty, UPMC</td>
</tr>
</tbody>
</table>

Fellow Publications


Fellow Presentations


Carter AE. Chief Negotiator: Skills for the Medicine Department, Not Just the State Department, Workshop, Association of Program Directors in Internal Medicine 2017, National Chief Resident Meeting, Baltimore, MD, March 20, 2017

Carter AE. Beyond the Wards: Resident Engagement in Scholarship during Training, Workshop presentation, Association of Program Directors in Internal Medicine 2017, National Spring Meeting, Baltimore, MD, March 21, 2017


Farkas, AH. McNeil, MA, Contratto, E, Dolan, B, Tilstra, SA. Impact of Women’s Health Residency Tracks on Clinical Practice. J Gen Intern Med. 2017 April;32(suppl2) S219-20. Poster was featured on the Women’s Health Walking Tour during the conference and was ranked 1/5 for women’s health posters.

Farkas, AH. Managing Expectants: A Targeted Approach to Medical Care of the Pregnant Patient, Workshop presentation, Society of General Internal Medicine Annual Meeting, April 2017

Farkas, AH. Navigating the Controversy of Breast Cancer Screening Guidelines and Enhanced Screening Modalities, Workshop presentation, Society of General Internal Medicine Annual Meeting, April 2017

Farkas, AH. Beyond the Wards: Resident Engagement in Scholarship during Training, Alliance for Academic Internal Medicine, March 2017


Korsmo, M, Vachon, A, Farkas, AH. Non-Convulsive Status Epilepticus Hiding in Plain Sight, 2017 April;32(suppl2) S548, J Gen Intern Med, Society of General Internal Medicine Annual Meeting, Poster presentation, 2017

MacPherson N, Buranosky B, Merriam SB. Stuck in the Middle with You: The Chief Resident as Middle Manager, Workshop presentation, Academic Internal Medicine Week 2017, Baltimore, MD, March 2017

Nikiforova T, Using Emotion in Negotiation: Skills for the Medicine Department, not just the State Department, Workshop presentation, AAIM Skills Development Conference, October 2016

Nikiforova T Fitting the Bill: A Qualitative Analysis of Group Reflections on Patients’ Hospital Charges, First Annual Medical Education Day, Poster Presentation, September 2016


Parekh N, Jarlenski M, Kelley D. Disparities in Prenatal and Postpartum Care in Pennsylvania Medicaid, Medicaid Managed Care Medical Directors’ Meeting, Oral presentation, September 2016,

Parekh N, Jarlenski M, Kelley D. Disparities in Utilization and Chronic Disease Management in Pennsylvania Medicaid.
- Pennsylvania Department of Human Services Bureau of Managed Care Organizations Meeting, Oral presentation, January 2017
- Pennsylvania Department of Human Services Office of Medical Assistance Programs Executive Board Meeting, Oral presentation, Harrisburg, PA, February 2017
- University of Pittsburgh Health Policy Institute Seminar, Oral presentation, Pittsburgh, PA, June 2017


Szymusiak J. Imprinting Safety and Quality Practices on Residents and Fellows, Workshop presentation, 2017 Association for Hospital Medical Education Institute, New Orleans, LA, May 2017


**Palliative Care Fellow Presentations**

Cook T. Discussing Religion in Palliative Care, Journal Club, October 2016

Cook T, Christensen A. The Impact of an Intervention Aimed at Improving Religious Care within a Palliative Care Section, University of Pittsburgh Institute to Enhance Palliative Care, June 2017

Lincoln T, Yu J. Quality Improvement Project: Nursing Communication, University of Pittsburgh Institute to Enhance Palliative Care. June 2017
**Fellow Abstracts & Clinical Vignettes**

**Allenbaugh J.** What Did They Say? Teaching Health Literacy and Communication Skills to Internal Medicine Residents to Improve the Patient Experience, Oral presentation, 15th Annual Research Day, Department of Medicine, University of Pittsburgh, Pittsburgh, PA, May 2017


**Ufomata E.** Curriculum for Internal Medicine Residents in Optimal Primary Care of Patients Who Identify as Lesbian, Gay, Bisexual and Transgender (LGBT), Poster presentation, 1st Annual Medical Education Research Day, Pittsburgh, PA, September 2016

**Ufomata E.** Let’s Talk About Sex: Teaching Inclusive Sexual History-Taking for Diverse Populations, Workshop presentation, 40th Annual Meeting of the Society of General Internal Medicine, Washington, DC, April 2017

**Ufomata E.** I’ve Got Your Back: Supporting Residents in the Face of Micro Aggressions or Discrimination, Workshop presentation, Alliance for Academic Internal Medicine (AAIM), Academic Internal Medicine Week, Baltimore, MD, March 2017

**Fellow Awards and Honors**

**Allenbaugh J.** What Did They Say? Teaching Health Literacy and Communication Skills to Internal Medicine Residents to Improve the Patient Experience

- Best oral presentation and Frank Kroboth Travel Award, University of Pittsburgh GME research day, February 2017
- Two poster presentations, SGIM, April 2017

**Merriam, SB.** Recipient, Poster Award in Medical Education, Video Observation with Guided Reflection: A Novel Method for Continuing Teaching Education, 15th Annual Research Day, Department of Medicine, University of Pittsburgh, Pittsburgh, PA, 2017

**Merriam, SB.** Recipient, Outstanding Thesis in Medical Education Award, Institute for Clinical Research Education, University of Pittsburgh School of Medicine, Pittsburgh, PA, 2017

**Parekh N.** Research project on sexually transmitted infections, elected for Oral Presentation in Post-Doctoral Student Research Category, Department of Medicine Research Day, University of Pittsburgh, May 2, 2017
Parekh N. Selected to serve three-year term, Alliance for Academic Internal Medicine (AAIM), Health Policy Committee, July 2016

Parekh N. Winner, Fellows in Health Services/Clinical Epidemiology and Medical Education Research Category, Cervical Cancer Guideline Adherence Research Project, Department of Medicine Research Day Award, University of Pittsburgh, May 24, 2016

Parekh N. Co-Principal Investigator, Development and Evaluation of a Curriculum for Internal Medicine Residents in Optimal Primary Care of Patients who Identify as Lesbian, Gay, Bisexual and Transgender Patients (LGBT), Support from Thomas H. Nimick Jr. Competitive Research Fund, $9,070 award, one-year period

Ufomata E. Ad hoc Reviewer, Journal of General Internal Medicine

Ufomata E. National Medical Association (NMA) Academic Career Development Fellowship, National Institutes of Health (NIH), Los Angeles, CA, July 2016

Ufomata E. American Academy on Communications in Healthcare ENRICH Scholarship Recipient
CLINICAL CARE

The DGIM continues to expand both in geography and in its range of new programs and services. In addition to the established primary care sites at Montefiore, the Shea Medical Center (UPMC Shadyside), and the medicine-pediatrics site at Turtle Creek, DGIM has expanded to a new site in West Mifflin. All sites embody a team-based approach to managing chronic diseases and providing preventive care by allowing primary care physicians to focus on patients with more complex cases. Panel management has assumed a central role using more innovative methods to support patients. In addition to general internist physicians, the multidisciplinary team includes registered nurses, certified diabetes educators, pharmacists, ob-gyns, a clinical psychologist, and a psychiatrist. Phone calls to patients and MyUPMC messaging have increased, while hospitalization, readmissions, and visits to the emergency department (ED) have decreased. The DGIM ended the year with Centers for Medicare and Medicaid Services (CMS) star rating of 4.9 for UPMC Health Plan patients for whom the data is available.

Palliative care outpatient services continue to expand and are now available at UPMC Mercy Hospital.

The DGIM completed its third year of the Enhanced Care Program (ECP) and anticipates continuing this service under a new grant from the UPMC Health Plan. Working with UPMC Health Plan, we developed the ECP as an interdisciplinary clinical program, based at our Montefiore practice site, to provide comprehensive and highly coordinated care to the most complex patients who have extensive use of services and high levels of unplanned care. Thus far, the ECP Program has enrolled a total of 235 patients, with 153 active patients in treatment. The program is providing 24/7 access to the team, frequent home visits, community support, and extensive behavioral health support. The program has achieved decreases in ED visits and all unplanned care, along with decreases in hospitalization rates. In addition, markers of clinical quality (such as provision of preventative and chronic disease management services) improved in this patient population.

In January, DGIM received a state grant to create a primary-care-based center to treat opioid use disorders, the Center for Opioid Recovery (COR). Patients with opioid use disorders are provided medication-assisted treatment with buprenorphine or naltrexone. The COR clinic is located within the Montefiore site and is staffed by eight physicians who have been waivered to prescribe medication-assisted treatment. Additional services provided include behavioral health counseling, community-based support from peer recovery specialists, and social services support from licensed social workers. We have enrolled a total of 97 patients to the program and expect to receive additional funding from the state to continue next year.

Inpatient admissions to the hospitalist service have increased by 6% at UPMC Presbyterian. With patient reassignment to the medical teams at UPMC Shadyside, and admissions by our hospitalists to the Bone Marrow Transplant Unit and Pittsburgh Cancer Institute, Shadyside admissions have increased by 30%. The Preoperative

### GENERAL INTERNAL MEDICINE HISTORICAL OUTPATIENT VOLUMES^*

<table>
<thead>
<tr>
<th>Location</th>
<th>FY 14</th>
<th>FY 15</th>
<th>FY 16</th>
<th>FY 17</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montefiore</td>
<td>36,816</td>
<td>38,323</td>
<td>40,621</td>
<td>38,565</td>
<td>-5.1%</td>
</tr>
<tr>
<td>Shea Medical Center</td>
<td>8,331</td>
<td>7,485</td>
<td>7,974</td>
<td>7,691</td>
<td>-3.5%</td>
</tr>
<tr>
<td>Turtle Creek Primary Care</td>
<td>1,512</td>
<td>1,584</td>
<td>1,645</td>
<td>1,642</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Hillman Pain Center</td>
<td>2,016</td>
<td>2,075</td>
<td>2,215</td>
<td>2,286</td>
<td>3.2%</td>
</tr>
<tr>
<td>Cardiovascular Palliative Care</td>
<td>168</td>
<td>137</td>
<td>316</td>
<td>339</td>
<td>7.3%</td>
</tr>
<tr>
<td>Magee Palliative Care</td>
<td>413</td>
<td>295</td>
<td>857</td>
<td>665</td>
<td>-22.4%</td>
</tr>
<tr>
<td>Benedum Supportive Care Service</td>
<td>58</td>
<td>84</td>
<td>114</td>
<td>136</td>
<td>19.3%</td>
</tr>
<tr>
<td>Mercy Palliative Care</td>
<td>-</td>
<td>303</td>
<td>339</td>
<td>289</td>
<td>-14.7%</td>
</tr>
<tr>
<td>Comprehensive Lung Center</td>
<td>-</td>
<td>-</td>
<td>145</td>
<td>212</td>
<td>46.2%</td>
</tr>
<tr>
<td>South Hills*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1695</td>
<td>-</td>
</tr>
<tr>
<td><strong>TOTAL VOLUME</strong></td>
<td><strong>49,314</strong></td>
<td><strong>50,286</strong></td>
<td><strong>54,226</strong></td>
<td><strong>53,520</strong></td>
<td><strong>-1.3%</strong></td>
</tr>
</tbody>
</table>

^ Actual outpatient visits; no observation encounters
* Opened July 2016
Evaluation Center (PEC) was transitioned in November 2014 to the DGIM. The PEC is staffed with hospitalist physicians who also provide the perioperative inpatient medical care, which allows for a much improved continuum of care for our surgical patients. The PEC has an average of 400 patient visits per month; this represents close to 50% of the elective surgical volume. The PEC provides evidence-based care, which has decreased unnecessary testing and expenses for our patients. During FY17, the collaboration with the surgical services increased greatly as we provided a trauma co-management service with the support of advanced practice providers.

The Program for Health Care to Underserved Populations (PHCUP) finished its 21st year of operation. PHCUP is currently maintaining community-based clinics that offer free services at three sites, partnering with the Women’s Center and Shelter of Greater Pittsburgh and the Salvation Army. Continued grant funding this year for medical support and full-time registered nurse support significantly decreased the number of patients turned away and allowed for PHCUP to continue to provide free medications for the patients. This year, the Pittsburgh School of Dental Medicine Student rotated through Birmingham Clinic and provided dental care for patients. DGIM faculty and residents totaled 361 volunteer hours, and medical students totaled 807 hours. Continuing as a major training site for residents and medical students, residents logged 390 curriculum hours at the Birmingham Free Clinic, and medical students participated in 474 hours.
Clinic Locations

1. UPMC General Internal Medicine, Oakland
   UPMC Montefiore Hospital, 3459 Fifth Avenue, 9 South
   Pittsburgh, PA 15213

2. UPMC General Internal Medicine, Turtle Creek
   Penn Plaza
   Suite 108
   Turtle Creek, PA 15145

3. General Internal Medicine South
   2397 Mountain View Road
   West Mifflin, PA 15122

4. UPMC General Internal at UPMC Shadyside (Shea Medical Center)
   Shadyside Medical Building
   Shea Medical Center,
   5200 Centre Avenue, Suite 509
   Pittsburgh, PA 15232

5. UPMC Hypertension Clinic, University Center
   University Center
   120 Lytton Avenue, Suite 204
   Pittsburgh, PA 15213
CLINICAL QUALITY IMPROVEMENT INITIATIVES

The DGIM continues to excel in its quality outcome performance. Faculty patient panels meet or exceed the 90th percentile rate of national performance for QI measures for diabetes management, preventive health services, and cholesterol/statin management. Our team-based continuous-quality-improvement approach to preventative care has resulted in DGIM practices being in the top 10% of all UPMC primary care practices for prevention, and in the top 13% in a composite ranking of chronic disease management and preventative care.

With our patient-centered approach, we continue to engage patients in communications through MyUPMC. Comparing January-June 2016 with the same period in 2017, appointment requests from patients increased from 295 to 428 per month, and patients’ requests for medical advice increased from 1,642 to 1,883 per month.

To improve access to face-to-face care, the Montefiore site analyzed walk-in and same-day appointment needs and increased capacity particularly for Friday morning appointments.

DGIM conducted a QI analysis for a cohort of 170 patients with at least six months in the Enhanced Care Program (ECP), an integrated system of care for patients who have complex medical and psychosocial needs. The analysis shows substantial improvement in medical outcomes, including in chronic disease management, preventive health, cancer screenings, and mental health.

<table>
<thead>
<tr>
<th>ECP Clinical QI Criteria</th>
<th>PRE</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diabetes Management Criteria</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HbA1c &lt; 8.0</td>
<td>57%</td>
<td>46%</td>
</tr>
<tr>
<td>HbA1c &lt; 9.0</td>
<td>66%</td>
<td>69%</td>
</tr>
<tr>
<td>HbA1c Average</td>
<td>8.3</td>
<td>8.6</td>
</tr>
<tr>
<td>Eye Exam done past 12 months</td>
<td>49%</td>
<td>84%</td>
</tr>
<tr>
<td>Foot Exam done past 12 months</td>
<td>70%</td>
<td>86%</td>
</tr>
<tr>
<td><strong>Hypertension Management Criteria</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DM Pts w BP &lt; 140/90, 18-75 yo</td>
<td>54%</td>
<td>76%</td>
</tr>
<tr>
<td>DM Pts w BP &lt; 160/100, 18-75 yo</td>
<td>81%</td>
<td>96%</td>
</tr>
<tr>
<td>All HTN Pts w BP &lt; 140/90, 18-75 yo</td>
<td>54%</td>
<td>73%</td>
</tr>
<tr>
<td>All HTN Pts w BP &lt; 160/100, 18-75 yo</td>
<td>77%</td>
<td>93%</td>
</tr>
<tr>
<td><strong>Preventive Health Criteria</strong></td>
<td></td>
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<tr>
<td>Mammogram past 2 yr if 50-74 yo</td>
<td>59%</td>
<td>75%</td>
</tr>
<tr>
<td>Pap Smear 21-64 yo, q 3 or 5 yr as per recs</td>
<td>73%</td>
<td>96%</td>
</tr>
<tr>
<td>Colo-rectal Ca screen if 50-75 yo as per recs</td>
<td>74%</td>
<td>82%</td>
</tr>
<tr>
<td><strong>ECP Behavioral Health Criteria</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% MH Patients linked to Psych Care</td>
<td>55%</td>
<td>89%</td>
</tr>
<tr>
<td>% Patients on Rx Opioids Weaned off</td>
<td>73%</td>
<td></td>
</tr>
</tbody>
</table>

The DGIM is implementing a HTN team-based care management protocol at the Montefiore and Shadyside sites. This protocol focuses on nurse and/or pharmacist-led interventions to improve BP control in high-risk and vulnerable patients who have failed to reach their target through usual care. The protocol was initiated with diabetic patients in the faculty practice. Preliminary findings include: of the 124 eligible patients, 85 (69%) voluntarily enrolled and thus
far, 39 have completed the program with median 91-day intervention period. Of those completed, 97% achieved BP target <140/90 with an average BP decrease from 155/84 to 128/73. The program is expanding to the resident clinic to assess protocol effectiveness with a more vulnerable population experiencing more psycho-social barriers to care.

The Shadyside site focused QI efforts on improving patient satisfaction with test result reporting, increasing intensity and timeliness of communications with patients. CGCAHPS scores in response to the question, “providers from this office always follow-up to give you the result,” improved from 78% pre-intervention to sustained 85% post-intervention.

Quality Improvement training is a requirement by ACGME for all Internal Medicine residency training. Our Division decided to create a longitudinal QI curriculum at all our three clinic sites, Montefiore, Shea, and the VA, focusing on a unified project improving chronic disease care. Utilizing their individual dashboards, quality report cards, and team-based care, the residents have worked on diabetes foot and eye exam rates (2014-15), blood pressure control (2015-16), and colon cancer and cervical cancer screening rates (2016-17). At the end of each project, there was significant improvement in each of these areas. Eye exams improved from 56% to 78%, BP control improved from 50% to 60%, and colon cancer screening rates from 55% to 60% as of March 2017. In addition to improving our quality benchmarks, several system-related processes have been integrated into the clinic. Shea residents have similarly shown excellent improvement in their diabetes and BP control rates by >10%.
### FACULTY

#### Faculty in Core Divisions
**Fiscal Year 2014-2016**

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2003 (Base Year)</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Medicine</td>
<td>79</td>
<td>135</td>
<td>137</td>
<td>149</td>
</tr>
</tbody>
</table>

*Note: Includes University of Pittsburgh full-time faculty and volunteer faculty who have a UPP appointment and excludes research associates, adjunct faculty and emeritus faculty.*

### Current General Internal Medicine Faculty

#### Full-Time Faculty

<table>
<thead>
<tr>
<th>Abebe</th>
<th>Z.</th>
<th>PhD</th>
<th>Associate Professor of Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anish</td>
<td>J.</td>
<td>MD</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Arnold</td>
<td>M.</td>
<td>MD</td>
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</tr>
<tr>
<td>Barnato</td>
<td>E.</td>
<td>MD</td>
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<tr>
<td>Benson</td>
<td>K.</td>
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</tr>
<tr>
<td>Blosnich</td>
<td>R.</td>
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<tr>
<td>Borroto</td>
<td>A.</td>
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<tr>
<td>Brooks</td>
<td>C.</td>
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<tr>
<td>Bui</td>
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<tr>
<td>Bulova</td>
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<tr>
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<tr>
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<tr>
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<tr>
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<td>Dana</td>
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<td>Reed</td>
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<tr>
<td>Yabes</td>
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## Affiliated Faculty with UPP Appointments

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<td>MD</td>
<td>Adjunct Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Last Name</td>
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<td>Affum</td>
<td>Kevin</td>
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<tr>
<td>Ahmad</td>
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<td>Akinseye Affum</td>
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<tr>
<td>Allenbaugh</td>
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<td>M.</td>
<td>MD</td>
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<tr>
<td>Blosnich</td>
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<td>R.</td>
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<tr>
<td>Bonifacino</td>
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<td>Carter</td>
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</tr>
<tr>
<td>Name</td>
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<tr>
<td>Chu Kar-Hai</td>
<td>PhD</td>
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<tr>
<td>Dekosky Allison</td>
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<tr>
<td>Eden Elizabeth</td>
<td>MD L.</td>
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<td>Glasser Christine</td>
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<td>Hamm Megan</td>
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<tr>
<td>Hanna Reem Muaiad</td>
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<tr>
<td>Hunt Susan</td>
<td>MD C.</td>
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<td>Jones Sarah</td>
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<td>Kondaveeti Bhagat</td>
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<tr>
<td>Loya Mohana</td>
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<tr>
<td>Lyons Anita</td>
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<tr>
<td>Metter Robert</td>
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<tr>
<td>Perrin Ann</td>
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<td>Rabinowitz Lee</td>
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<td>Rothenberger Scott</td>
<td>MD D.</td>
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<td>Safi Salah Ud Din</td>
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<td>Saksian Saro</td>
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<tr>
<td>Seth Nikhil</td>
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<td>Shoukry Alfred Samir</td>
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<td>Soodalter Jesse</td>
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<tr>
<td>Name</td>
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<tr>
<td>Spada Neal</td>
<td>MD Clinical Instructor in Medicine</td>
<td>General Medicine</td>
<td>Internal Medicine Resident, UPMC</td>
</tr>
<tr>
<td>Swartz Leigh Klaus</td>
<td>MD Clinical Instructor in Medicine</td>
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<td>Internal Medicine Resident, UPMC</td>
</tr>
<tr>
<td>Trifan Andrew T.</td>
<td>MD Clinical Instructor in Medicine</td>
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<td>Internal Medicine Resident, UPMC</td>
</tr>
<tr>
<td>Valazquez Karen L.</td>
<td>MD Clinical Instructor in Medicine</td>
<td>General Medicine</td>
<td>Physician, Primary Care Health Services, Pittsburgh</td>
</tr>
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## POST DOCS

### Current Post Docs in FY 2016-2017

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<th>Summary of activities</th>
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<tbody>
<tr>
<td>Allenbaugh</td>
<td>Jill</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Jill Allenbaugh, MD, is a first-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow, and she is pursuing a master's degree in medical education. Her prior research focused on co-developing and evaluating a curriculum for Family Medicine residents on Advance Care Planning. Her current research focuses on co-developing and evaluating a curriculum for internal medicine housestaff and medical nurses on clear communication techniques in the inpatient setting. Dr. Allenbaugh completed her internal medicine residency training at UPMC. She cares for patients in Montefiore Hospital in both the inpatient and outpatient setting. In addition, she works with internal medicine residents as a clinical preceptor.</td>
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<tr>
<td>Bonifacino</td>
<td>Eliana</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Eliana Bonifacino, MD, is a first-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow. She is currently pursuing a master's degree in medical education. Her research experience includes examining the relationship between breastfeeding and risk of maternal hypertension through a systematic review, and developing a new format for the ambulatory pre-clinic conference that focuses on examining guidelines through the lens of high-value care.</td>
</tr>
<tr>
<td>Carter</td>
<td>Andrea</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Andrea Carter, MD, is a first-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow. She is working on a master's degree in medical education and is interested in resident education, curriculum development, and women's health. Currently, she is implementing and evaluating a curriculum for internal medicine residents and faculty with the goal of improving safe and appropriate prescribing of opioid medications for chronic pain. Her recent prior research includes systematically reviewing racial and ethnic disparities among women veterans receiving care at the VA, and evaluating the effects of a novel internal medicine resident research program through both quantitative and qualitative methods. Dr. Carter cares for women veterans in the VA Pittsburgh Healthcare System Primary Care Clinic. She additionally supervises internal medicine residents in both primary care outpatient clinic and on the inpatient wards.</td>
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<tr>
<td>Christensen</td>
<td>April</td>
<td>MD</td>
<td>Palliative Care Fellow</td>
<td>April Christensen, MD is a Clinical Instructor of Medicine and a second-year fellow in the Hospice and Palliative Medicine Fellowship. Dr. Christensen received a BS from the University of Nebraska in 2009 and her MD from Vanderbilt University School of Medicine in 2013. During medical school, she served as a Student Advisor for the Student Safety Network and coordinator for the Shade Tree Clinic Early Pregnancy Program. She completed her residency in Internal Medicine with Vanderbilt in 2016, serving as a member of the Residency Teaching Academy. In fellowship, she conducted a quality improvement project focused on improving care for patients’ religious needs. For her master's in medical education, she is completing a thesis on the development of simulated patient cases for use in teaching communication skills.</td>
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<tr>
<td>Employee Last Name</td>
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<td>Summary of activities</td>
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<tr>
<td>Cook</td>
<td>Tara</td>
<td>MD</td>
<td>Palliative Care Fellow</td>
<td>Tara Cook, MD, is a Clinical Instructor of Medicine and a second-year fellow in the Hospice and Palliative Medicine Fellowship. Dr. Cook holds a BS in Mathematical Science from the United States Military Academy in West Point, NY. She received her MD in 2006 from the University of Maryland School of Medicine. She completed a Preliminary Year Residency in Internal Medicine from 2006 to 2007 at the University of Maryland, then went on to complete her residency in Neurology at the University of Iowa in 2010. Dr. Cook served in the United States Air Force from 2010 to 2016, including assignments as a neurologist and flight surgeon in Alaska and as the Deputy Division Chief of the Warfighter Interface Division of the 711th Human Performance Wing in Ohio.</td>
</tr>
<tr>
<td>Eden</td>
<td>Elizabeth</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Elizabeth Eden, MD, is a first-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow in the Hospitalist track. She is pursuing a master's degree in medical education and she holds a hospitalist position in the Division of General Internal Medicine. Dr. Eden is interested in inpatient quality improvement and inpatient transitions of care.</td>
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<tr>
<td>Farkas</td>
<td>Amy</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Amy Farkas, MD, is a second-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow in the women's health track. She is working toward a master's degree in medical education. Dr. Farkas spends her clinical time at the VA Pittsburgh Healthcare System, where she has her own primary care clinic and precepts housestaff in the primary care clinic and the inpatient wards.</td>
</tr>
<tr>
<td>Lincoln</td>
<td>Taylor</td>
<td>MD</td>
<td>Palliative Care Fellow</td>
<td>Taylor Lincoln, MD, is a Clinical Instructor of Medicine and a second-year fellow in the Hospice and Palliative Medicine Fellowship. Dr. Lincoln obtained a BS in 2007 from Boston College and her MD in 2013 from the University of Vermont College of Medicine. She completed her residency in Internal Medicine at the University of North Carolina, Chapel Hill in 2016. During the first year of her fellowship, she published a chapter on the provision of palliative care during rapid response events and completed a quality improvement project to enhance communication with bedside nurses. She is participating in research projects intended to improve the experience of surrogate decision makers in the ICU with mentorship in the Department of Critical Care medicine.</td>
</tr>
<tr>
<td>Merriam</td>
<td>Sarah</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Sarah Merriam, MD, is a second-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow. She is working toward a master's degree in medical education and is interested in both medical student and resident education surrounding women's health issues, including contraception, preconception counseling, menopause, and preventative care. Dr. Merriam's research interests include curriculum development, quality improvement, and faculty development. Her clinical responsibilities include caring for female veterans at the VA Pittsburgh Healthcare System and the supervision of housestaff in both primary care outpatient clinics and inpatient wards.</td>
</tr>
<tr>
<td>Nikiforova</td>
<td>Tanya</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Tanya Nikiforova, MD, is a first-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow. She is pursuing a master's degree in medical education, and is interested in curriculum development for undergraduate and graduate medical education, increasing interest in primary care through medical education, and high-value care.</td>
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<tr>
<td>Parekh</td>
<td>Natasha</td>
<td>MD</td>
<td>Clinician-Researcher Fellow</td>
<td>Natasha Parekh, MD, is a board-certified general internist and second-year clinician-researcher fellow. She is supported by a T32 primary care training grant through the Health Resources and Services Administration. Dr. Parekh is using statewide PA Medicaid claims data to assess appropriateness of cervical cancer screening, disparities in HEDIS quality of care measures, and the impact of integrated delivery and financial systems on health disparities.</td>
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<tr>
<td>Employee Last Name</td>
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<tr>
<td>Shroff</td>
<td>Swati</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Swati Shroff, MD, is a third-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow in the women’s health track and a clinical instructor in medicine. Her mission is to improve women’s health through innovative, patient-centered primary care, specifically through the clinical practice of evidence-based, patient-centered primary care; implementation of innovative primary care models; and education of future generations of women’s health providers.</td>
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<td>Szymusiak</td>
<td>John</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>John Szymusiak, MD, is a second-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow and is pursuing a master’s degree in medical education. Dr. Szymusiak serves both adult and pediatric patients at the Primary Care Center in Turtle Creek and is also an attending physician at the general internal medicine inpatient service at UPMC Shadyside.</td>
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<tr>
<td>Ufomata</td>
<td>Eloho</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Eloho Ufomata, MD, is a second-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow. She received a BS in biology and BS in psychology in 2008 from the University of Kentucky College of Arts and Sciences. She completed her internal medicine residency at the University of Pittsburgh Medical Center in 2015.</td>
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<tr>
<td>Vanderberg</td>
<td>Rachel</td>
<td>MD</td>
<td>Academic Clinician-Educator Scholars (ACES) Fellow</td>
<td>Rachel Vanderberg, MD, is a first-year General Internal Medicine Academic Clinician-Educator Scholars (ACES) Fellow, and a VA Office of Academic Affiliations Women’s Health Fellow.</td>
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<tr>
<td>Yu</td>
<td>Justin</td>
<td>MD</td>
<td>Palliative Care Fellow</td>
<td>Justin Yu, MD, is a Clinical Instructor of Medicine and a second-year fellow in the Hospice and Palliative Medicine Fellowship. Dr. Yu received a BA from Drew University in 2008, and received his MD in 2012 from Temple University School of Medicine. In 2016, he completed his Residency in Internal Medicine/Pediatrics with the University of Pittsburgh Medical Center where he served as Chief Resident. During his fellowship, he has participated in a quality improvement project focused on the communication between bedside nursing and the palliative care team. Dr. Yu is currently working on a research project exploring the factors associated with utilization of outpatient palliative care by patients with advanced cancer.</td>
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**Terminated Post Docs in FY 2016-2017**

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<tr>
<td>Brown</td>
<td>Amanda</td>
<td>MD</td>
<td>Clinical Instructor of Medicine</td>
<td>Dr. Brown, a former Palliative Care Fellow, has accepted a position as Assistant Professor of Pediatrics at Children’s Hospital of Pittsburgh.</td>
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<tr>
<td>Glaser</td>
<td>Christine</td>
<td>MD</td>
<td>Supportive Medicine Physician</td>
<td>Dr. Glaser is a former Palliative Care Fellow who has accepted a position as a Supportive Medicine Physician at City of Hope National Medical Center in Duarte, CA.</td>
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<tr>
<td>Lebduska</td>
<td>Elena</td>
<td>MD</td>
<td>Instructor of Medicine</td>
<td>Dr. Lebduska, a ACES Fellow, received an appointment at the University of Colorado School of Medicine.</td>
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<td>Nandiwada</td>
<td>Deepa</td>
<td>MD</td>
<td>Assistant Professor of Clinical Medicine</td>
<td>Dr. Nandiwada, a ACES Fellow, received an appointment at the University of Pennsylvania Perelman School of Medicine.</td>
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<td>Radomski</td>
<td>Tom</td>
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<td>Dr. Radomski, a former Clinician-Researcher Fellow, is a board-certified general internist and Assistant Professor within the Division of General Internal Medicine. He is supported by a KL2 Clinical Research Scholars award through the ICRE. He is studying how the dual use of VA and Medicare services impacts several outcomes: 1) the quality and utilization of care for veterans with diabetes mellitus; 2) the utilization of low-value services; and 3) the receipt of opioid prescriptions.</td>
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<td>Rusiecki</td>
<td>Jennifer</td>
<td>Assistant Professor of Medicine</td>
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<td>Dr. Rusiecki, a former ACES Fellow, received an appointment at the University of Chicago. She is currently investigating how best to teach shared medical decision making to house staff.</td>
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<tr>
<td>Siropaides</td>
<td>Caitlin</td>
<td>Assistant Professor of Internal Medicine and Palliative Care</td>
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<td>Dr. Siropaides, a former Palliative Care Fellow, has accepted a position as an Assistant Professor of Internal Medicine and Palliative Care at the University of Texas Southwestern.</td>
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<td>Spataro</td>
<td>Brielle</td>
<td>Assistant Professor of Medicine</td>
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<td>Dr. Spataro, a former ACES fellow, received an appointment at the Boston University School of Medicine. Her clinical practice focuses on women’s health issues including contraception, preconception counseling, menopause, and preventative care.</td>
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<tr>
<td>Stein</td>
<td>Dillon</td>
<td>Palliative Care Physician</td>
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<td>Dr. Stein, a former Palliative Care Fellow, has accepted a position as a Palliative Care Physician at Butler Health System.</td>
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PUBLICATIONS

High-Impact Publications


  The authors present the main outcomes from the NIMH-funded RELAX Trial (Reduce Limitations from Anxiety) conducted at GIMO, Shea, and several other UPMC-affiliated primary care practices. RELAX proved that a 12-month telephone-delivered, “stepped” collaborative care intervention for treating panic and generalized anxiety disorder is more effective than PCPs' usual care for these conditions. The benefits of an improved mental health-related quality of life, were particularly evident in African Americans and men, and lasted for up to one year following the conclusion of the intervention. Unlike most mental health interventions that rely on face-to-face visits with specialized mental health personnel, RELAX was designed with a “bare bones” approach in both personnel and cost. For example, it utilized an Epic electronic health record “best practice alert” that prompted PCPs to refer their patients who had anxiety, panic, or depression on their electronic problem list rather than rely on dedicated research assistants or busy practice staff to screen patients. This publication ranks in the top 5% of all publications tracked by Altmetric (and #4 out of 3,424 other JGIM articles) in terms of quality and quantity of attention it received online and from various news outlets.


  Palliative care is the philosophy of care and clinical subspecialty focused on improving quality of life and alleviating suffering for patients with serious illnesses and their families. Over the last 20 years, the field of palliative care has blossomed, in both research and clinical implementation. The authors performed a systematic review and meta-analysis of randomized clinical trials of palliative care interventions, ultimately synthesizing evidence from 43 trials comprising more than 12,000 patients. The authors found that palliative care is associated with improvements in patient quality of life, symptom burden, advance care planning, satisfaction with care, and reduced healthcare utilization. The evidence is weak, however, given that of 43 trials, only 5 (12%) were deemed at low risk of bias. Further research is needed to develop methods for studying complex behavioral interventions in light of serious illness, as well as models of palliative care for patients with non-cancer illnesses (which are heretofore underrepresented in palliative care research). This publication ranks in the top 5% of all publications tracked by Altmetric in terms of quality and quantity of attention it received online and from various news outlets.


  The number of female veterans of reproductive age is rapidly increasing, yet little is known about contraceptive care or outcomes among the growing population of women veterans who receive health care within the Veterans Administration (VA) Healthcare System, the largest integrated health care system in the US. Thus, the Examining Contraceptive Use and Unmet Need (ECUUN) study was conducted to provide...
critical first evidence on rates of contraceptive use and unintended pregnancy in a nationally-representative sample of reproductive-aged women veterans who received health care from the VA.

We found that rates of contraceptive use, unmet contraceptive need, and unintended pregnancy among women veterans are similar to those in the general US population, as obtained by the 2011-2013 National Survey of Family Growth. While it is reassuring that contraceptive use rates are not lower and unintended pregnancy rates are not higher (as was hypothesized) among women veterans compared to the general US population, opportunities for improvement remain. Over one-third of pregnancies in both populations are unintended, about 10% of women at risk of unintended pregnancy are not using any method of contraception, and nearly 30% of these women are not using prescription contraception. Given that these are the first such published data in the VA population, this article was briefed to selected VA leaders this past summer, and data will be used to inform VA women’s health operations moving forward.

**Peer-Reviewed Publications: 2015, 2016, 2017**


Brook JS, Zhang C, Rubenstone E, **Primack BA**, Brook DW. *Comorbid Trajectories of Substance Use as Predictors of Antisocial Personality Disorder, Major Depressive Episode, and Generalized Anxiety Disorder.* Addict Behav. 2016 Nov;62:114-21.


Friedberg MW, **Gellad WF**, Prasad V. Limitations Concerning the Association of Physician Sex and Patient Outcomes. JAMA Intern Med. 2017 Jul 1;177(7):1058.


Gellad WF, Good CB. Prescription of Brand-Name Medications when Generic Alternatives are Available—Patently Unfair. JAMA Intern Med. 2016 Sep 1;176(9):1323-4.


Gellad WF, Zhao X, Thorpe CT, Mor MK, Good CB, Fine MJ. Dual Use of Department of Veterans Affairs and Medicare Benefits and Use of Test Strips in Veterans with Type 2 Diabetes Mellitus. JAMA Intern Med. 2015 Jan;175(1):26-34.


Good MM, Riad FS, **Good CB,** Shalaby AA. Provider Response to QTc Prolongation on Standard 12-Lead EKG: Do We Notice or Do We Care? Pacing Clin Electrophysiol. 2016 Nov;39(11):1174-80.


Lindhiem O, Yu L, Grasso DJ, Kolko DJ, Youngstrom EA. Adapting the Posterior Probability of Diagnosis Index to Enhance Evidence-Based Screening: An Application to ADHD in Primary Care. Assessment. 2015 Apr;22(2):198-207.


Soneji S, Sargent JD, Tansky SE, Primack BA. Associations Between Initial Waterpipe Tobacco Smoking and Snus Use and Subsequent Cigarette Smoking: Results from a Longitudinal Study of US Adolescents and Young Adults. JAMA Pediatr. 2015 Feb;169(2):129-136.


Thomas HN, Thurston RC. A Biopsychosocial Approach to Women's Sexual Function and Dysfunction at Midlife: A Narrative Review. Maturitas. 2016 May;87:49-60.


Turner RM 2nd, Yabes JG, Davies BJ, Heron DE, Jacobs BL. Variations in Preoperative Use of Bone Scan Among Medicare Beneficiaries Undergoing Radical Cystectomy. Urology. 2017 May;103:84-90.


Our mission is to enhance the health of older adults – by providing superb clinical care, by training others to do the same, and by conducting research to ensure that tomorrow’s care is better than today’s. Given the national declines in funding, we are focusing more than ever on innovation as our primary strategy for achieving these goals.

Our efforts in FY17 reflect this vision. Clinically, we partnered with UPMC’s Health Plan in a shared savings program after we cut more than $500,000 in costs through management of its elderly patients. We also created a Chronic Care Management program, to improve care of patients with multiple conditions and to generate new revenue to expand. Having received a new $20 million award from CMS/Medicare’s Innovation Center, we added 20 more nursing homes (NHs) to our previous program, which had cut unplanned admissions from 19 NHs by 26% over 3 years (Health Aff 2017). Based on these successes, UPMC Enterprises partnered with us to create a startup company (Curavi, led by Dr. Handler) to deliver telemedicine consultations after hours to NH residents; 15 NHs have already signed contracts. We also expanded our VA tele-dementia program, as well as our Geriatric Trauma Service, which provides a proactive approach to more than 2,000 older trauma patients/year admitted to UPMC Presbyterian (PUH); preliminary results suggest that we also reduced readmissions. So, too, did our delirium prevention (HELP) program at UPMC Shadyside (JAGS 2017, led by Dr. Rubin), which now covers virtually the entire hospital. The goal is the same with cardiology, with whom we initiated a novel transition service for older heart failure and TAVR patients discharged to NHs. With orthopedics, we expanded our Fracture Liaison Service, led by Dr. Greenspan, from PUH to UPMC Shadyside to ensure that, in addition to repair of their fracture, older patients receive appropriate therapy for osteoporosis; the service has now become the model for the National Osteoporosis Foundation. We also continued to grow some other novel ambulatory services, including one in geriatric cardiology (Dr. Forman) and one in geriatric chronic pain (Dr. Weiner). And we expanded our service at UPMC Mercy to include both outpatient and inpatient consultations.

Educationally, we created a geriatric palliative care fellowship and again filled our fellowship and T32 slots with excellent trainees. For residents interested in geriatrics, we created a longitudinal clinic that includes a new year-long curriculum and house calls program. We enhanced our required interdisciplinary training programs for 200 students of medicine, pharmacy, and nursing, and added physical therapy students. Rollin W. Wright, MD, MA, MPH, published her innovative hospitalist and dementia teaching modules in Annals of Internal Medicine Online. Debra K. Weiner, MD, published the last of her novel 12-part series designed to guide physicians in the evaluation and management of chronic pain. Finally, with support from our Pepper Center, we created a new university-wide leadership training program in aging for junior faculty members.

In research, we found that: (1) insomnia increases falls risk independent of drugs used to treat it, and we identified modifiable medical factors to reduce that risk; (2) simple assessment of psychomotor speed identifies risk for subsequent deterioration of cognition, mood, and mobility so that they can be delayed or prevented; (3) serious falls risk reflects the cumulative dose of drugs that affect the brain, rather than the dose of an individual agent; (4) overall function is as important or more so than cardiac function for older adults. We also helped to further expand the Aging Institute of UPMC and Pitt, which will be led by Toren Finkel, MD, PhD, and we recruited its first faculty member, Aditi Gurkar, PhD. We received NIH funding to establish a Center of Excellence in Long-Term Care Research. Several faculty won research awards and we continued serving on editorial boards as well as advisory boards of NIH, CDC, ACIP, and NOF, and as consultants to CMS, HEDIS and NQF.

The Hartford Foundation renewed our designation as a National Center of Excellence. U.S. News and World Report again ranked us among the nation’s best in both its Best Hospitals (#11) and Best Graduate Schools (#9) issues.
RESEARCH

Our goals are to: (1) conduct cutting-edge research to improve the health of older adults and (2) train the next generation of investigators to do the same. Areas of inquiry include biology of aging, mobility/falls, frailty/sarcopenia, cardiology, chronic pain, polypharmacy, osteoporosis, incontinence, insomnia, rehabilitation, illness recovery, telemedicine, and long term care. Our funding contributed to Pitt’s being among the nation’s top recipients of NIH funding in aging.

Our faculty were again recognized for their research. They gave 25 presentations at the annual meetings of the American Geriatrics Society and Gerontological Society of America. Dr. Handler received the Peter Lamy Award from the American Society of Clinical Pharmacists. Dr. Hanlon received the Abrams Geriatrics Award from the American Society of Clinical Pharmacology and Therapeutics and also the Gutterman Award from AMDA. Dr. Forman received VA Pittsburgh’s Outstanding Contribution to Science award and Dr. Rossi received the VA Federal Executive Board’s Gold Award for her Teledementia Program. Dr. Nadkarni’s research was featured as one of only four oral presentations for the Department of Medicine’s Research Day (out of 250 submissions).

Division faculty also served on editorial boards and as visiting professors, committee chairs, and keynote speakers at national and international meetings. For example, Dr. Newman became editor of the Journal of Gerontology: Medical Sciences; Dr. Resnick gave the keynote talk at NIA’s U13 Conference on Incontinence in Older Adults; Dr. Hanlon served on the AGS’ “Beers Drugs” Update Panel; Drs. Greenspan and Newman served on NIA’s Board of Scientific Counselors and External Advisory Council, respectively; Dr. Greenspan served on NIA’s Clinical Trials Advisory Panel; and Dr. Forman served as Chairman of the American Heart Association’s Committee on Older Populations.

With the departure of five investigators, largely to prestigious positions elsewhere, we have devoted the past three years to recruitment and rebuilding. The attached chart reflects funding for which we serve as PI, but it does not include approximately $2 million in VA funding.

Current Division-led research: (1) NIH Centers/Program Projects: a P30 Pepper Older American’s Independence Center (Greenspan), a T32 to promote training in geriatrics/gerontology (Greenspan), a Center of Excellence in Chronic Pain (Weiner), and a Leadership K07 to create a Long-term Care Research Network (Greenspan) (2) NIH R01/R56/R21s: a new approach to CHF/HFpEF (Forman), CNS mechanisms mediating therapeutic response in overactive bladder (Resnick), pathophysiology of nocturia (Tyagi), CNS mechanisms involved in situational urgency (Clarkson), neural resilience in mobility impairment (Rosano/Hanlon), efficacy of zoledronic acid for osteoporosis in institutionalized elderly (Greenspan, Nace, Resnick), efficacy of denosumab for osteoporosis in long-term care (Greenspan, Nace, Resnick), risk stratifying older persons with acute myocardial infarction (Forman), a PCORI trial of home vs. center-based cardiac rehabilitation (Forman), and a pragmatic multisite NIH/PCORI-funded trial to prevent injurious falls among high risk elderly (Greenspan/Resnick) (3) CMS/CMMI-funded: RAVEN to reduce SNF transfers (Handler, Nace) (4) VA: the role of hip arthritis in chronic low back pain (Weiner), development and validation of clinical prediction rules in seniors with lumbar spinal stenosis (Weiner), patient-centered vs. image-directed treatment of chronic low back pain (Weiner), and a telemedicine approach to improve care of community-based dementia patients (Rossi) (5) Career Development: Dr. Nadkarni’s K23 on Alzheimers (6) AHRQ grants:
reducing adverse drug events in nursing homes (Handler, Hanlon), improving outcomes of UTI in long-term care facilities (Nace), telemedicine to transform medication review for high-risk drugs in the nursing home (Handler), and two complementary grants to devise and implement a novel antibiotic stewardship intervention for nursing homes (Nace) (7) Foundation support: Hartford Foundation Center of Excellence in Geriatric Medicine (Resnick), cumulative CNS drug dosage and serious fall injuries (Donaghue; Hanlon); awards from the Mary Campbell Foundation and Pittsburgh Foundation (Resnick) that build upon our system-based approaches to delirium prevention, detection, and treatment; (8) Pitt/UPMC funding: factors involved in premature and delayed aging using next generation DNA sequencing (Greenspan/Resnick); transcranial stimulation to treat urge incontinence (Clarkson), and oral nitrite therapy to improve skeletal muscle bioenergetics in older patients (Forman) (8) Industry support: teriparatide for healing atypical femoral shaft fractures (Eli Lilly, Greenspan), and a multicenter, randomized, alendronate-controlled study of romosozumab efficacy and safety (Amgen, Greenspan).

**Funded Collaborations** with non-Division PIs include: (1) P01/P50s: care of Alzheimer’s patients (ADRC, Lopez/Rodriguez), Molecular Transducers of Physical Activity Clinical Centers [MotrPAC, Forman/Jakicik], identification of mechanisms underlying stochastic damage of aging (Robbins, Perera), and an evaluation of new approaches to lower urinary tract dysfunction due to spinal cord injury (Kanai, Perera) (2) R01s: reduce adverse drug events after discharge to nursing homes (Handler/Kane-Gill), a task-specific approach to improving gait and mobility (Brach, Perera), osteoporosis risk in smokers (Greenspan, Bon), activating patients with osteoporosis (Saag, Greenspan), impact of obesity on body composition, gait, and function in older adults (Cham, Perera), and assessing the impact of improved vitamin D status on vascular health and metabolic syndrome risk (Rajakumar, Greenspan) (3) R56/R21/R24/R18s): aging’s impact on urothelial function (Resnick, Birder), biomarkers to predict lung function decline in physiologically normal smokers (Perera, Sciruba), establishment of the research infrastructure to facilitate analyses of Medicare Advantage plans (Gurwitz, Greenspan), dissemination of a diabetes prevention program in seniors (Venditti, Greenspan), and one PCORI-funded trial to examine physical therapy/exercise for fracture prevention in community elderly (Greenspan/McTigue) and another to devise and evaluate a novel group exercise program to reduce falls in assisted living facilities (Brach, Perera) (4) K01: to devise a falls risk monitoring algorithm using a data mining technique (Boyce, Perera) (5) 3 VA Merit Reviews: patterns, determinants, and consequences among veterans receiving opiates from VA and non-VA sources (Gellad/Hanlon), improving safety and appropriateness of prescribing for demented veterans who receive drugs within and outside of the VA (Hanlon/Gellad), and cumulative CNS drug dosage and serious fall injuries (Hanlon, Thorpe).

Our **research training grants** support junior faculty, fellows, and medical students. Our T32 supports six summer slots and three year-long slots for medical students, and also four postdoctoral positions. Dr. Studenski’s former NIH K07 Leadership Award created a Concentration in Aging Research for Pitt’s Clinical Research Training Program. Until 2017, our Pepper Center funded an embedded K award through the Research Education Core led by Dr. Greenspan. And Drs. Nace and Wright collaborate on the University’s HRSA-funded Geriatric Education Center (GWEP).
Faculty Research Interests

Becky Clarkson PhD
An Instructor of Medicine, Dr. Clarkson is a physicist with experience developing clinical tests and diagnostic tools related to bladder dysfunction. Her NIH-funded research focuses on the link between the brain and the bladder in urge urinary incontinence, specifically environmental triggers of urinary leakage. In addition, she is using her expertise in medical technology to investigate brain-based therapies for urge incontinence.

Daniel Forman MD
A Professor of Medicine, Dr. Forman is dually trained in geriatrics and cardiology. He holds appointments in both Divisions at UPMC as well as in both the Geriatrics Research Education and Clinical Center (GRECC) and the Cardiology Division at the Pittsburgh VA. With NIH funding, he is studying the benefit of nitrate capsules for fatigue and function in older adults with heart failure and preserved ejection fraction. In two other NIH projects, he is studying the impact of exercise on skeletal muscle gene transcription (Molecular Transducers of Physical Activity in Humans [MoTrPAC]), and the impact of exercise training on cognition (Investigating Gains in Neurocognition in an Intervention Trial of Exercise [IGNITE]). At the VA, he is comparing the impact of different training regimens (strength, aerobic, and inspiratory muscle training) on skeletal muscle morphology, gene expression, and functional capacity. He is also researching the utility of prehabilitation in frail elderly prior to abdominal and cardiothoracic surgery. Finally, Dr. Forman is funded by PCORI to devise novel strategies to improve cardiac rehabilitation, especially methods to improve enrollment, adherence, and value for complex, older cardiovascular patients.

Susan Greenspan MD
A Professor of Medicine, Dr Greenspan is dually-trained in geriatrics and in endocrinology, and she serves as UPMC's Director of the Osteoporosis Prevention and Treatment Center and as Director of Bone Health at Magee Women's Hospital. Her research focuses on geriatric osteoporosis, including its pathophysiology, evaluation, and treatment. Her current R01s focus on osteoporosis in institutionalized elderly, including new treatment modalities and new assessments of bone strength. In addition, Dr. Greenspan is PI of the Division of Geriatrics' NIH-funded Pepper Center and also its NIH T32 Program in Clinical Research Training in Geriatrics/Gerontology. A former member of NIH/NIA’s Board of Scientific Counselors, she now serves on NIA’s Clinical Trial Advisory Panel. She is also President-Elect of the National Osteoporosis Foundation and a member of its Board of Trustees.

Steven M Handler MD PhD CMD
Dr. Handler is an Associate Professor of Geriatrics and also holds appointments in Biomedical Informatics and in Clinical and Translational Research. In addition to his role as Director of Geriatric Telemedicine Programs, he serves as Chief Medical Informatics Officer for UPMC Community Provider Services, and as Medical Director for Telemedicine and Health Information for the RAVEN (Reduce AVoidable hospitalization using Evidence-based interventions for Nursing facilities in Western Pennsylvania) CMS Innovation Award. A practicing geriatrician with medical director responsibilities, Dr. Handler’s primary research focuses on medication and patient safety for older adults in a variety of settings. He is also developing a new care model focusing on the use of telemedicine to improve access to high-quality medical care in the nursing home. His goal is to develop this into a successful commercial entity.

Joseph Hanlon PharmD MS
A Professor of Medicine, Dr. Hanlon is also a geriatric pharmacist and health scientist with both the Center for Health Equity Research and Promotion (CHERP) and the Geriatric Research Education and Clinical Center (GRECC) at the Pittsburgh VA. His research focuses on three areas: 1) drug-related problems; 2) racial disparities in medication use; and 3) drug-induced geriatric syndromes. He serves as a PI and Co-I on a number of federally-funded grants and on the editorial board of several journals.
David Nace MD MPH
Dr. Nace is an Associate Professor whose research focuses primarily on infectious disease in long-term care. His interest in antibiotic stewardship is funded by three AHRQ studies: two, for which he serves as co-investigator, are designing and testing a national antimicrobial stewardship toolkit for nursing facilities; the third, for which he serves as PI, will update guidelines for urinary tract infection management and then implement a program to improve its management in 40 nursing homes in four states. In addition, he recently completed the first randomized trial to compare high and regular dose flu vaccine in long-term care. He also serves as Co-Medical Director for our recently-renewed $20 million CMS Innovations Award project, RAVEN, which has developed innovative approaches to reducing unplanned hospital transfers from nursing homes. Finally, he collaborates with other Division researchers on a variety of NIH, AHRQ, and foundation-funded studies of older adults regarding infection control, osteoporosis, adverse drug events, palliative care, interprofessional training, and quality assessment and improvement.

Neelesh Nadkarni MD PhD
An Assistant Professor and funded by an NIH K23, Dr. Nadkarni researches the impact of brain amyloid deposition and cerebral small-vessel disease on the interface between mobility and cognition in older adults. He is also conducting a pilot study funded by the University of Pittsburgh’s NIH-funded ADRC, and collaborates with other Pitt investigators, serving as co-investigator for several continuing studies funded by the NIA.

Anne B. Newman MD MPH
Dr. Newman is Professor and Chair of the Department of Epidemiology, with a secondary appointment as Professor of Medicine in Geriatrics. A member of NIH/NIA’s National Advisory Council on Aging, she is Principal Investigator for several large population studies and clinical trials and also serves as Director of the Center for Aging and Population Health at the Graduate School of Public Health. In addition, she collaborates with Dr. Greenspan as Co-PI of our Pepper Center, with Dr. Hanlon in the Health ABC Study, and with Dr. Nadkarni on the LIFE Study. Her research focuses on the factors associated with disability and healthy aging.

Elizabeth O'Keefe MD
Dr. O'Keefe is an Associate Professor and clinician-educator who came to Pittsburgh via the Mayo Clinic and Virginia Commonwealth University. Previously, she studied at Cambridge and Oxford Universities before completing her medical residency in London. She has experience in many fields of internal medicine and geriatrics derived from years of medical practice in the United Kingdom and South Africa. While at Virginia Commonwealth University, Dr. O'Keefe received a grant from the Alzheimer's and Related Diseases Award Fund to investigate decision-making with regard to PEG placement in elderly persons with dementia. She has several publications relating to functional bowel disease in the elderly and has served as a reviewer for Journal of the American Geriatrics Society.

Subashan Perera PhD
A Professor of Medicine, Dr. Perera is a biostatistician with special interest in aging, time series analysis, item response theory, and classification and regression trees. His work has involved estimating criteria for clinically meaningful change in physical performance measures of the elderly, examining their association with future outcomes using large data sets, and using item response theory to analyze rating scales used in elderly populations. Dr. Perera also co-leads the Data Management, Analysis, and Informatics Core of our Pepper Center, in addition to serving as co-investigator for multiple NIH, AHRQ, VA and PCORI grants funded within and outside of the Division.

Neil M Resnick MD
A Professor of Medicine and Division Chief, Dr. Resnick’s research focuses on the pathophysiology and therapy of geriatric syndromes. He serves as PI and Co-I for NIH-funded multidisciplinary studies of urinary incontinence, which incorporate physiologic, neuroimaging, clinical, pharmacological and behavioral research aims. He also serves as PI for two foundation-funded initiatives to develop system-based approaches to prevent, detect, and treat delirium in hospitalized patients. Dr. Resnick also serves as co-investigator in Dr. Greenspan’s research in geriatric osteoporosis, including her R01-funded studies in the nursing home and a PCORI-funded study of falls. Finally, he
co-directs the Research and Career Development Core of the NIH-funded Pittsburgh Older Americans Independence Center.

**Eric Rodriguez MD MPH**
Dr. Rodriguez is an Associate Professor. His research focuses on Alzheimer's Disease in older adults, and he continues to serve as co-investigator on grants related to this condition.

**Michelle Rossi MD MPH**
Dr. Rossi's research focuses on appropriate medication use in older veterans. Other interests include development and evaluation of new models of care in older adults, dementia care, telehealth and dementia, and cognitive decline and driving safety. Her teaching activities include a variety of clinical, didactic, and mentoring interactions with medical students, residents and fellows, as well as teaching non-physician clinician trainees (nurse practitioner, physician assistant, psychology, pharmacy, speech therapy, occupational therapy, physical therapy, social work, speech therapy, audiology) in geriatric medicine topics. Dr. Rossi is the current Associate Director for Clinical Care with the GRECC of the VA Pittsburgh Healthcare System. She is the Director of the Geriatric Evaluation and Management (GEM) Clinic at the VA Pittsburgh Healthcare System. This interdisciplinary outpatient consultative clinic provides frail older veterans with needed comprehensive geriatric assessment. She also directs the VA Dementia Clinic and the VA TeleDementia Clinic, which provide care to veterans with dementia and support to their families over the course of their illness. In addition, Dr. Rossi is medical director of the VA Geriatric Driving Safety Clinic, which uses an interdisciplinary team to assess driving safety in veterans with cognitive decline.

**Fred Rubin MD**
A Professor of Medicine, Dr. Rubin's research has focused on evaluating the adaptability, sustainability, and impact of Dr. Sharon Inouye's Hospital Elder Life Program (HELP). He has shown that it is as effective at preventing delirium at UPMC Shadyside, a large community-based hospital, as it was in the academic setting in which it was first developed, and that it can decrease readmissions. By demonstrating both its efficacy and cost-savings, he has also convinced hospital management to incorporate the program into its annual budget.

**Leslie Scheunemann, MD, MPH**
An Assistant Professor with dual training in geriatrics and in pulmonary/critical care, Dr. Scheunemann is supported as a Pepper KL2 Scholar within the Geriatric Division's NIA Pepper Grant. Her research focuses on developing and testing complex interventions to improve physical, cognitive, and psychosocial functioning in older adults who survive critical illness.

**Stasa Tadic MD MS**
An Associate Professor, Dr. Tadic has remained involved in the study of geriatric urinary incontinence. Formerly supported by an NIA K23 Career Development Award, he is a member of the Geriatric Continence Research team (Drs. Resnick, Griffiths, and Clarkson). Although now more focused in the clinical arena, he continues to play a role in the group's efforts.

**Shachi Tyagi MD MS**
An Assistant Professor, Dr. Tyagi is supported by an NIH-R21 and, as a Pepper KL2 Scholar, funded by the Geriatric Division's NIA Pepper Grant. Her research interests include geriatric nocturia and insomnia: their causes, treatment, and impact, both on each other and on the risk of falls.

**Debra Weiner MD**
A Professor with dual training in geriatrics, rheumatology, and acupuncture, Dr. Weiner researches chronic pain. She is PI of two VA Merit Review studies: 1) a multisite pilot study designed to improve management of chronic low back pain (CLBP) in older adults; and, 2) a multisite prospective cohort study to ascertain predictors of outcome in veterans undergoing decompressive laminectomy for lumbar spinal stenosis. Dr. Weiner is PI of a GRECC pilot study to develop an electronic patient screening and educational tool for older adults with CLBP. She also collaborates on
NIH-funded studies that evaluate the contribution of hip osteoarthritis to pain and function in older adults with CLBP and that develop pain education for pre-professional students. Finally, she is co-Director of the University of Pittsburgh’s NIDA-funded Center of Excellence in Pain Education.

**Rollin Wright MD MA MPH**
An Assistant Professor, Dr. Wright’s interests as a clinician educator include curriculum development and evaluation in geriatric medicine, education research, advanced dementia, interprofessional education, terminal decline, and skilled and long-term care. Her education research is funded by a HRSA Geriatric Workforce Education Grant.

**Faculty Research & Other Scholarly Activities**

**Becky Clarkson PhD**
- Member, BBRAIN (Brain Bladder Research and Imaging Network), 2012-present
- Member Institute for Physics and Engineering in Medicine (IPEM, UK), 2004-present

**Daniel Forman MD**
- VA Pittsburgh Healthcare System Outstanding Contribution to Science Award (Medical), 2016
- Chair, Council on Clinical Cardiology, Older Populations Committee, American Heart Association, 2016
- AHA Committee on Scientific Sessions Programs, 2016-2017
- Geriatric Cardiology Section, American College of Cardiology, 2010-present
- Chair, Advocacy Workgroup, Geriatric Cardiology Section, American College of Cardiology, 2014-present
- Chair, International Workgroup, Geriatric Cardiology Section, American College of Cardiology, 2014-present
- Advisory Board Member, Cardio Respiratory Fitness Registry, Council on Clinical Cardiology, 2013-2017
- Advisory Board, Healthy Lifestyle Institute, University of Pittsburgh, PA
- Editorial Board member, Journal of the American Geriatrics Society, 2014-present
- Associate Editor-in-Chief, Journal of Geriatric Cardiology, 2015-present
- Guest Editor, Circulation, 2017
- Scientific Reviewer, VHA, VISN 4 Competitive Pilot Project Fund (CPPF), 2017
- Scientific Reviewer, National Institute of Health: Division of AIDS, Behavioral and Population Sciences RO1 Grant Review Study Section, 2017
- Data Safety and Monitoring Board, REHAB-HF, National Institute of Aging, Bethesda, MD
- NIA U13 Program Committee: Integration of Geriatrics Principles into the Care of Older Adults with Cardiovascular Disease, National Institute of Aging
- NIA U13 Program Committee: Functional Assessment and Care in Specialty Medicine
- American College of Cardiology/American Heart Association, Cholesterol Guideline Committee (American Geriatric Society representative), 2017-present

**Amelia Gennari MD**
- Pittsburgh Magazine, “Best Doctors”
- Poster presentation, A Geriatric Pharmacist’s Clinical and Educational Activities During Weekly Interprofessional Team Meetings, (KM Hart, PharmD, AS Gennari, CM Ruby, PharmD), 2017 Aging Institute Research Day
Susan Greenspan MD
- NIH/NIA Clinical Trials Advisory Program (CTAP), 2014-present
- Editorial Board, Journal of Gerontology: Medical Sciences, 1999-present
- Editorial Board, National Osteoporosis Foundation, 2004-present
- Board of Trustees, National Osteoporosis Foundation, 2010-present
- Vice President, National Osteoporosis Foundation, 2016-present
- Chair, Osteoporosis International Oversight Committee, National Osteoporosis Foundation, 2016-present
- Member ASBMR Task Force Guide on Long-Term use of Bisphosphonates, 2016-present
- Member NOF Clinical Guide for Osteoporosis updated, 2017-present
- Member for UPMC SHFFT Pathway, 2016-present
- Associate Director for Research, University of Pittsburgh Aging Institute, 2013-present
- Top Doctors in America, Castle Connolly’s Guide to America’s Top Physicians, 2016, 2017
- Best Doctors in America, Best Doctors, Inc., 2016, 2017
- Pittsburgh Magazine, Best Doctors in Pittsburgh, 2016, 2017

Steven Handler MD
- Enhanced Care and Coordination Provider (ECCP), Medical Director Council, Center for Medicare and Medicaid Services’ (CMS) Innovation Center, 2013-present
- Long-Term Care Research Network Steering Committee, American Medical Directors Association, 2006-present
- Health Information Technology (HIT) Subcommittee, American Medical Directors Association (AMDA), 2008-present
- Member, Executive Committee for Quality Prescribing Campaign, AMDA - Society for Post-Acute and Long-Term Care, 2015-present
- Member, PA Dept. of Health, Taskforce on Quality Improvement in Nursing Home Regulation and Oversight, 2015-present
- Member, PA Medical Society, Taskforce on eHealth and Health IT, 2016

Joseph Hanlon PharmD
- Editorial Board, Journal of Gerontology, Medical Sciences, 2014-present
- Editorial Board, Drugs and Aging, 2014-present
- Editorial Board, Dementia Panel, Annals of Pharmacotherapy, 2003-present
- “Beers List” Updating Panel, American Geriatrics Society, 2011-present
- Geriatric Advisory Panel, “Modifying the Impact of ICU-Induced Neurological Dysfunction-USA Study” (MIND-USA), Vanderbilt University, 2009-present
- Co-Chair-NIA U13 Polypharmacy in Older Adults with Cardiovascular Disease Conference, 2014-2017
- Member, Technical Advisory Committee, PACE Program, Harrisburg, PA, 2012-present
- Consultant, VA-funded Patient Safety Center of Inquiry: Safeguarding Ambulatory Care For Veterans with Chronic Kidney Disease, 2016-present
- Consultant, NIA-funded “Addressing Behavior and Mood in Assisted Living: Organizational Characteristics Related to the Use of Antipsychotic and Psychotropic Medications and Alternative Practices”, University of North Carolina-Chapel Hill, 2016-present

Shuja Hassan MD
- *Pittsburgh Magazine*, Best Doctors, 2016

David Nace MD MPH
- Board Secretary, AMDA - The Society for Post-Acute and Long-Term Care Medicine, 2016-present
- Member, Hepatitis B Work Group, Advisory Committee on Immunization Practices (ACIP), 2010-present
- Member, National Influenza Vaccine Summit/National Adult Immunization Summit, 2007-present
- Chair, Infections Advisory Committee, AMDA - The Society for Post-Acute and Long-Term Care Medicine, 2013-present
- Vice Chair, AMDA Public Policy Committee, 2015-present
- PA Patient Safety Authority Healthcare Associated Infections LTC Advisory Panel, 2013-present
- Chair, Pennsylvania Dementia Care Partnership, 2012-present
- POLST Champion, PA (Physician’s Orders for Life-Sustaining Treatment) POLST Coalition, 2010-present
- Chair, PMDA Public Policy Committee, 1997-present
- Best Doctors in America, Best Doctors, Inc., 2009-present
- *Pittsburgh Magazine*, Best Doctors in Pittsburgh

Neelesh Nadkarni MD PhD
- American Geriatrics Society New Investigator Award, 2016
- Department of Medicine Research Day Award, 2017
- Editorial Board, Journal of Gerontology Medical Sciences

Anne Newman MD MPH
- National Institute on Aging, National Advisory Council on Aging (NACA), 2014-present
- Associate Editor, Journal of Gerontology, Medical Sciences, 2006-2016
- Editor-In-Chief, Journal of Gerontology, Medical Sciences, 2016-present
- Editorial Board, Journal of Aging and Health, 2010-present
- External Advisory Committee, KURE (Korean Urban Rural Elderly) Study, 2012-present
- Scientific Advisory Board, The Irish Longitudinal Study of Aging (TILDA), 2009-present
- Advisory Board, NIH/NIA Baltimore Longitudinal Study of Aging (BLSA), 2005-present
- External Advisory Committee, ALLHAT (Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial), 2011-present
- Director, Epidemiological Basis of Disease Control, 2015-present

Elizabeth O’Keefe MD
- Best Doctors, Pittsburgh Magazine, 2017
- Judge, resident poster session, AGS, 2017
David Pasquale DO
- Pittsburgh Magazine, Best Doctors, 2016

Subashan Perera PhD
- Member, National Institute on Aging Stroke Recovery Special Emphasis Panel, 2017
- Member, NIH/NIDDK's Novel Approach for Non-Surgical Treatment for Stress Urinary Incontinence: Special Emphasis Panel, 2017
- Member, Data and Safety Monitoring Board, Mechanistic Approach to Preventing Atrophy and Restoring Function in Older Adults Trial (PI: Dreyer)
- Member, Data and Safety Monitoring Board, A Comparison of Treatment Methods for Patients after Total Knee Replacement (Knee Total-X Trial) (PI: Piva)
- Member, Data and Safety Monitoring Board, Long-Term Effects of Weight Loss and Supplemental Protein on Physical Function (R01 AG050656; PI: Houston)

Neil M. Resnick MD
- Grand Champion, 8th Annual Celebrating Senior Champions, UPMC, University of Pittsburgh, November 2016
- Editorial Board, Current Geriatrics Reports (Springer), 2014-present
- Advisor, CMS/Medicare Innovation Advisors Program, 2014-present
- Keynote Talk, NIH Bench to Bedside U13 Research Conference Series: “Geriatric Incontinence—Where Do We Stand? Where Should We Go?”, 2016
- Invited Participant, National Summit on Healthcare Payment Reform, 2016
- American Geriatrics Society, Pennsylvania Representative, Council of State Affiliates, 2003-present
- Board of Directors, American Geriatrics Society, Pennsylvania Chapter, 2000-present
- Board of Directors, Pittsburgh Regional Health Initiative (PRHI), 2012-present
- Board of Directors, Jewish Healthcare Foundation, 2012-present
- Top Doctors in America, Castle Connolly’s Guide to America’s Top Physicians, 2000-2017
- Best Doctors, Pittsburgh Magazine, 2002-2017

Eric Rodriguez MD
- Best Doctors in America, Best Doctors, Inc., 2014-2017
- Rater, McMaster Online Rating of Evidence, 2014-2017

Michelle Rossi MD MPH
- VA Undersecretary of Health, Promising Practice Consortium-Semifinalist, “TeleDementia Clinic”, 2016
- Gold Excellence in Government Award (Federal Executive Board) Outstanding Professional Employee – Medical/Scientific Category, 2016

Fred Rubin MD
- Allegheny County Medical Society Richard E. Deitrick Humanity in Medicine Award, 2016
- President, Pennsylvania Geriatrics Society, Western Division, 2010-2018
- Top Doctors in America, Castle Connolly’s Guide to America’s Top Physicians, 2017
- Best Doctors in America, Best Doctors, Inc., 2017
• Best Doctors, Pittsburgh Magazine, 2017
• Elmer Holzinger Award for excellence in teaching in the Internal Medicine Residency Program, 2017

Stasa Tadic MD MS
• Academic Chief, Geriatric Medicine, UPMC Mercy, 2015-present
• Co-author, team member, QI Project: Delirium Prevention Project on 12e Floor (Progressive Medical Unit), 2016-present
• Co-author, team member, QI Project: Delirium Prevention Project on 10e Floor (“Demential Room) sponsored by Beckwith Institute, 2016-present

Adele Towers MD
• Best Doctors, Pittsburgh Magazine, 2016

Debra Weiner MD
• Editorial Board, Pain Medicine, 2000-present
• Senior Editor, Pain Medicine, 2011-present
• Professional Advisory Board, American Chronic Pain Association, 2011-present
• Ad Hoc reviewer, NIH grant applications, 2013-present
• Best Doctors, Pittsburgh Magazine, 2016

Rollin Wright MD MA MPH
• Member, American Medical Directors Association Annual Program Planning Committee, 2014-present
• Project Director, HRSA Geriatric Workforce Enhancement Program Project 3 (Advanced Dementia Communication Competency), 2015-present
• Mentor, two faculty master’s students, four residents, one fellow
• Course director, Interprofessional Geriatrics Week, October 2015-present
• Best Doctors, Pittsburgh Magazine, 2016
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TEACHING

In addition to the research training described above, Division faculty members teach trainees at every level, from high school student to practicing physician. We also teach advanced practice providers and trainees in pharmacy, nursing, psychology, chaplaincy, physical/occupational therapy, and social work. **In 2017, US News’ Best Graduate Training issue ranked us #9 nationally (tied with Yale) for training in Geriatrics/Gerontology.**

Medical Students

Drs. Scheunemann and Resnick lead a novel *Geriatrics Area of Concentration* that spans all four years and awards a Certificate in Geriatrics to several students annually (11 in FY17). We also sponsor scholarly projects for 3-7 students/year. In addition, we also teach an innovative and required week-long geriatrics course. Led by Dr. Wright, the course offers an interdisciplinary curriculum for 200 medical, nursing, pharmacy, and therapy students; formal evaluation of the course documented improved knowledge, attitudes, and beliefs about geriatric medicine and team-based practices.

Medical Residents

We teach a required month-long geriatrics experience in the clinic, home, hospital, and nursing home settings for all UPMC Presbyterian and Mercy residents in internal medicine. We also offer an innovative Geriatrics Track, led by Dr. Wright, which permits 5-9 residents from Presbyterian and Shadyside to “major” in geriatrics; five were enrolled in AY17. Dr. Wright has also created four advanced geriatrics rotations, which are available to Track and non-Track residents and which attracted three additional participants. Several of Dr. Wright’s innovations have been featured at national AGS meetings, including her “Roadmap,” milestones, and pharmacology QI projects and, more recently, a new curriculum to teach residents how to communicate and work with patients and families living with dementia.

Geriatric Medicine Fellowship

In FY17, we again trained four excellent fellows, including one in our newly created three-year academic track. We also matched four excellent fellows for FY18—all from UPMC—including one in our new integrated fellowship in geriatric palliative care. In addition, we developed a two-year program for hospitalists, which we will match for in November.

Advanced Practice Provider Students

Under the leadership of Gwyn Gilliland, CRNP, we trained both Physician Assistant and CRNP students in acute care geriatrics. Comprising four-week blocks, the rotation remains highly rated.

High School Students (University of Pittsburgh Health Scholars Academy)

The Division supports this highly competitive summer program on aging for 25 elite high school students who are selected each year from throughout Pennsylvania.

Continuing Medical Education (CME)

Recognized by a national award from AGS, this year our annual CME course attracted 420 attendees from 27 states and three other countries. The program includes the national HELP course on delirium, which was transferred from Harvard to Pitt and is annually co-taught by Dr. Sharon Inouye. Dr. Greenspan continues to teach programs on osteoporosis, which she helped to create for the American Academy of Family Medicine, ISCD, and the National Osteoporosis Foundation. Several faculty led “Meet the Professor” sessions at national meetings (e.g., ACP, AGS).

Other

Our faculty author chapters on aging for major medical textbooks, including *Cecil’s* (Resnick; Greenspan), *UpToDate* (Weiner), and *DiPiro’s Pharmacotherapy: A Pathophysiologic Approach* (Hanlon). Division faculty have also developed geriatric curricula for several surgical subspecialties, including ENT, urology, and gynecology. In 2017, Dr. Weiner was named Teacher of the Year by the Pennsylvania Chapter of the AGS.
Teaching Activities

Amy Gennari MD
- Education Committee Member, 2015-present
- Developed Curriculum for new Longitudinal Resident/Interns Clinic and House Calls program, 2016-2017

Susan Greenspan MD
- Co-Founder and Core Faculty, International Society of Clinical Densitometry (ISCD) Certification Program, 1997-present
- Core Faculty, National Osteoporosis Foundation (in association with ISO) annual meeting to update practicing physicians and other health care professionals in management of osteoporosis, 2010-present
- Director, T32 training grant that supports predoctoral, postdoctoral, and medical student trainees, 2014-present
- Mentor, three University of Pittsburgh medical students for their scholarly projects, 2015-present
- Mentor and PhD committee member for two University of Pittsburgh pre-docs for PhD degree
- Mentor to T32 Post-doc

Joseph Hanlon PharmD
- Instructor, Aging Epidemiology Medication Ascertainment, and Medication Errors, GSPG, 2010-present
- Instructor, Interprofessional Geriatrics (Macy), Pharmacogeriatrics, 2012-present
- Instructor, Geriatric Pharmacology and Geriatric Pharmacotherapy, School of Medicine, 2010-present
- Presenter, “Drug Rounds”, Geriatric Division, 2004-present

Shuja Hassan MD
- Co-Director, “Clinical Update in Geriatric Medicine” CME Course, coordinated by the American Geriatrics Society (Pennsylvania Chapter) and the University of Pittsburgh, 2009-present
- Instructor, Advanced Physical Diagnosis Course, 2015-present
- Associate Director, Geriatrics Rotation, UPMC Shadyside, 2004-present

Anne Newman MD
- Co-Director, Advanced Course in the Epidemiology of Aging, 1991-present
- Director, Biology and Physiology of Aging, 1997-present
- Instructor, Epidemiology of Aging Methods, 2006-present
- Co-Instructor, Epidemiological Basis of Disease Control, 2015-present

Elizabeth O’Keefe MD
- Co-Developer of Geriatric Survivor teaching module, Geriatrics (Macy) Course, 2011-present
- Member of Education Committee, 2014-present
- Coordinator LTC session at Charles Morris, Geriatrics (Macy) Course, 2011-present
- Mentor fellows for conference presentations, 2015-2016
- Associate Director Geriatric Fellowship, 2003-present
Michelle Rossi MD
- Director, Geriatrics Rotation for Internal Medicine residents, UPMC Presbyterian/MUH, 2009-present
- Director, Elective in Geriatric Medicine, University of Pittsburgh School of Medicine, 1998-present
- Director, GRECC rotation for Geriatric Psychiatry fellows, 2009-present
- Co-Developer, Geriatric Hospital Survivor teaching modules for Geriatric Medicine course 3rd year medical school, 2011-present
- Faculty and Planning Committee, VA Webinar series for Homecare nurses and other Home-based primary care team members, 2012-present

Neil M. Resnick MD
- Meet the Professor Sessions, American College of Physicians Annual Meeting, San Diego, 2017
- Director, Geriatrics Area of Concentration (AoC), University of Pittsburgh Medical School, 2014-present
- Co-Director, “Clinical Update in Geriatric Medicine” CME Course, coordinated by the American Geriatrics Society (Pennsylvania Chapter) and the University of Pittsburgh, 2000-present
- Developer, Syndromes Module, University of Pittsburgh Medical School’s Geriatrics Course, 2007-present
- Leader, small groups sessions, University of Pittsburgh Medical School’s Geriatrics Course, 2007-present
- Lecturer, Governor’s School (University of Pittsburgh Health Scholars Academy), 2000-present
- K23 Mentor, Holly Thomas, MD

Fred Rubin MD
- Planning Committee, “Update in Geriatric Medicine” CME course, University of Pittsburgh, 1988-present
- Program Director, Medicine Grand Rounds, UPMC Shadyside, 1992-present
- Program Co-Director, 15th annual Internal Conference on the Hospital Elder Life Program (HELP), 2017
- Professor Rounds for 3rd year medical students at UPMC Shadyside, 1999-present
- Planning Committee, Update in Internal Medicine, 1999-present

Karen Scandrett MD
- Program Director, Geriatric Fellowship, 2016-present
- Co-Director, Integrated Training Program in Geriatric and Palliative Medicine, 2016-present
- Faculty Preceptor, Inter-Professional Geriatric Medicine Course, October 2016 Advance Care Planning
- Faculty Preceptor, Advanced Physical Exam, February 2017

Stasa Tadic MD
- Director, Geriatric Medicine Clinical Rotation, PGY 2, at UPMC Mercy
- Director, Geriatric Grand Rounds Seminar Series, UPMC Mercy, 2015-present
- Director, Geriatric Noon Conference Case Series, UPMC Mercy, 2015-present
- Small Group Preceptor, medical students rotating at UPMC Mercy – MS/1-2, Advanced Medical Interviewing (MED 5234)
- UPMC Mercy Nursing, CME teaching sessions on care for hospitalized elderly and delirium prevention

Adrian Visoiu, MD
- Instructor, Advanced Physical Diagnosis Course, 2015-present
- Participated in Geriatric course for Pitt students / Pharmacology case, October 2016
Debra Weiner MD
- Education Committee, Geriatric Medicine Division, 2012-present
- Co-Director, Center of Excellence in Pain Education, participated in developing learning modules, collaborating with Center director Dr. Zsuzsa Horvath in overseeing Center activities, facilitating course implementation, 2015-present
- Career Development Mentor, Elizabeth DiNapoli, MIRECC post-doc, 2016
- Scholarly Project Mentor, Zachary Jacobs, Internal Medicine resident, UPMC, 2016
- Scholarly Project Research Mentor, Evan Madill, medical student, 2016-present
- Collaborated with Drs. Peggy Hasley and Anna Donovan (Pitt Division of General Internal Medicine) in expanding chronic pain management educational activities for internal medicine housestaff

Rollin Wright MD
- Director, Geriatrics Track Residency in Internal Medicine, 2008-present
- Geriatrics Subspecialty Education Coordinator (SEC), 2013-present
- Associate Director, Geriatrics Rotation, UPMC Presbyterian Internal Medicine Residents, 2012-present
- Curriculum Developer and Director, Advanced Geriatrics Rotations, 2008-present
- Mentor (2 faculty master’s students, 4 track residents, 1 categorical medicine resident, 2 fellows), 2016
- Coordinator, Geriatrics Area of Concentration Noon Case Series, 2008-present
- Preceptor, Advanced Medical Interviewing, 2010-present
- Curriculum Co-Developer, Interprofessional Geriatrics (Macy) Course, 2010-present
- Course Director, IP Geriatrics course, 2015-present
- Curriculum Developer, LTC and Teaching to Teach electives for fellows, 2011-present
- Clinical Preceptor, LTC setting 2 8-hour days per week, 2008-present
- Clinical Preceptor (residents and students), inpatient geriatrics service, 4-5 weeks per year, 2005-present
- Clinical Preceptor, geriatric fellows’ continuity outpatient clinic and long-term care, 2013-14, 2015-present
- Lecturer, Integrated Lectures Series for fellows, 3-4 standard required lectures, 2012-present
- Member, AMDA-PALTC Annual Conference Planning Committee, 2014-present
- Presenter, Western PA Geriatrics Society Update, 2013-present
- Chair, Pennsylvania Geriatrics Society-Western Division Awards Committee, 2015-present
- Education Research (curriculum development): Geriatric Workforce Enhancement Program project “Advancing Dementia-Care Competency and Preparedness Across Disciplines in Multiple Care Settings”, curricula for medical students (yearly), medical residents (twice per rotation), and geriatric fellows (monthly x 1 year), 2015-2016
- Geriatrics Faculty Development Series, 3 talks/year 2010-current
- Education Committee Chair, Division of Geriatric Medicine, 2015-present
Fellowship Program

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<td>Hemraj Alisha</td>
<td>Amer Univ St Maarten, Dutch Part</td>
<td>SUNY Upstate Medical University</td>
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<td>Jantea Rachel</td>
<td>Baylor College of Medicine</td>
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<td>Ward Keisha</td>
<td>State Univ. of New York Downstate</td>
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Departing Fellow

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Fellow Presentations


Fellow Presentations

**Hemraj A**, Perera S, Snitz BE, Lopez O, Klunk WE, Nadkarni NK. Oral presentation, "Influence of Brain Amyloid on Dual-Task Gait in Cognitively Normal, Mobility Unimpaired Older Adults," American Geriatrics Society Annual Scientific Meeting, San Antonio, TX, May 2017

**Hemraj A**, Perera S, Snitz BE, Lopez O, Klunk WE, Nadkarni NK. Poster presentation, "Brain Amyloid Positivity and Influence of Working Memory Load on Dual-Task Gait in Cognitively Normal, Mobility Unimpaired Older Adults," 15th Annual Department of Medicine Research Day, Pittsburgh, PA, May 2017


**Fellow Awards**

**Bungo, C.** Travel Award, AMDA Foundation Futures Program Scholar, Society for Post-Acute/ Long-Term Care Medicine Annual Meeting, March 2017

**Ward, K.** Travel Award, AMDA Foundation Futures Program Scholar, Society for Post-Acute/ Long-Term Care Medicine Annual Meeting, March 2017
CLINICAL CARE

We focus on prevention and management of the complex medical and psychosocial problems that afflict older adults. Excluding our VA efforts, we are annually responsible for more than 14,000 ambulatory visits, nearly 1,000 hospital discharges, and nearly 15,000 long term care visits at 13 different facilities. In addition to our clinical volume, which is large for an academic geriatric Division, our effort comprises several special features:

- **Physician Excellence:** 15 of our faculty are now in America’s Top Docs and/or Best Doctors in America. And of the 73 physicians (of >3000) to receive UPMC’s Award of Excellence in 2017, four were from our faculty.
- **Vertically-Integrated Care, Across the Entire Health Care Spectrum**
- **Chronic Care Management:** Each of our primary ambulatory sites is an NCQA-certified PCMH but also specifically designed for geriatric patients (see: Gennari A et al. Cleveland Clin J Med 2012;79:359-66). In 2017, we augmented this by creating a program to manage patients with multiple chronic conditions in compliance with the new CMS billing code. The program is based on patient goals, involves all members of the care team, and is designed to anticipate and avert problems in our most complex patients.
- **Group Visits:** Dr. Towers leads one of the first such programs in an academic center.
- **Integrated Geriatric Subspecialty Care:** Consultative care is provided by fellowship-trained geriatricians, many with dual fellowship training in: cardiology, chronic pain, gait/mobility, sarcopenia, falls, osteoporosis, pulmonary, insomnia, incontinence, rheumatology, depression, dementia, and palliative care. In FY17, we added onsite audiology. DXA testing is provided by a dually-trained geriatric endocrinologist (Dr. Greenspan).
- **Geriatric Pharmacists and Social Workers:** Our geriatric pharmacists review medications, provide education, and counsel patients (cf: Gavini, Gennari, Ruby, Consult Phar 2015;30:153). This service is especially important for patients recently discharged from the hospital or SNF and for those on warfarin. Our social workers provide both inpatient and outpatient care as well as help with care transitions, family conferences, and end of life/palliative care discussions. They also provide resources to address care deficits and financial issues and help educate patients and families on a variety of topics, including dementia and insurance coverage.
- **Emergency Care:** UPMC Magee now screens for delirium in every older patient in the Emergency Room.
- **Hospitalist and Consult Services:** At Shadyside, we staff a geriatrics hospitalist service and a consult service.
- **HELP Program:** Based on Dr. Inouye’s program and led by Drs. Rubin and Hassan, this service prevents delirium and has saved more than $7 million/year since 2008 at UPMC Shadyside (Rubin, JAGS 2011)
- **UPMC Presbyterian (PUH) Geriatric Trauma Service:** Dr. Scandrett initiated this service in 2016 to meet the needs of more than 2,000 older patients admitted annually to our Level 1 trauma hospital.
- **Fracture Liaison Service (UPMC PUH-Shadyside):** Dr. Greenspan created this to ensure that, in addition to surgical repair, those with a fracture are evaluated and treated for osteoporosis (JBMR 2017).
- **Telehealth Service** for our institutionalized residents, including after hours and weekends.
- **Readmission Prevention Program:** Each of our patients is contacted within 48 hours of discharge to review their progress, medications, unanticipated problems, and plans for medical follow-up. Relatively uniquely, we have a similar process for all of our patients following discharge from SNFs. In addition, for each readmission, the clinicians involved (PCP, hospitalist, NH physician, pharmacist, social worker and/or home care) strive to identify interventions to prevent future readmissions, both for the patient and at the system level.
- **Advanced Heart Failure:** A new unit, created at UPMC’s Canterbury SNF and led by Drs. Hassan and Mathier. It is designed to reduce readmissions following discharge of patients with TAVR or advanced heart failure.
- **Program for All-Inclusive Care of the Elderly (PACE):** Directed by one of our adjunct faculty and working closely with the Division, this multisite program allows frail elderly to continue living at home.
- **Nursing Home (NH) and Assisted Living:** We provide care for hundreds of these residents, as well as training and medical leadership to more than a dozen facilities to improve care and reduce unnecessary admissions.
• *Provision of Non-Reimbursable Services*: the readmission prevention service, an anticoagulation program for frail patients, Lifeline® even for those unable to pay, 55 Alive (to assess driving safety), and respite care.
Clinic Locations

UPMC Senior Care, Benedum Geriatric Center
Montefiore Hospital, 3459 Fifth Avenue, 4 East, Pittsburgh, PA 15213, USA

UPMC Senior Care at UPMC Shadyside
5200 Centre Avenue, Shadyside Medical Building, Suite 405, Shadyside, PA 15232, USA
CLINICAL QUALITY IMPROVEMENT INITIATIVES

Our initiatives focus on each relevant setting. Some highlights include:

**Ambulatory Care**

**Chronic Care Management (CCM):** In FY17, we created a model for chronic care management that targets patients with frailty and/or multimorbidity. Over the past six years, under the leadership of Drs. Gennari and Vissiou, we had adapted the Patient-Centered Medical Home to meet the needs of geriatric patients. We guarantee ≤ 72-hour access for new patients, link closely with our inpatient services, and provide a call and follow-up visit within a week to every patient discharged from hospital or SNF. We also strive to develop individual care plans in the context of each patient’s goals, life expectancy, and functional status. Building on this experience, our new CCM model also comprises action plans focused on function, ensures outreach as needed between office visits, generates a list of high risk patients, and reviews every readmission for insights into improving not only the individual’s care but also care of all our patients. Since the model now fulfills requirements for the CMS chronic care management billing code, it also facilitates its scaling to other departments. It also has improved services to the rest of our patients, including multidisciplinary care by social workers, pharmacists, and CRNPs according to patients' needs, and access to same day appointments and continuity of care between healthcare settings. These initiatives have resulted in top scores for preventive services, low readmission rates, and a 97% score on CG CAHPS for physician communication in FY17.

**Depression:** We strengthened our CRNP-led depression screening and management program, which is based on our geropsychiatrists’ PROSPECT study (JAMA, 2004). Each of our patients is screened with the PHQ-2, followed as needed by the PHQ-9. A positive score triggers the provider to evaluate and treat according to an algorithm adapted by our Division and Geriatric Psychiatry. Patients are followed for 6-12 months by an interdisciplinary team, which monitors response and assists with problem-solving. This year we further improved the effort by enrolling patients in the “OPTIMUM” study, which provides medication enhancement options for resistant depression.

**Emergency Care**

In 2015, we and our colleagues in the Magee-Women’s Emergency Department became one of just two U.S. programs selected to work with leaders from the American College of Emergency Physicians and the Society of Academic Emergency Physicians. The goal is to improve care of older emergency patients. Funded by the Hartford Foundation, the project began with a “Geriatric ED Bootcamp,” followed by development of a quality improvement program to enhance detection and management of delirium. Repeated QI cycles have improved nurse-administered screening of older adults from 33% to 90% and the rate of physician confirmatory testing to 75%. A process to trigger referral for pharmacist review of medications has begun as has programming of the tools into the electronic record. Follow up of patients with a positive score is underway to determine who can be safely discharged from the ED and the support required. A standardized care plan for admitted patients is also being developed and educational tools for patients and family are being refined. A new program designed to improve pain management for geriatric patients started this year, focused on training ED physicians to provide regional anesthesia with femoral blocks for patients with hip fractures.

**Inpatient Care**

**Magee Acute Care and Transitions Program (ACT):** Our program is based on two tenets: optimal geriatric care requires anticipating problems and preventing them, and improved systems can help to do so. In its seventh year, the program is led by Dr. Vissiou. This year, we identified new problems in medication reconciliation (Marcum et. al. J Am Geriatr Soc 2015 [2 articles]), expanded and enhanced our Geriatric Consult Service, and worked with orthopedics to improve protocols for all fracture patients. We also sustained our previous advances, maintaining low ALOS, complication rates, and readmissions (10%). More gratifying, improvement in these metrics was sustained across the entire medical service. Unfortunately, faced with an unforeseen faculty shortage and increased demand for our help on the
Presbyterian University Hospital Trauma service, we had to temporarily suspend the Magee Women’s Hospital Acute Care and Transitions Program, although we continued to provide inpatient geriatric consults.

**Delirium Pathway Project:** Led by Dr. Visoiu, our faculty have worked with leaders in psychiatry, nursing, ED, and IT to design a Pathway to improve the approach to delirium in older patients. The goal is universal screening, prevention, and enhanced interprofessional management, from the ED to the wards. As described above, we integrated ED screening of all patients over the of 65. Unexpected departures of key faculty and UPMC’s CMIO delayed further intervention, but prompted us to focus on nursing documentation. We believe that documentation can be substantially streamlined, thereby enabling enhanced screening and intervention – not only to address delirium but other problems as well. To test this, we initiated a new project with UPMC’s CNO (Lorenz) and CQO (Minnier). Early results are encouraging. At the same time, under Dr. Rubín’s leadership, the successful HELP program continues at Shadyside on 11 wards.

**Supportive Services Program:** Developed in partnership with UPMC’s Health Plan and Palliative Care, early analyses proved that this program improved care and saved nearly $500,000/year. Based on its success at UPMC’s Presbyterian University Hospital, Dr. Tadic launched a new base at UPMC Mercy in FY14 where, over the past 3 years, it has also generated a demand for consults on patients not insured by the Health Plan. Both sites are staffed by a nurse who is backed up by faculty members from geriatrics and palliative care. By identifying and consulting proactively on high risk patients, our goal is to minimize complications, ensure a seamless post-discharge transition, and reduce readmissions.

**Geriatric Medicine Trauma Consult Service at Presbyterian Hospital:** In 2016, in partnership with general medicine, we re-launched our geriatric medicine consult service for high risk patients. Initial analysis (Dr. Scandrett) suggest that the service decreased readmission rates for patients evaluated by our service despite selection for increased vulnerability.

**Fracture Liaison Service (FLS):** As national pressure mounts to decrease length of stay, most fracture patients are now discharged without assessment or treatment of the underlying cause. With extramural funding, Dr. Greenspan designed and implemented this novel service, which increased bone density screening in such patients from 9% to 57% and appropriate medical treatment from 4% to 45%. This could have translated into an improved rating in the HEDIS measure from 1 star to 4 stars. More importantly, it was accompanied by a reduction in the re-fracture rate over the past year from roughly 10% to 1.3%. Based on these results, UPMC continues to support the program which has now become the national model advocated by the National Osteoporosis Foundation.

**Home Care**

**Staying at Home/Living at Home (Dr. Rodriguez, Medical Director):** This team-based preventive program collaborates with hundreds of PCPs to provide advanced care coordination for high risk community-dwelling elderly with evidence of inadequate social support, cognitive and functional compromise, and avoidable health care utilization. Nurses and social workers make home visits to assist with managing medications, keeping medical appointments, arranging in-home and community services, and defining goals of care. Results have been excellent (Castle, Resnick. J Applied Gerontol 2014). SAH/LAH serves 975 patients, over half referred by UPMC’s Health Plan.

**Long-Term Care (LTC)**

**Reducing Unplanned Admissions:** Led by Drs. Nace and Handler, in collaboration with the Aging Institute and Senior Communities, we established a comprehensive program to reduce unplanned admissions from nursing homes (NHs) to the hospital. It focuses on 4 key phases: a) improved understanding of patients’ care goals, b) earlier detection of deterioration, c) improved communication among team members, and d) use of clinical care pathways. The program reduced unplanned admissions across UPMC-owned NHs by 45% (from 4.9/1000 patient days in Jan 2010 to 2.7 in June 2013, with subsequent plateau). Outcomes of this program were responsible for UPMC Community Provider Services receiving a $19 million CMS Innovation Award (RAVEN) to implement and evaluate the program in 20 non-
UPMC facilities. Based on success of the new program, which netted savings of $5 million (Health Affairs 2017), CMS awarded us another $20 million in 2016 to continue the intervention in the same NHs and to add another 20 NHs.

**Telemedicine:** Led by Dr. Handler, with our Curavi service, we expanded in FY17 to cover all UPMC-owned NHs during nights and weekends, when other physicians are less available. Roughly 30% of our consults were judged to have averted unnecessary ED visits/hospitalizations. Even at this early date, 15 NHs have already contracted with Curavi.

**Teledementia:** Led by Dr. Rossi, we not only continued our innovative VA teledementia program (JAGS 2017), but also added more VA partners from across the country. In FY17, Dr. Rossi augmented the program to provide support for those caring for these challenging patients. As noted above, her contributions were honored by an award from the VA.

**Dementia Care Management Initiative:** The Division has led local and state initiatives to reduce unnecessary antipsychotic usage among nursing home residents. During our leadership of the Pennsylvania Dementia Care Partnership, usage declined 29.8% statewide in the past five years. In addition, by emphasizing an interprofessional team approach, usage at Division-affiliated SNFs has declined as well and is now 15.0%, a level below state and national averages.

**Antimicrobial Stewardship** – Under Dr. Nace’s leadership, the Division has begun developing and implementing three AHRQ-funded antimicrobial stewardship initiatives. First, a national antimicrobial toolkit has been developed and released (https://www.ahrq.gov/nhguide/index.html). Second, the Optimizing Antibiotic Stewardship in LTC Settings (OASIS) project is underway at 12 sites in Wisconsin and PA. It employs a systems approach, including a post-prescribing review (“antibiotic timeout”) which has never before been implemented or tested in LTC settings. Finally, because suspected UTI is the leading cause of inappropriate antibiotic use in the LTC setting, “Improving Outcomes of UTI Management (IOU),” has developed the first evidence-based guideline for diagnosing and treating SNF-acquired uncomplicated cystitis. The guideline is now being implemented and evaluated in 27 nursing homes across the US.

**Quality Assurance Performance Improvement (QAPI)** - New CMS regulations require nursing homes to establish QAPI programs, which will also be tied to payments. The Division is leading this effort on behalf of UPMC Senior Communities. A formal QAPI has been developed to meet regulations, which were just finalized in July 2017.
FACULTY

Faculty in Core Divisions  
Fiscal Year 2015-2017

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2003 (Base Year)</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geriatric Medicine</td>
<td>24</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
</tbody>
</table>

Note: Includes University of Pittsburgh full-time faculty and volunteer faculty who have a UPP appointment and excludes research associates, adjunct faculty and emeritus faculty.

Current Geriatric Medicine Faculty

Full-Time Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Degree</th>
<th>Appointment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartels Amelia Gennari</td>
<td>MD Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Clarkson Becky D. PhD</td>
<td>Research Instructor in Medicine</td>
<td></td>
</tr>
<tr>
<td>Forman Daniel E. MD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Greenspan Susan L. MD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Gurkar Aditi PhD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Handler Steven M. MD</td>
<td>Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Hanlon Joseph T. PharmD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Hassan Shuja MD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Nace David A. MD</td>
<td>Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Nadkarni Neellesh K. MD, PhD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>OKeefe Elizabeth A. MD</td>
<td>Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Perera KPG Subashan PhD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Rana Sangeeta MD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Resnick Neil M. MD</td>
<td>Professor of Medicine</td>
<td></td>
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<tr>
<td>Rodriguez Eric G. MD</td>
<td>Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Rossi Michelle I. MD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Scandrett Karen E. MD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Scheunemann Leslie MD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Tadic Stasa D. MD</td>
<td>Associate Professor of Medicine</td>
<td></td>
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<tr>
<td>Towers Adele E. MD</td>
<td>Associate Professor of Medicine</td>
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</tr>
<tr>
<td>Tyagi Sachi MD</td>
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<tr>
<td>Weiner Debra K. MD</td>
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<tr>
<td>Wright Rollin M. MD</td>
<td>Assistant Professor of Medicine</td>
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Affiliated Faculty with UPP Appointments

<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Degree</th>
<th>Appointment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahuja Namita MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Metrovich Elizabeth M. DO</td>
<td>Clinical Assistant Professor of Medicine</td>
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<tr>
<td>Naumovski John MD</td>
<td>Clinical Assistant Professor of Medicine</td>
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</tr>
<tr>
<td>Pasquale David A. DO</td>
<td>Clinical Assistant Professor of Medicine</td>
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<tr>
<td>Porter Elizabeth S. MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Visoiu Adrian MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td></td>
</tr>
</tbody>
</table>
### Affiliated Faculty without UPP Appointments

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>MI</th>
<th>Degree</th>
<th>Primary Title</th>
<th>Division</th>
<th>Previous Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coyle</td>
<td>Patricia G.</td>
<td>G.</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigati</td>
<td>Mario J.</td>
<td>J.</td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindenbaum</td>
<td>Jorge</td>
<td></td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
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</tr>
</tbody>
</table>

### New Faculty Hires

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>MI</th>
<th>Degree</th>
<th>Primary Title</th>
<th>Division</th>
<th>Previous Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gurkar</td>
<td>Aditi U.</td>
<td></td>
<td>MD</td>
<td>Assistant Professor of Medicine</td>
<td>Geriatric Medicine</td>
<td>Senior Research Associate, Metabolism and Aging, The Scripps Research Institute</td>
</tr>
</tbody>
</table>
# POST DOCS

## Current Post Docs in FY 2015-2016

<table>
<thead>
<tr>
<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree Code</th>
<th>Current Title</th>
<th>Summary of activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kotlarczyk</td>
<td>Mary</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Kotlarczyk is working with Dr. Susan Greenspan in the Osteoporosis Prevention and Treatment Center conducting clinical trials of osteoporosis medications in long-term care residents. She is also leading a pilot study to exam sedentary behavior in long-term care environments. Her interests in geriatrics include fracture and fall prevention, sarcopenia, and the interactions between muscle and bone with aging.</td>
</tr>
</tbody>
</table>

## Terminating Post Docs in FY 2016-2017

<table>
<thead>
<tr>
<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree Code</th>
<th>Current Title</th>
<th>Summary of activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andolina-Sanders</td>
<td>Laurie</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Sanders is studying whether exercise, which has been shown to improve mitochondrial mass and function in elderly subjects as well as to improve PD motor function, has measurable beneficial effects on the mtDNA damage found in PD patients.</td>
</tr>
<tr>
<td>Naples</td>
<td>Jennifer</td>
<td>PharmD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Naples is investigating medication-related problems in older adults. During her time as a post-doctoral scholar she completed a certificate in clinical research, participated in the Integrated Lectures Series and presented at both the AGS and Science of Adherence conferences.</td>
</tr>
</tbody>
</table>


PUBLICATIONS

High-Impact Publications


  This nested case control study included 5,556 adults ≥ 65 years and newly admitted to a nursing home with a history of a recent fall. In the ensuing 3-12 months, those on a high cumulative dose of agents that affect the brain were nearly twice as likely to suffer a serious fall. Clinicians should focus on reducing total CNS medication burden to decrease the risk of falls, and eliminating agents that are no longer indicated.


  Although insomnia is associated with increased risk for falls and fractures, the relationship may be confounded by use of sleep medications. In this study of 120 community-dwelling seniors (average age=78), the half who reported daytime sleepiness had slower gait speed, step width, and balance confidence. The association persisted after adjusting for covariates, including use of sedating medications. Subjective sleep assessment should be considered when evaluating falls and falls risk.


  Excess nighttime urine production is common, bothersome, and the most common cause of awakening in the elderly. Such awakening increases the risk of falls, fractures, depression, institutionalization, and death. This study found that body mass index, use of some antihypertensives (angiotensin converting enzyme inhibitor/angiotensin receptor blockers), time in bed, and time until first awakening to void were all associated with nightly urine production. Since each of these factors is potentially modifiable, simple interventions may improve sleep and also reduce the risks associated with insomnia as well as the need for sleep medications.


  Two million American men, or one in five, will sustain a fracture in their lifetime, and the associated mortality and morbidity are greater than among women. Yet men are less well studied and treated. This study found that bisphosphonates reduce the risk of vertebral fractures in men and possibly the risk of nonvertebral fractures.


  This article summarizes recommendations from a 12-part series that guides an approach to evaluating and treating chronic low back pain as a syndrome in older adults, i.e., a final common pathway for the expression of multiple contributors. The 12 previous articles targeted hip osteoarthritis, fibromyalgia, myofascial pain, sacroiliac joint syndrome, lumbar spinal stenosis, lateral hip/ thigh pain, leg length discrepancy, insomnia, maladaptive coping, depression, anxiety, and dementia.

Although functional capacity is a priority for older adults, physicians traditionally focus on the heart for those with cardiovascular disease. Comorbidity, inflammation, mitochondrial metabolism, cognition, balance, and sleep all bear on cardiorespiratory function and become more relevant with age. This important consensus statement prioritizes function as a major therapeutic goal. It also reviews the physiology underlying functional capacity at systemic, organ, and cellular levels, as well as the clinical skills needed to assess realms of function (e.g., aerobic, strength, balance, and even cognition) relevant to older patients. Finally, it provides practical recommendations for use in each healthcare setting.


The two articles above are part of the American College of Physicians' online virtual patient series available for CME and MOC credits. They also represent an original synthesis of applicable data difficult to find anywhere else.

**Peer-Reviewed Publications: 2015, 2016, 2017**


Marcum ZA, Hanlon JT. Murray MD. Improving Medication Adherence and Health Outcomes in Older Adults: An Evidence-Based Review of Randomized Controlled Trials. Drugs Aging. 2017 Mar;34(3):191-201.


Schopfer DW, Forman DE. Cardiac Rehabilitation in Older Adults. Can J Cardiol. 2016 Sep;32(9):1088-96.


During the past year, the Division of Hematology-Oncology has continued to focus on the tripartite mission of excellence in patient care, research, and education. The Division’s major priorities remain the recruitment of physician-scientists, the reorganization of the clinical services, and the education and training of hematology-oncology fellows and Internal Medicine housestaff.

We are pleased to highlight the following faculty recognitions and awards in FY 2017:

- Timothy Burns, MD, PhD, received the 2017 Dr. G. David Roodman Excellence in Mentoring Award.
- Lisa Butterfield, PhD, received the 2017 AAI Travel Award to the International Congress on Immunology, in Melbourne, Australia, as well as the 2016 Hillman Fellow for Innovative Cancer Research Award.
- Edward Chu, MD, was awarded the Doctor Honoris Causa (Honorary Doctoral Degree) from the Athens National University and the University of Athens Medical School in March 2017.
- Diwakar Davar, MD, received the the 2016 Conquer Cancer Foundation/Genentech BioOncology™ Young Investigator Award (YIA) in July 2016, the 2017 The Harry J. Lloyd Charitable Trust Career Development Award, and the 2017 University of Pittsburgh Cancer Institute Junior Scholar Award in Clinical Cancer Research.
- John Kirkwood, MD, was inducted into the OncLive® 2017 Giants of Cancer Care® for his long-standing accomplishments in the treatment of malignant melanoma.
- Rahul Parikh, MD, PhD, received the 2017 Alan Winkelstein, MD Memorial Fellow Educator of the Year Award and the 2017 NCI Cancer Clinical Investigator Team Leadership Award.
- Richard Steinman, MD, PhD, was awarded the ZRG-F05U Fellowship in Cell Biology, Developmental Biology, and Bioengineering in the fall of 2016.

The Division has maintained a strong commitment to research as evidenced by both grant funding and clinical research. In FY 17, direct funding totaled $12 million.

The Division continues to place significant emphasis on clinical and translational research. Clinical faculty devote considerable time and effort to developing clinical trials that investigate novel agents and/or combination regimens. The Division faculty continue to play important roles in the Phase I, Phase, II, and Phase III clinical drug development programs supported by the NCI. Dr. Chu is the PI of the NCI UM1 grant that supports the Phase I and Phase II clinical programs, while Dr. Brufsky serves as the PI of the NCI U10 grant that support the Phase III clinical program. In FY 17, Division faculty enrolled 1,853 patients in therapeutic, non-therapeutic, and compassionate-use clinical trials. The number of enrollees represents a 37% increase from the number of enrolled patients in FY2016.
Several key faculty members have noteworthy peer-reviewed grants, including the following:

- **Timothy Burns, MD, PhD,** received a Clinical Scientist Development Award from the Doris Duke Foundation. The three-year award has direct costs totaling $450,000. Dr. Burns is one of 15 research scientists and medical doctors to have received a Kimmel Scholars Award from the Sidney Kimmel Foundation for Cancer Research.

- **Edward Chu, MD,** is PI of the NCI T32 training grant focused on cancer therapeutics.

- Dr. Chu is also PI of the NCI UM1 grant focused on the development and conduct of Phase 2 clinical trials. This grant represents a collaborative effort between UPCI and the University of Pennsylvania Abramson Cancer Center, which together form the Pennsylvania Cancer Consortium (PCC).

- **Adam Brufsky, MD, PhD,** is PI of the NCI U10 grant entitled "NCTN Network Lead Academic Site."

- Dr. Chu served as the PI of the NCI P30 cancer center grant that maintains UPCI as one of the 45 NCI-designated comprehensive cancer centers in the United States.

- **John Kirkwood, MD,** is the PI of the NCI-supported P50 Melanoma and Skin Cancer SPORE grant and the PI of a T-32 training grant for skin biology and skin cancer.

- **Jim Herman, MD,** is the PI of the NCI-supported P50 Lung Cancer SPORE grant.

The faculty members of the Division of Hematology-Oncology are deeply committed to moving forward the research agenda of this country, and they play important roles on various committees of the National Cancer Institute (NCI), the National Institutes of Health (NIH), other federal agencies, and major professional cancer-focused organizations. This list highlights some of these noteworthy committees:

- **Len Appleman, MD, PhD,** is a member of the Eastern Cooperative Group (ECOG) Genitourinary Core Committee.

- and a member of the NCI Renal Cancer Task Force.

- **Nathan Bahary, MD, PhD,** is a member of the NCI Pancreatic Task Force of the GI Cancer Steering Committee.

- **Lisa Butterfield, PhD,** is President of the Society for Immunotherapy of Cancer (SITC), a member of the NCI Cancer Immunotherapy Trials Network Correlative Science Committee, NCI Cancer Steering Committee Immunotherapy Working Group, Food and Drug Administration Cellular, Tissues, and Gene Therapies Advisory Committee, and a member of the NIH Drug Selection Committee for the Lung-MAP Clinical Trial.

- **Edward Chu, MD,** is a member of the NCI Investigational Drug Steering Committee (IDSC), a member of the NCI Experimental Therapeutics Committee (NeXT), a member of the American Association of Cancer Research (AACR) Scientific Program Committee, and a member of the NCI Subcommittee F Study Section on Training.
Laura DeCastro, MD, is a member of American Society of Hematology (ASH) Committee on Practice and a member of the Food and Drug Administration (FDA) Orphan Products Development Committee.

Jan Drappatz, MD, is a member of the Alliance Cooperative Group Neuro-oncology Committee.

Deborah Galson, PhD, is a member of the Scientific Program Committee for the American Society for Bone and Mineral Research (ASBMR) and a member of the ASBMR Finance Committee.

Gregory Kato, MD, is a member of the NIH Study Section focused on Heart, Lung and Blood Diseases, and Sleep Disorders, and a member of the NIH Study Section focused on Discovering New Therapeutic Uses for Existing Molecules.

John Kirkwood, MD, is a member of the ECOG-ACRIN Scientific Planning Committee, a member of the ECOG-ACRIN Principal Investigator Committee, Chair of the ECOG-ACRIN Melanoma Committee, a member of the Society for Immunotherapy of Cancer (SITC) Fellowship Review Task Force, and a member of the American Society of Clinical Oncology (ASCO) Research Policy Immunotherapy Working Group.

James Lee, MD, PhD, is a member of the NCI Colon Cancer Task Force of the GI Cancer Steering Committee, a member of the NRG Oncology Colorectal Cancer Subcommittee, a member of the NRG Oncology Immunotherapy and Immune Modulation Committee, and a member of the NCI Radiation Research Program Colorectal Cancer Working Group.

Frank Lieberman, MD, is a member of the ECOG-ACRIN Biomarkers Committee, a member of the ECOG-ACRIN Experimental Imaging Committee, a member of the ECOG-ACRIN CNS Tumor Committee, and a member of the NCI Adult Brain Tumor Consortium.

Anna Lokshin, PhD, is a member of the NCI Cancer Prevention Research Small Grant Program Committee and a member of the NIH SBIR/STTR Cancer Diagnostic and Treatment Committee.

Enrico Novelli, MD is a member of the American Heart Association (AHA) Study Section and a member of the NIH SBIR/STTR Study Section.

Solomon Ofori-Acquah, PhD, is a member of the NIH Respiratory Integrative Biology and Translational Science Study Section, a member of the ASH Minority Medical Student Award Committee, and is Chair of the ASH Minority Graduate Student Abstract Achievement Award Committee.

Priya Rastogi, MD, is a member of the NCI Breast Cancer Steering Committee.

Margaret Ragni, MD, is a member of the FDA Blood Products Advisory Committee, the American Society of Hematology (ASH) Scientific Committee on Hemostasis, and a member of the National Health Foundation Medical and Scientific Advisory Committee.

Warren Shlomchik, MD, is a member of the NCI Cancer Immunology and Immunopathology Study Section.

Josie van Londen, MD, is a member of the ASCO Cancer Survivorship Committee, a member of the ASCO Geriatric Oncology Special Interest Group Committee, and a member of the ASCO Survivorship Guideline Advisory Committee.

Hassane Zarour, MD, is a member of the NCI Experimental Therapeutics SBIR Study Section and has served as a reviewer for the NCI SPORE Program.

**Faculty Recruitment**

- In FY17, the Division continued to concentrate on the recruitment of physician-scientists to meet strategic needs in several key areas. Lan Coffman, MD, and Yana Najjar, MD, joined the faculty as Assistant Professors of Medicine specializing in ovarian cancer and melanoma, respectively.
**Faculty Research Interests**

**Leonard Appleman MD PhD**
Dr. Appleman’s current research efforts in the field of tumor immunology include collaboration with Dr. Pawel Kalinski, conducting clinical trial of an autologous dendritic cell vaccine in patients with biochemical recurrence of prostate cancer (UPCI 06-070). Dr. Appleman is also working with Dr. Michael Lotze on another investigator initiated phase I study of high dose interleukin-2 plus hydroxychloroquine (UPCI 11-080), and he has co-authored a review on inhibiting autophagy in renal cell carcinoma with his collaborators (Lotze, Maranchie and Appleman 2013, Cancer J.). He is site principal investigator for the NCI-funded Cancer Immunotherapy Trials Network (CITN) study of interleukin-7 and sipuleucel-T for men with castration-refractory prostate cancer and was the site P.I. for the Cytokine Working Group IL-2 Select study (McDermott et al. 2014, Clin. Cancer Res.). Dr. Appleman also serves as site PI for several industry-sponsored studies that are investigating cancer immunotherapy. One of these studies was presented at ASCO in 2014 (Choueiri et al.).

**Nathan Bahary MD PhD**
The principal goal of Dr. Bahary’s research is to combine the power and insight of vertebrate development to elucidate basic molecular processes and the treatment of cancer. The generation of mutants and alteration of specific gene expression is one method used to characterize the discrete steps involved in normal vertebrate development and the initiation and progression of tumors. The zebrafish (Danio rerio) is an especially robust vertebrate system for isolating and defining the novel factors affecting these processes. The zebrafish’s developing embryos are transparent, facilitating visualization, and they have functioning organ systems by 24 hours post-fertilization. Transgenic zebrafish, made by fusing the promoter elements of genes with a fluorescent marker (GFP), are being used to help elucidate the key steps in cancer development. This work will help provide the basis for designing rational, molecularly based disease-directed therapies.

**Michael Boyiadzis MD MHSc**
Dr. Boyiadzis’ research focuses on natural killer-cell biology, immunotherapy and hematopoietic stem cell transplantation.

**Adam Brufsky MD PhD**

**Melissa Burgess MD**
Dr. Burgess is a clinical and translational investigator in sarcoma, with active involvement in current clinical trials. Her research efforts include collaboration with Dr. Lisa Butterfield, director of the Immune Monitoring and Cellular Products Laboratory (IMCPL) at the University of Pittsburgh Cancer Institute (UPCI), with a focus on analyzing peripheral blood samples from SARC 028: A Phase II Study of the Anti-PD1 Antibody Pembrolizumab (MK-3475) in Patients with Advanced Sarcomas. Planned analyses include the assessment of T-cell populations and other immune markers in the circulation with correlation to tumor response to pembrolizumab. Results will be combined with the other correlative studies from SARC 028 including correlation of response with PD-L1 status and immune monitoring within the tumor. These transitional studies should offer unique insights into the biology of PD-1 blockade in sarcoma. Dr. Burgess serves as local principal investigator (PI) for SARC 028, a clinical trial through Sarcoma Alliance for Research through Collaboration (SARC), in which the University of Pittsburgh is a SARC-participating institution.
**Timothy Burns MD PhD**  
Dr. Burns’s research and clinical interests center on the development of targeted therapies for KRAS-mutant NSCLC as well as novel strategies to overcome resistance to targeted therapies. The first line of research focuses on the role of the epithelial-mesenchymal transition transcription factor TWIST1 in oncogene-driven NSCLC. The Burns lab has demonstrated the TWIST1 is essential for lung tumorigenesis for several key oncogenic drivers, including KRAS mutant, EGFR mutant, and MET mutant/amplified NSCLC. Furthermore, his lab has demonstrated that TWIST1 overexpression leads to resistance to EGFR and MET targeted therapies. Dr. Burns is examining the mechanism(s) through which this occurs and developing therapeutic combinations to overcome this resistance. Importantly, we have developed a novel TWIST1 inhibitor which serves as a tool compound for our therapeutic studies and serves as the basis for our current drug screening efforts in order to develop a TWIST1 inhibitor that we can translate to the clinic. The second line of research focuses on studying the mechanisms of resistance to the Hsp90 inhibitor, ganetespib in KRAS-mutant NSCLC, so that researchers can develop rationally designed Hsp90 inhibitor combination for the clinic to prevent or overcome resistance. Of note, the Burns lab recently demonstrated that the ERK-p90RSK-CDC25C pathway plays a key role in resistance to Hsp90 inhibitors through bypass of a G2/M checkpoint. These data suggest that the combination of an ERK inhibitor with an Hsp90 inhibitor maybe effective in KRAS mutant NSCLC and Dr. Burns wants to test this combination in early phase trials soon.

**Lisa Butterfield PhD**  
The Butterfield laboratory studies the interaction between the immune system and cancer, with a primary focus on on melanoma and hepatocellular cancer. In melanoma, the more immunogenic nature of the tumor and the depth to which it has been studied has created a level of understanding of the tumor’s molecular changes and the variety of patient immunological responses. These factors have made possible the highly detailed study of these responses as well as the design of complex immunotherapy clinical trials to induce more potent anti-tumor responses. In hepatocellular cancer, the lack of spontaneous immunity and paucity of known tumor antigens creates an opportunity for the study of new immunotherapy for this difficult disease.

**Edward Chu MD**  
Dr. Chu conducts basic, clinical, and translational cancer research. His basic research interests have focused on characterization of the molecular mechanisms underlying the development of cellular drug resistance, especially as it relates to the fluoropyrimidine class of anticancer agents. His research group was the first to identify translational autoregulation as a novel regulatory mechanism in eukaryotes for controlling the expression of the folate-dependent enzymes, thymidylate synthase, and dihydrofolate reductase. His clinical translational research efforts have focused on identifying novel drugs and treatment strategies for colorectal cancer and other GI cancers and in developing early-phase I/II clinical trials. Dr. Chu has a strong interest in integrating Chinese herbal medicine with standard cancer chemotherapy with the goal of enhancing clinical activity and reducing the toxicity associated with chemotherapy. The Chu lab has been investigating the potential role of antisense and siRNA’s as novel therapeutic molecules for the treatment of colorectal cancer. The goal of these studies is to identify novel molecules to prevent and/or overcome the development of cellular drug resistance to inhibitor compounds that target thymidylate synthase, a well-established target for cancer chemotherapy. The Chu lab observed that siRNA’s were significantly more potent and specific in their ability to repress TS mRNA translation, resulting in potent inhibition of TS synthesis. Moreover, they were able to completely restore chemosensitivity to anticancer agents that target TS, including the fluoropyrimidines and TS antifolate inhibitors.

**Nancy Davidson MD**  
Dr. Davidson’s laboratory provided the first description of epigenetic regulation of the estrogen receptor (ER) alpha gene (ESR1) through DNA methylation and/or histone modification in human breast cancer cells and demonstrated that inhibitors of DNA methyltransferase and/or histone deacetylases could lead to functional ER re-expression. These early studies set the stage for work by many labs, including her own, to define the role of epigenetic gene modifications
in hormone resistance in breast cancer. Recognition of the importance of epigenetic changes (in addition to genetic changes) to breast cancer progression as well as their reversibility (which makes them suitable therapeutic targets) led her lab to define the mechanisms by which inhibitors of DNA methyltransferases as well as histone modifying enzymes can suppress breast cancer growth in vitro. These preclinical studies were advanced to a proof of principle "window" trial of the histone deacetylase inhibitor, vorinostat, in women with early breast cancer which confirmed that vorinostat could decrease markers of proliferation. This provides support for further development of epigenetic modifiers as potential therapies for breast cancer. Dr. Davidson departed from Pitt in November 2016.

Laura De Castro
Dr. De Castro’s research interests include sickle cell-related psychosocial issues, pulmonary hypertension, drug development, and pregnancy and obstetric outcomes. She has developed research hypotheses, designed studies, and applied for extramural support as well as managed data collection and research-related clinical trials. Dr. De Castro has also implemented the planning and development of phase II and III and translational research clinical trials.

Albert Donnenberg PhD
Dr. Donnenberg’s research interests, which he shares with his wife and scientific partner, Dr. Vera Donnenberg, focus on cancer stem cells and their role in tumorigenesis, invasion, and metastasis. They view stemness in epithelial cancers as a state rather than the property of a unique cell type, with individual tumor cells transiting in and out of the cancer stem cell state. According to this interpretation, the more aggressive the tumor, the more cells exist in the stem-like state at any given time. In xenograft models, tumorigenicity is dependent on this state, which can be recognized by the expression of a number of markers that are associated with normal mesenchymal stem cells. In epithelial cancers, mesenchymal markers are associated with invasion, immune suppression and drug resistance. Taken together, the cancer stem cell paradigm has converged with the bidirectional epithelial to mesenchymal/mesenchymal to epithelial transitions (EMT/MET). The Donnenbergs's working hypothesis is that neoplastic transformation and conferral of invasiveness are often independent processes, the later on wound-healing signals present in the tumor microenvironment. Thus, a carcinoma in situ and an invasive carcinoma may share a common mutational profile but exist in very different microenvironments. Since the environment is controlled to a large part by tissue macrophages and stromal cells, which interact at close distances with tumor cells, our research efforts are currently aimed at understanding how polarization toward wound healing influences tumor cell behavior, and how tumor cells influence polarization.

Kathleen Dorritie MD
Dr. Dorritie’s research interests center on the development of novel therapeutic agents for acute myeloid leukemia. Her lab work focuses on targeting the JAK-STAT pathway, a pathway implicated in a variety of malignancies, including acute myeloid leukemia. More recently, she has become involved in the UPCI Cancer Therapeutics Program, with a focus on developing early phase clinical trials in lymphoid malignancies. She has a particular interest in high risk B-cell lymphomas. Dr. Dorritie also teaches a number of didactic lectures for both medical students and fellows and teaches clinically on the leukemia, stem cell transplant, and malignant hematology consult services.

Jan Drappatz MD
Dr. Dappatz’s primary areas of research involve the development of novel agents for the treatment of glioblastoma, central nervous system lymphoma, and other primary and metastatic brain tumors. He has served as the principal investigator of numerous clinical trials to identify effective therapies for patients with brain tumors and other neurological ailments associated with cancer. He is currently leading several clinical trials involving immune therapy, new targeted therapies as well as treatments targeting tumor vasculature. Dr. Drappatz's work has been presented nationally and internationally and has resulted in well over 150 manuscripts, book chapters and abstracts. He serves as a peer reviewer for multiple journals.
Robert Ferguson PhD
Dr. Ferguson’s research interests include the cognitive-behavioral treatment of late cognitive effects of cancer, cancer survivorship, and palliative care. He focuses on the development of cognitive-behavioral therapies for cancer-related cognitive dysfunction and designing and carrying out randomized clinical trials to evaluate treatments. Funding for his work includes grants from the National Cancer Institute, NIH Office of Research on Women’s Health, and the Lance Armstrong Foundation.

Julien Fourcade PharmD PhD
Dr. Fourcade’s research activities are focused on the study of spontaneous and vaccine-induced T cell immune responses against melanoma and other solid tumors in cancer patients, as well as their interaction with cancer cells and other immune cell subsets involved in anti-tumor immunity in the tumor microenvironment. In particular, Dr. Fourcade is involved in the study of the multiple mechanisms leading to tumor-induced immunosuppression and tumor escape in cancer patients, including the study of multiple co-inhibitory receptors (ex: PD-1, BTLA, Tim-3, TIGIT) expressed by tumor antigen (TA)-specific effector CD8+ and CD4+ T cells and regulatory T cells present in the periphery and at tumor sites of patients with advanced cancer. Dr. Fourcade’s aim is to assess the potential of newly designed immunotherapeutic agents targeting immune checkpoint receptors on T cells in order to reverse tumor-induced TA-specific T cell dysfunction/exhaustion and/or reverse Treg-induced immunosuppression in the context of cancer.

Deborah Galson PhD
Dr. Galson investigates the regulation of differentiation starting from identifying the key transcriptional regulators outward to reveal the important signal transduction pathways. Her lab uses this approach to investigate pathological changes in the bone microenvironment, particularly osteoclasts and osteoblasts, in Multiple Myeloma (MM) and Paget’s disease of bone. Dr. Galson’s current studies focus on: the mechanism by which Measles virus nucleocapsid protein (MVNP), which contributes to Paget’s disease of bone, activates cellular genes and alters osteoclast differentiation; the mechanism of cooperation between MVNP and p62 (SQSTM1) with pagetic mutations (eg. p62P392L) to generate Paget's lesions; the mechanism by which MM cells suppress osteoblast differentiation by inducing epigenetic repression of Runx2; the role of Gfi1 in regulating osteoblast and osteoclast differentiation and identification of cofactors; and the roles of the IKK family members TBK1, IKKe, and optineurin in inflammatory bone diseases. The Galson lab studies have identified novel potential therapeutic targets in the pathological bone microenvironment in MM-induced bone disease. The usefulness of inhibiting these targets is under investigation in preclinical studies.

James Herman MD
Dr. Herman is the associate director of the Hematology/Oncology Fellowship program at the University of Pittsburgh. His research program explores changes in DNA methylation in cancer and was the first to demonstrate that tumor suppressor genes are silenced by promoter region methylation. Dr. Herman’s team has characterized changes in methylation associated with the development and progression of cancer, including the demonstration of changes in DNA methylation in premalignant lesions. Current research is aimed at utilizing these findings to improve the management of patients through the development of prognostic, predictive, and early detection epigenetic biomarkers, and in studies of epigenetic therapy. Dr. Herman’s lab has developed new methods for the study of DNA methylation (methylation specific PCR, in Situ MSP, ERMA, and more recently nanotechnology based detection methods, included MS-QFRET and MOB, DREAMing). These sensitive methods have been used for the early detection of cancer and for developing predictive biomarkers. He is a member of TCGA (The Cancer Genome Atlas) and has characterized genome wide epigenetic changes in multiple forms of cancer.
Annie Im MD
As a clinical researcher, Dr. Im has been involved in the development of clinical trials for the treatment of acute myeloid leukemia (AML) and GVHD. Specifically, she has implemented a trial for the treatment of AML in elderly patients using a novel induction regimen based on the mechanism of epigenetic priming. In addition, she has an interest in novel targets for the treatment of chronic GVHD, such as JAK-STAT pathway inhibition, and has implemented trials in this area in collaboration with the Chronic GVHD Research Group in the Experimental Transplantation and Immunology Branch of the National Cancer Institute. Her clinical interests also include development of a Chronic GVHD and Long-Term Follow Up program for the stem cell transplant program at UPMC. Dr. Im has also been heavily involved in medical education for residents and fellows, serving as an Associate Program Director for the Hematology/Oncology Fellowship and the Subspecialty Education Coordinator for the Internal Medicine Residency from 2013-2016.

Rachel Jankowitz MD
Dr. Jankowitz is an Assistant Professor of Medicine in the Division of Hematology/Oncology at the University of Pittsburgh School of Medicine. She has served as a PI or co-investigator on multiple breast cancer clinical trials. Her areas of research include the study of invasive lobular carcinoma (ILC), including an ongoing clinical trial examining endocrine response in invasive lobular carcinoma, (effort supported by a Komen Career Catalyst Award) and a comprehensive database of ILC. She also is the co-PI of the Cancer Family Registry for Research and Surveillance (CFR, IRB#0406182), an established registry and specimen bank to facilitate multidisciplinary research related to individuals with family history concerning for hereditary breast and/or ovarian cancer.

Gregory Kato MD
Dr. Kato's research specialties have focused on blood flow physiology studies, clinical trials, and proteomic analysis of plasma to unravel new mechanisms contributing to pulmonary hypertension and other complications of sickle cell disease. His lab has formulated a model to suggest that pulmonary hypertension, stroke, leg ulcers, and priapism share features of vasculopathy and more severe hemolytic anemia, and that pain crisis, acute chest syndrome, and avascular necrosis share evidence of poor blood circulation due to viscosity. These two groups overlap and are not completely distinct.

John Kirkwood MD
Dr. Kirkwood's research focuses upon melanoma immunobiology, therapy and prevention. He developed the first FDA-approved immunotherapy of melanoma (1996) and has led immunotherapy development in cancer for the past 45 years, beginning decades before immunotherapy had reached the limelight it has achieved in melanoma and other solid tumors over the past 5 years. He has advanced the multimodal therapy of melanoma with surgery, stereotactic radiotherapy, chemotherapy, and molecular antitumor agents, and is now pioneering new approaches to the assessment of combinations of the 10 recently-approved new immunotherapies and molecular therapies that are anticipated to be the focus of the next decade of clinical translational research.

The Kirkwood laboratory is engaged in the molecular and immunohistological analysis of melanoma, studying tissues from the institutional, national, and international trials with which Dr. Kirkwood is engaged. Metastatic and loco-regional tumor tissues from patients participating in new combination therapies, neoadjuvant trials, and prevention interventions are examined with an emphasis upon the alterations in immunomodulatory STAT signaling pathways, and effector immune responses.

Joseph Kiss MD
As a clinical investigator, Dr. Kiss has received federal funding for the past 13 years as a member/grantee of several NHLBI-sponsored research programs, including the Transfusion Medicine Hemostasis/Thrombosis Clinical Trials Network (TMH-CTN), and REDS-II and III programs [REDS is an acronym for Retrovirus(REDS-II) or Recipient (REDS-III) Epidemiology in Donors Study], and through the RO1 award mechanism (STRIDE-Strategies to Reduce Iron
Deficiency). His research interests include studies in thrombotic microangiopathies, particularly thrombotic thrombocytopenic purpura (TTP). He served as protocol lead/PI on the multicenter Study of TTP and Rituximab (STAR) trial in 2009. Although the trial was closed early, the study was innovative in its design to utilize immunotherapy (rituximab) up front in a randomized controlled trial in acquired (autoimmune) TTP that has served as a template for other non-randomized studies performed successfully in Europe. He continues his research work in TTP as a site PI for caplacizumab, a novel heavy chain monoclonal antibody that blocks VonWillebrand A1domain-platelet receptor Ib binding. He is also pursuing therapies for other thrombotic microangiopathies, such as "TAMOF", or Thrombocytopenia-associated Multiorgan Failure, with plans for designing a randomized pilot trial utilizing plasma exchange.

James Lee MD PhD
Dr. Lee’s primary research has been the early-phase clinical development of novel agents for solid tumors and the clinical development of immunotherapy for colorectal cancer. Among his several active clinical trials are, 1) UPCI 14-118: A phase 2 study of MK-3475 in combination with azacitidine in subjects with chemo-refractory metastatic colorectal cancer (Role: Study Sponsor/PI); 2) UPCI 16-123: A phase IB/II study of epacadostat (INCB024360) in combination with pembrolizumab (MK-3475) and azacitidine in subjects with chemo-refractory metastatic colorectal cancer (Role: Study Sponsor/PI); 3) NRG-GI004/SWOG-S1610: Colorectal cancer metastatic dMMR immuno-therapy (COMMIT) study: A randomized phase III study of mFOLFOX6/bevacizumab combination chemotherapy with or without atezolizumab or atezolizumab monotherapy in the first-line treatment of patients with deficient DNA mismatch repair (dMMR) metastatic colorectal cancer (Role: Principal Investigator; Coordinating Center–NRG Oncology), and 5) NSABP FC-9: A phase II study of the dual immune checkpoint blockade with durvalumab plus tremelimumab following palliative hypofractionated radiation in patients with microsatellite stable metastatic colorectal cancer progressing on chemotherapy (Role: Protocol Chair)

Vera Levina PhD
Dr. Levina’s research interests include lung NSCLC and SCLC biology and therapy. She also focuses on lung cancer stem cells, the mechanisms of drug and radiation resistance, and the preclinical study of drug combination targeting bulk tumor cells and CSCs.

Frank Lieberman MD
Dr. Lieberman serves as the director of the adult neuro-oncology program within the University of Pittsburgh Cancer Institute, where he oversees the design and conduct of clinical trials for patients with primary and metastatic brain tumors. He has more than 30 years of experience in the design and conduct of translational therapeutic trials for brain tumor patients and currently serves as our institution’s principal investigator for participation in the Adult Brain Tumor Consortium, NRG Consortium, and ECOG-ACRIN. Dr. Lieberman serves on the CNS Tumor committee, experimental imaging, and biomarker committees for ECOG-ACRIN. He has a focused expertise in immunotherapeutic approaches to high- and low-grade gliomas. He has served and currently serves as principal investigator and co-investigator in glioma vaccine trials as well as immune checkpoint inhibitor trials and in trials evaluating molecularly targeted therapeutic drugs. In addition, he is the co-investigator on our institutional imaging projects assessing novel PET tracers and high-field-strength MRI spectroscopy and dynamic contrast imaging as early biomarkers of response in clinical trials for newly diagnosed and recurrent glioblastomas. Dr. Lieberman has chaired the working group for Clinical Trials Design and Development for the NCI Quantitative Imaging Network. In collaboration with Dr. Marina Nikiforovna and Dr. Ronald Hamilton in the Department of Pathology, he has participated in the development of one of the largest molecular genomic databases for high- and low-grade gliomas in the United States.
Anna Lokshin PhD
Dr. Lokshin’s research centers on the discovery and characterization of biomarkers for screening, diagnosis, and prognosis of cancer, in particular, ovarian and pancreatic cancers. Her group has identified biomarker combinations that recognize ovarian cancer 1-4 years earlier than current methods (CA125 and transvaginal ultrasound) and pancreatic cancer, 2-6 years earlier. The group also is working on discovering biomarkers in several bodily fluids, including serum/plasma and urine.

Carissa Low PhD
Dr. Low's research focuses on interactions between behavior, biology, and patient-centered outcomes in the context of cancer. She is particularly interested in the use of mobile and online technology to assess and target health behaviors, psychological stress, and symptoms during cancer treatment. Current projects include a prospective observational study examining biological (e.g., proinflammatory cytokines) and behavioral (e.g., physical activity) predictors of postoperative recovery after cancer surgery; a randomized controlled trial testing a technology-mediated sedentary behavior intervention before and after cancer surgery; a pilot study testing whether smartphone and wearable sensor data can detect changes in stress and symptoms during chemotherapy; and sentiment analyses to identify the mechanisms underlying American Cancer Society online support communities.

Enrico Novelli MD
Dr. Novelli’s research has focused on the mechanisms underlying vascular dysfunction in SCD via three main projects. He has explored the role of the protein thrombospondin-1 in SCD, finding that elevated plasma levels of TSP1 in several large cohorts of patients with SCD are associated with vaso-occlusive complications and identify a subset of patients who display hemostatic activation and have a more severe phenotype. In translational studies presented as podium talk at the American Society of Hematology Annual Meeting, he also found TSP1 to cause pulmonary hypertension in transgenic mice by binding to its receptor CD47. A second line of Dr. Novelli’s research has focused on the characterization of arterial stiffness as a mechanism of vascular dysfunction in SCD. He has discovered a link between hemolysis and arterial stiffness by showing that hemolysis is independently associated with arterial stiffness measured by pulse pressure in a large cohort of SCD patients. This discovery is of high clinical relevance because it suggests that elevated hemolysis rates encountered in a subset of SCD patients may lead to an increased risk of vascular complications. Dr. Novelli’s third and most recent project concerns the cerebral vasculature in SCD in an effort to elucidate SCD-related cognitive impairment. He has discovered a neuroimaging marker of small vessel disease associated with cognitive function in SCD.

Solomon Ofori-Acquah PhD
Dr. Ofori-Acquah has a research interest in molecular hematology, endothelial barrier function, sickle cell disease (SCD) and global health. His basic science research is on mechanisms of neutralizing erythroid danger associated molecular pattern (eDAMP) molecules. This work encompasses studies of developmental, genetic and epigenetic regulation of hemopexin and heme oxygenase-1, the key neutralizing molecules of extracellular heme the prototypical eDAMP. His basic research is translated to understanding the role and mechanism of extracellular heme in the pathobiology of vascular complications in SCD. A major translational focus is acute chest syndrome, the leading cause of premature death in SCD. The Ofori-Acquah lab developed the first mouse model of acute chest syndrome. This preclinical model is currently being used to find targeted therapies for acute chest syndrome. His global health research is centered on a longitudinal observational study of a large newborn cohort in Ghana to define markers of end-organ damage in SCD. Additional global health work focused also on SCD is performed under the auspices of the H3Africa consortium with a multi-disciplinary team of collaborators in Cameroon, Tanzania and South Africa. Dr. Ofori-Acquah directs a research education NIH funded R25 program aimed at catalyzing the training of graduates, postdocs and junior faculty in blood science research. He is Visiting Professor and Director of a Human Genetics graduate course in a Wellcome Trust funded DELTAS (Developing Excellence in Leadership, Training and Science) program at the University of Ghana in collaboration with the Pitt Graduate School of Public Health.
Amma Owusu-Ansah MD
Dr. Owusu-Ansah’s primary research interest is in translating novel or repurposed therapeutics into clinical settings to prevent or halt the progression of complications of sickle cell disease. Her current research is aimed at identifying surrogate markers or nrf2 activation in sickle cell disease. Dr. Owusu-Ansah’s other interests are in global health and implementation research, specifically, identifying strategies to improve access to state-of-the-art medical care for individuals with benign hematologic disorders in different demographic regions of the world. As much as 50% of her research effort is spent in Ghana, West Africa.

Rahul Parikh MD PhD
Dr. Parikh evaluates the DNA repair pathways in human tumors and the association with resistance to chemotherapy and ionizing radiation. Specifically, Dr. Parikh’s team observed that copy number loss of distal 11q is the first step in 11q13 amplification in head and neck cancer. Researchers identified that distal 11q harbored critical DNA damage response genes, including ATM, MRE11A, and H2AFX. Distal 11q loss leads to a functionally deficient ATM pathway and upregulation of the compensatory ATR-CHEK1 pathway. This resulted in therapeutic resistance and poor outcomes for patients with head and neck cancer and other cancers. Dr. Parikh’s lab demonstrated that targeted knockdown of the ATR-CHEK1 pathway led to re-sensitization to therapy. His lab’s unique role was to identify distal 11q loss and consequent loss of the ATM gene to ATR pathway upregulation and therapeutic resistance. Currently, Dr. Parikh’s team is actively involved in evaluating the ATM and ATR pathways in urothelial malignancies. His research is funded by the Bladder Cancer Advocacy Network (BCAN) young investigator award.

Dr. Parikh is actively involved in evaluating the role of androgen deprivation therapy (ADT) in the treatment of prostate adenocarcinomas. In collaboration with Zhou Wang, they evaluated the role of 5alpha-reductase inhibitors sequenced with ADT in delaying the re-growth of prostate cancer cells. The goal is to lengthen the duration of sensitivity to ADT using intermittent ADT sequenced with 5 alpha-reductase inhibitors. This will help prevent side-effects associated with ADT and delay time to developing castrate resistant disease in prostate cancer patients.

Vida Cecilia Passero MD
Dr. Passero’s research interests are the analytic hierarchy process for healthcare decision processes and the development of innovative cancer care models using technology.

Shannon Puhalla MD
Dr. Puhalla is the Director of Breast Cancer Clinical Research, overseeing the clinical and translational research efforts of the Breast Cancer Clinical Research Program at the University of Pittsburgh Cancer Institute (UPCI). Her clinical and translational research interests include molecular therapeutics and drug discovery, with a particular emphasis on development of novel agents and combination regimens in early-phase clinical trials in breast cancer. She has received Career Development Awards from the American Society of Clinical Oncology (ASCO)/Conquer Cancer Foundation and the Breast Cancer Research Foundation (BCRF) and also from the Breast Cancer Specialized Program of Research Excellence (SPORE) that was co-held by Johns Hopkins University and the University of Pittsburgh. Her work has been published in key medical journals, such as the Journal of Clinical Oncology, and she has served as a guest reviewer for Cancer Chemotherapy and Pharmacology, the Journal of Clinical Oncology, and the Journal of the National Cancer Institute. She was awarded the Cancer Clinical Investigator Team Leadership Award (CCITLA) by the National Cancer Institute. Dr. Puhalla is actively involved in the National Surgical Adjuvant Breast and Bowel Program (NSABP) Division of Industry Sponsored Trials, and she is the local co-principal investigator of the Translational Breast Cancer Research Consortium (TBCRC). She is particularly focused on novel therapeutics for triple negative breast cancer, reversal of endocrine therapy resistance, and the care of patients with metastatic breast cancer. Her work has also focused on treatment of breast cancer brain metastases and genomic analysis of breast cancer.
Margaret Ragni MD MPH
Dr. Ragni has actively initiated and participated in clinical translational research in congenital hemostasis and thrombosis disorders. She has served as chair of clinical trials, prospective epidemiologic, observational, case-control studies, cost-effectiveness analyses, and investigator-initiated new drug trials in hemophilia and VWD. Dr. Ragni’s research studies were among the first multi-center NIH-funded investigator-initiated studies in hemophilia malignancy (NCI), hemophilia inhibitor formation (NHLBI), hemophilia HIV/HCV infection (NHLBI), hemophilia AIDS therapy (NIAID), and hemophilia adult prophylaxis (NHLBI). She co-chaired the State of the NHLBI Science SOS Hemophilia & VWD Subcommittee to design future trials, with three U34 trials funded NHLBI, and three R01 clinical trials in preparation, including one to prevent inhibitors in hemophilia A, one to reduce VWD menorrhagia, and one to prevent VWD postpartum bleeding. She has collaborated on multi-center organ transplant HIV trials (NIAID), hemophilia gene therapy trials (NHLBI); VWD genotype-phenotype studies (NHLBI); novel therapeutics (siRNA-AT3, emcizumab (ACE910) and extended half-life protein trials (VIIa, VIII, IX) for hemophilia, and rhIL-11 and recombinant VWF for VWD.

Priya Rastogi MD
Dr. Rastogi is involved with the development and implementation of phase II and phase III clinical trials, and she serves as the protocol officer for phase II and phase III adjuvant and neoadjuvant breast cancer clinical trials. Her research has been published in several medical journals, including Journal of Clinical Oncology, Clinical Breast Cancer, New England Journal of Medicine, Oncology, Oncology Nurse Forum, Onkologie, Menopause, and Breast Cancer Research Treatment.

Robert Redner MD
Dr. Redner’s researches the molecular biology of leukemic transformation and myeloid differentiation. A major focus of his laboratory has been the mechanism underlying differentiation arrest in myeloid leukemia, investigating acute promyelocytic leukemia (APL) as a model system. His group first cloned the NPM-RAR translocation that characterizes the t(5;17) variant of APL, and his lab has had an active program studying the mechanism by which NPM-RAR generates the leukemic phenotype. Dr. Redner is a physician/scientist in the Division of Hematology/Oncology in the Department of Medicine and a member of the Cancer Therapeutics Program of the University of Pittsburgh Cancer Institute.

Linda Robertson RN MSN Dr PH
Dr. Robertson has multiple research interests, including decision-making as it relates to cancer prevention and early detection, including preventative vaccines. Dr. Robertson also continues to explore the growing problem of HPV infection in our community. Particular interest includes; assessment of individuals’ of lower SES and their knowledge of HPV infection, specifically methods of transmission, the potential for illness/disease, and prevention of HPV through behavior and vaccination. In addition, she is interested in the issue of health equity and cancer care: Dr. Robertson is the site PI for the RCT for “Accountability for Cancer Care through Undoing Racism and Equity (ACCURE)”. Finally, Dr. Robertson, working with a multidisciplinary team, recently completed a pilot study using a mixed qualitative and geostatistical approach for characterizing psychosocial stressors and their spatial relationships with air pollution, across the city of Pittsburgh, and to explore possible relationships with other exposures and cancer incidence. Further research is being developed.

John Schmitz PhD
Dr. Schmitz’s laboratory research focuses on the development of novel chemotherapeutic targets and agents for the treatment of human colorectal cancer (CRC). Among his research interests are pharmacodynamic biomarkers of DNA damage response. Dr. Schmitz’s lab demonstrated that local targeted radiotherapy can induce a DNA damage response in patient peripheral blood mononuclear cells as observed by induction of phosphorylation of ATM. The therapeutic inhibition of protein kinase D in CRC is another area of focus. Dr. Schmitz’s team has identified PKD2 as
the key isoform responsible for CRC proliferation and demonstrated that PKD2 inhibition (small molecules; siRNA nanoparticles) resulted in tumor growth suppression in in vivo animal models. A third interest area is the identification and validation of traditional Chinese herbal medicines and/or natural compounds with anticancer activity by themselves and in combination with current therapies. The Schmitz lab has shown that an analog of the natural product C1 disorazole effectively inhibited cell proliferation in CRC cells overexpressing ABCB1 protein, a known mediator of resistance to tubulin inhibitors. In addition to small molecule compounds, the lab has demonstrated that clove extract has significant antitumor activity against CRC in both in vitro and in vivo model systems. Researchers in Dr. Schmitz’s lab identified oleanolic acid as the active anti-proliferative compound in clove extract. Current research interests have focused on identifying herbal medicines that enhance the antitumor activity of standard CRC therapies.

Craig Seaman MD MS
Dr. Seaman’s primary research focus is on the role of aging and aging-related conditions in hereditary bleeding disorders, specifically von Willebrand disease and hemophilia. His current research interests include the role of cardiovascular disease and related disorders in von Willebrand disease and hemophilia; the effects of aging on von Willebrand factor levels and bleeding phenotype in von Willebrand disease; and the use of alternative descriptors of body weight for clotting factor concentrate dosing in overweight and obese patients with hemophilia.

Malabika Sen PhD
Dr. Sen’s research focuses on cancer epigenetics with an emphasis on lung cancer. The current work involves understanding and characterizing epigenetic changes in cancer, developing therapeutic strategies based upon epigenetic alterations, and developing alterations in DNA methylation for use as predictive biomarkers and early detection of lung cancer. The aim of our work is to elucidate epigenetic alterations and investigate mechanisms in a series of preclinical models based on key observations from the clinic and use therapeutic strategies to predict sensitivity for the development of clinically relevant biomarkers.

Warren Shlomchik MD
Dr. Shlomchik’s research is dedicated to understanding the complex immunology of allogeneic hematopoietic stem cell transplantation (alloSCT), including graft-versus-host disease (GVHD), graft-versus-leukemia (GVL), and immune reconstitution. The goal of his studies is to make discoveries that can be translated in the clinic. One discovery—that memory phenotype T cells induce less GVHD than do naive T cells—has been tested in a phase I/II clinical trial in which patients received grafts depleted of naive T cells. This approach is now being examined in a 4-arm clinical trial that includes high and lower intensity conditioning and grafts that are matched related and unrelated. At the bench, Dr. Shlomchik has mostly taken genetic approaches with mouse models to test fundamental hypotheses regarding alloSCT immunology. One major part of his research program has focused on mechanisms of GVHD: the roles of donor and host antigen presenting cells in priming alloreactive T cells; the mechanisms of antigen presentation; and the role of donor tissue infiltrating APCs in promoting GVHD end organ damage. The second area of investigation has been to understand mechanisms of GVL and GVL-resistance. Dr. Shlomchik’s lab has developed mouse models of GVL-sensitive chronic phase CML (CP-CML) and GVL-resistant blast crisis CML (BC-CML), with both leukemias induced by retroviral transfer of human oncogenes. This has provided both realistic models and genetic flexibility in that leukemias can be induced in any mouse, including those that are gene-modified. Recently, his lab has been applying two photon intravital microscopy to both GVHD and GVL.

Roy Smith MD
Dr. Smith served as the Director of Medical Affairs for the NABP. He has had an interest in breast and colorectal clinical trials for many years. Dr. Smith is a former chairman of the Central Investigational Review Board for Cancer Therapy Evaluation Program of the National Cancer Institute and has played a key role in revising its role in the conduct of Cooperative Group Program trials.
Richard Steinman MD PhD
Dr. Steinman's laboratory studies the cancer microenvironment, with a focus on the molecular and functional interactions between cancer cells, fibroblasts and platelets. He has developed novel tools to enable fluorescent labeling and has designed planned genetic recombination of normal cells that are next to cancer cells, making it possible for normal cells that were in the path of cancer cells to be isolated and characterized for cancer-induced collaborative signals. Through this approach, he seeks to uncover and to dissect the impact of signaling pathways on tumor-stromal co-evolution. Dr. Steinman also studies tumor dormancy, modeling factors in host stromal cells that could contribute to breast cancer recurrence and conversion to estrogen receptor negativity in bone. His study of communication between cancer and normal cells also includes work on platelets, in which his laboratory has identified an unexpected pathway that appears to be necessary for platelets to bind to cancer cells and support their spread. Dr. Steinman is currently PI on 3 NIH grants as well as a DoD grant.

Quanhong Sun PhD
Dr. Sun’s research focus is determining the mechanism by which the Measles virus nucleocapsid protein (MVNP) results in aberrant osteoclast differentiation. MVNP has been shown to be able to induce a Pagetic phenotype when transduced into osteoclast precursors, and there is increasing evidence that it can play a role in the development of Paget’s disease. Dr. Sun’s lab has reported that MVNP signals through the IKK family member TBK1 to increase IL-6, a key player in creating the pagetic microenvironment. Current studies seek to determine the mechanism by which MVNP regulates the competitive balance between TBK1 activity and levels of OPTN (a negative regulator) in osteoclasts. The lab is also using transgenic mouse models to determine whether increased TBK1 expression in OCL precursors will phenocopy MVNP or cooperate with p62P394L to generate the pagetic phenotype in mice. Further, testing is being done to determine whether TBK1 is required for the formation of pagetic lesions in vivo by crossing TBK1 conditional knockout mice with MVNP/P62KI mice. Dr. Sun is also interested in determining the role and mechanisms of TBK1 and its homolog IKK epsilon in other inflammatory bone diseases, such as multiple myeloma (MM) bone disease.

Weijing Sun MD
Dr. Sun focuses on the treatment and clinical research of GI malignancies, primarily on the development of new drugs and biologic/targeted oriented agents in treatment/therapy (including translational research) of gastrointestinal malignancies.

Ahmad Tarhini MD PhD
Identification of biomarkers for therapeutic response, toxicity prediction, and disease prognosis are major foci of Dr. Tarhini’s research. He has led efforts that demonstrated that S100B is a significant prognostic marker in melanoma, and he also reported on a serum signature consisting of TNFRII, TGFα, TIMP1, and CRP that is prognostic of worse survival. Dr. Tarhini also recently reported that an early-on treatment signature of pro-inflammatory serum markers (IL2Ra, IL-12p40, and IFNa) significantly predicted survival in patients treated with adjuvant IFNa2b.

He has led neoadjuvant studies of immune checkpoint blockade and has reported significant mechanistic findings in the circulation and the tumor microenvironment with therapeutic predictive value. These and other related significant biomarker findings have formed the basis for his recently renewed NIH-funded Skin Cancer SPORE Biomarker Project within the US Intergroup E1609 adjuvant phase III trial. Within this trial, Dr. Tarhini is testing the therapeutic predictive value of markers of the pro-inflammatory immune response and immune suppression within the circulation and the TME based on common-systems biology. As a clinical and translational physician-scientist, one of Dr. Tarhini’s major research objectives is the overcoming of melanoma immune tolerance through combinations of novel immunotherapeutic strategies that involve cytokines and inhibitors of unique checkpoints of immune regulation (UPCI 05-125, E3611, UPCI 11-063, UPCI 14-102, UPCI 15-113). He chairs the US Intergroup E1609 adjuvant trial testing...
ipilimumab at 3 or 10 mg/kg versus IFNa, and co-chairs the Intergroup S1404 anti-PD1 adjuvant trial. He also co-chairs the E3612 and EA6141 trials testing novel combinations targeting immune checkpoints.

**Darcy Thull MS**

Dr. Thull’s primary research interest is the use of hereditary cancer registries to facilitate research in cancer prevention, screening, and personalized care for families with hereditary cancer predisposition.

**Gijsberta Van Londen MD MS**

Dr. Van Londen performs her own research, but also collaborates on research that is highly relevant to cancer survivors. Her main foci are the assessment and management of adverse effects of and adherence to self-administered cancer therapies as well as the needs of post-treatment cancer survivors.

**Liza Villaruz MD**

Dr. Villaruz is a clinical and translational investigator in lung cancer who is actively involved in current clinical trials and who has a strong track record of successful development of institutional clinical trials through NCI-CTEP and industry. Dr. Villaruz actively develops clinical trials in both the UPCI Lung Cancer Program (LCP) and the UM1 NCI ET-CTN with Phase I Emphasis at the UPCI. She facilitates the interactions between the LCP and the Phase I Program. Amongst the institutional clinical trials developed by Dr. Villaruz is the NCI-CTEP UM1 sponsored multi-center phase I clinical trial of the ATR inhibitor VX-970 in combination with irinotecan in patients with solid organ tumors (UPCI 15-164/NCI P9938), which was developed in close collaboration with the translational and basic scientists at the UPCI. Dr. Villaruz is the UPCI Principal Investigator for the Academic Thoracic Oncology Medical Investigators Consortium (ATOMIC), a national consortium of academic institutions that designs and conducts clinical trials in thoracic oncology.

**Lazar Vujanovic PhD**

Dr. Vujanovic’s research focuses on the development of novel immune therapies to treat melanoma, hepatocellular carcinoma, and other solid tumors. His research interests are: identifying the mechanisms by which tumor-derived alpha fetoprotein impacts natural killer (NK) cell biology in hepatocellular carcinoma patients; defining the mechanisms by which recombinant adenovirus-engineered dendritic cell (DC) vaccines recruit, engage, and activate NK cells; developing novel DC-based vaccines for cancer therapy; investigating new strategies to prevent acquired resistance to BRAF and MEK inhibitors in patients harboring BRAF mutant melanoma; and characterizing the role epitope mimicry plays in the development of tumor-specific T cell responses.

**Hassane Zarour MD**

Dr. Zarour’s research interests include the identification of novel MHC class II epitopes derived from tumor antigens expressed by melanoma. His laboratory has developed successfully the approach to identify T-helper epitopes derived from a number of human tumor antigens and capable of stimulation antigen-specific CD4+ T cells in patients with advanced cancer. A second research focus is the development of novel melanoma vaccines trial with T-helper epitopes and adjuvants. Following the successful identifications of T-helper epitopes derived from tumor antigens, Dr. Zarour’s lab has implemented two novel clinical trials with peptides and adjuvants. In particular, it has performed two pilot trials with MHC class I and MHC class II epitopes derived from the cancer/testis antigen NY-ESO-1 in combination with CPG in patients with advanced melanoma. The research has demonstrated the capability of CPG to stimulate potent and ex vivo detectable CD8+ T cell responses to NY-ESO-1. A third research focus is the study of the mechanisms of melanoma-induced T cell dysfunction, including the role of the PD-1, Tim-3, BTLA and TIGIT pathways. Dr. Zarour has reported the upregulation of multiple inhibitory receptors by tumor antigen-specific CD8+T cells in human melanoma, including PD-1, Tim-3, BTLA, and TIGIT. These studies have led to the identification of CD8+T cell subsets present in the tumor microenvironment and exhibiting variable levels of T cell dysfunction. His research has also shown the role of dual PD-1/Tim-3 and PD-1/TIGIT blockades in augmenting the expansion and function of tumor antigen-specific CD8+ T cells isolated from patients with advanced melanoma.
Faculty Research & Other Scholarly Activities

Leonard Appleman MD PhD
- Reviewer, New England Journal of Medicine, 2004-present
- Chair, University of Pittsburgh Cancer Institute Protocol Review Board, 2007-present
- Reviewer, Journal of Immunotherapy, Cancer Immunology and Immunotherapy, Cancer Chemotherapy and Pharmacology, Journal of Urology, American Society of Clinical Oncology (ASCO), 2007-present
- Reviewer, Journal of Molecular Medicine, 2008-present
- Reviewer, Clinical Genitourinary Oncology, 2009-present
- Reviewer, Urologic Oncology, 2012-present
- Reviewer, Clinical Cancer Research, 2013-present
- Reviewer, Clinical Cancer Reviews, 2014-present
- Associate Editor, Clinical Genitourinary Oncology, 2016-present

Nathan Bahary MD PhD
- GI Steering Committee, Eastern Cooperative Oncology Group (ECOG), 2004-present
- American Society of Clinical Oncology (ASCO), 2015-present
- Society for Clinical and Translational Science (SCTS), 2015-present
- National Surgical Adjuvant Breast and Bowel Project (NASBP), 2015-present
- Pancreatic Cancer Research Team (PCRT), 2015-present
- American Association for Cancer Research (AACR), 2015-present
- North American Neuroendocrine Tumor Society (NANETS), 2015-present
- Liver Center, Interest Group: Liver Tumorigenesis, University of Pittsburgh, 2015-present
- Digestive Diseases and Nutrition Fellowship study section, 2011-present
- Fellowship Curriculum Committee, UPMC, 2011-present
- BMG Student Review Committee, University of Pittsburgh, 2007-present
- Rotation Site Director, Complex General Surgical Oncology Fellowship, 2013-present
- Editorial Advisory Board, Oncology Research, 2015-present
- Editorial Advisory Board, Clinical Colorectal Cancer, 2015-present
- Lecturer, Fundamentals of Medical Oncology, Surgical Oncology Fellow Education Conference, Course Number: 2296, University of Pittsburgh School of Medicine, Sept. 1, 2016
- Lecturer, 2017 ASCO Review, Non-Colorectal GI Abstracts ASCO 2017, Herberman Conference Center, Pittsburgh, June 24, 2017
- Lecturer, Treatment of Pancreatic Cancer: Oncologist Perspective, CAPER Pancreas Academy, Pittsburgh, July 26, 2017
- Thesis Committee, Mark Zimmerman, 2009-present
- Thesis Committee, Derek Laux, 2011-present
- Thesis Committee, Mehwish Khaliq, 2013-present
Jan H Beumer PharmD PhD

- Dutch Society of Clinical Pharmacology and Biopharmaceutics (NVKFB), 2003-present
- American Society of Clinical Oncology (ASCO), 2005-present
- American Association for Cancer Research (AACR), 2005-present
- Society for Analytical Chemists of Pittsburgh (SACP), 2005-present
- American Society for Clinical Pharmacology and Therapeutics (ASCPT), 2010-present
- Pharmacology Subcommittee, Aids Malignancy Consortium (AMC), 2010-present
- Gynecologic Oncology Group (GOG), 2011-present
- Special Alliance for Clinical Trials in Oncology (ALLIANCE), 2012-present
- International Association of Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT), 2014-present
- National Cancer Institute (NCI) Investigational Drug Steering Committee (IDSC)
  - Pharmacology Task Force, 2010-present
  - Co-Chair Pharmacology Task Force, 2014-present
  - Clinical Trial Design Task Force, 2014-present
- Cancer Therapy Evaluation Program (CTEP), National Cancer Institute (NCI), 2014-present
- Translational Scientist VX-970 (ATR inhibitor) Project Team, National Cancer Institute (NCI), December 2014-present
- Director, Pharmacology Core Reference Laboratory, 2010-present
- Pharmacogenomics and Populations Pharmacology Committee, 2012-present
- Gynecologic Oncology Group (GOG) now part of NRG, 2010-present
  - Director, GOG Pharmacology Core Laboratory, 2010-present
  - Committee on Experimental Medicine, 2011-present
  - Phase 1 Sub-Committee, 2012-present
- Oncology (ONC) section, American Society for Clinical Pharmacology and Therapeutics (ASCPT), 2011-present
- Founding TDM in Oncology Committee, International Association of Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT), 2014-present
- Clinical Pharmaceutical Scientist Program, Department of Pharmaceutical Sciences, 2008-present
- PhD Admissions Committee, School of Pharmacy, 2014-present
- Chair, Molecular Therapeutics Drug Discovery Program Correlative Science meeting, 2010-present
- PharmD Admissions Committee, School of Pharmacy, 2011-present
- Chair, PhD Program Curriculum Committee, Department of Pharmaceutical Sciences, 2012-present
- Comprehensive Examination Committee, NTMS program, 2014-present
- Appointments, Promotions and Tenure Committee, School of Pharmacy, 2014-present
• Reviewer, Cancer Chemotherapy and Pharmacology, 2005-present
• Reviewer, Xenobiotica, Cancer Research, Oncology Research, Bioorganic & Medicinal Chemistry Letters, Applied Radiation and Isotopes, 2008-present
• Reviewer, Bioanalysis, The Oncologist, European Journal of Cancer, 2009-present
• Reviewer, Leukemia and Lymphoma, Expert Opinion on Drug Metabolism and Toxicology, Journal of Neuro-Oncology, Clinical Pharmacology and Therapeutics, Journal of Cellular and Molecular Medicine, Pharmacogenomics, Investigational New Drugs, 2010-present
• Reviewer, BMC Pharmacology, 2011-present
• Reviewer, Melanoma Research, 2011-present
• Reviewer, Bioanalysis, 2012-present
• Reviewer, Journal of Clinical Oncology, 2012-present
• Reviewer, Neurobiology of Disease, 2014-present
• Editorial Advisory Board, Cancer Chemotherapy and Pharmacology, 2009-present
• Editorial Advisory Board, Journal of Chromatography and Separation Techniques, 2010-present
• Editorial Advisory Board, Oncology Research, 2015-present
• Educational Book Expert Panel (reviewer of educational chapters), American Society of Clinical Oncology (ASCO), 2010-present
• Abstract Reviewer, American Society for Clinical Pharmacology and Therapeutics (ASCPT), 2012-present
• Reviewer, Clinical Protocols, University of Pittsburgh Cancer Institute, Clinical and Translational Research Center, 2012-present
• Member IDSC Coordination Team (CT), 2016-present
• Appointment, Self-Study Subcommittee on Students Standard, School of Pharmacy, 2015-present
• Poster Judge, 28th Annual University of Pittsburgh Cancer Institute Scientific Retreat, 2016
• Appointment, Director of Translational Science, University of Pittsburgh Cancer Institute ETCTN Phase II Trials, 2016-present
• Educational Book Expert Panel (reviewer of Developmental Therapeutics and Translational Research manuscripts), American Society of Clinical Oncology (ASCO), 2016
• Search Committee, Breast Cancer Medical Oncologist Recruitment, School of Medicine, 2017
• Adult CIRB-Early Phase Emphasis, 2017-present
• Reviewer, Advances in Chronic Kidney Disease, 2017-present
Franklin A Bontempo MD
- American Society of Hematology, 1990-present
- International Liver Transplant Society, 2014-present
- Alpha Omega Alpha, Honor Medical Society, 2014-present
- Appointments and Promotions Committee, 1995-present
- Board Leukemia and Lymphoma Society, 1997-present
- Faculty AOA, 2010-present

Dana Bovbjerg PhD
- Ad Hoc Nursing and Related Clinical Sciences Special Emphasis Panel, ZRG1 NRCS-V(08), Sept. 28-29, 2016
- Ad Hoc Nursing and Related Clinical Sciences Special Emphasis Panel, ZRG1 NRCS-V(08), June 7-8, 2017
- Research Executive Advisory Committee, University of Pittsburgh Cancer Institute, 2008-present
- Chair, Advisory Board, Biobehavioral Oncology Core Facility, University of Pittsburgh Cancer Institute, 2008-present
- Academy of Behavioral Medicine Research, 1994-present
- American Association of Immunologists, 1986-present
- American Psychosomatic Society, 1984-present
- American Society of Clinical Oncology (ASCO), 2014-present
- Psychoneuroimmunology Research Society, 1993-present
- Society of Behavioral Medicine, 1991-present

Michael Boyiadzis MD MHSc
- Chair, Immunotherapy Guidelines, Acute Leukemia, Society for Immunotherapy of Cancer (SITC), April 2014-present
- Cancer Immunotherapy Guidelines Oversight Committee, Society for Immunotherapy of Cancer (SITC), April 2015-present
- Editorial Board, Oncology Research, 2015-present
- Editor, Hematology-Oncology Therapy, 1st & 2nd edition, 2007-present
- Medical Director, Clinical and Translational Research Program, University of Pittsburgh Cancer Institute, 2015-present
- Medical Director, UPCI Immunologic Monitoring and Cellular Products Laboratory, University of Pittsburgh, 2011-present

Adam Brufsky MD PhD
- Leader, Susan G. Komen Postdoctoral Fellowship Study Section, 2010-present
- Editorial Board, Journal of Clinical Oncology, 2010-present
- Editorial Board, World Journal of Orthopaedics, 2010-present
- Editorial Board, Journal of Bone Oncology, 2012-present
- Reviewer, Cancer Investigation, 1998-present
- Reviewer, Cancer, 1999-present
- Reviewer, Journal of Clinical Oncology, 2000-present
- Reviewer, Oncology, 2001-present
• Reviewer, Cancer, Pharmacology, and Therapeutics, 2002-present
• Reviewer, Clinical Breast Cancer, 2003-present
• Breast Committee, National Surgical Adjuvant Breast and Bowel Project, 2006-present
• Reviewer, Lancet Oncology, 2007-present
• Reviewer, Annals of Oncology, Department of Defense, 2008-present
• Leader, Experimental Therapeutics 2 Study Section, Department of Defense Congressionally Mandated Breast Cancer Research Program, 2009-present

Melissa Burgess MD
• Fellowship Clinical Competency Committee, 2015-present
• Clinical Leadership Council, 2015-present
• Pittsburgh Cure Sarcoma, 2015-present
• UPCI Protocol Review Committee, 2014-present
• Fellowship Program Evaluation Committee, 2014-present
• Shadyside Hospital ACT (Admissions/Consults/Transfers) Committee, 2014-present
• Fellowship Curriculum Development Committee, 2014-present
• GMEC Patient Safety/Quality Improvement Committee, 2014-present
• Sarcoma Alliance for Research through Collaboration (SARC), 2015-present
• American Society of Clinical Oncology, 2015-present
• American Association for Cancer Research (AACR), 2017
• Advisor: Immune Design, May 16, 2017
• Advisor: EMD-Serono–Advisory Board on Merkel Cell Carcinoma, Chair, Dec.10, 2017
• Advisor: U.S. Food and Drug Administration – Mini-Sarcoma Symposium, Aug. 31, 2016
• Reviewer, Cancer, 2016-present
• Reviewer, touchONCOLOGY, 2016-present
• Reviewer, Oncology Research, 2016-present
• Reviewer, International Journal of Experimental Pathology, 2016-present
• Lecturer, Overview of Immunotherapy in Sarcoma, Pediatric Hematology-Oncology Conference Series, Children’s Hospital, Pittsburgh, PA, June 20, 2017
• Lecturer, Quality Improvement Update 2017: Hematology/Oncology Division of University of Pittsburgh Medical Center, Quality Council/Clinical Director’s Meeting, Pittsburgh, PA, March 13, 2017
• Lecturer, Overview of Sarcomas and Emerging Systemic Therapies, Eisai Education Day, Pittsburgh, PA, Jan. 20, 2017
• Lecturer, Overview of Sarcomas and Emerging Systemic Therapies, Sarcoma Foundation of America Patient Education Conference, Pittsburgh, PA, Sept. 17, 2016
Timothy F Burns MD PhD

- Reviewer and Study Section American Lung Association, 2015-present
- Reviewer and Study Section CMRF, 2014-present
- Reviewer, British Lung Foundation, 2016-present
- Reviewer and Study Section GenomeCanada Genomic Applications Partnership Program, 2016
- Reviewer and Study Section LUNGevity Foundation, 2016
- Reviewer, Wellcome Trust/ DBT India Alliance, 2016
- Editorial Board, Cancer Biology & Therapy, 2015-present
- Reviewer, PLoS ONE, 2013-present
- Reviewer, Cancer Biology & Therapy, 2013-present
- Reviewer, Cancer, 2013-present
- Reviewer, Cancer Research, 2015-present
- Reviewer, Clinical Cancer Research, 2015-present
- Reviewer, Molecular Cancer Research, 2016-present
- Reviewer, Pharmacology & Therapeutics, 2015-present
- Reviewer, BMC Cancer, 2015-present
- Reviewer, Frontiers in Oncology, Thoracic Oncology section, 2015-present
- Reviewer, Anti-Cancer Agents in Medicinal Chemistry, 2017-present
- Reviewer, Experimental Cell Research, 2016-present
- Reviewer, Molecular Carcinogenesis, 2017-present
- Reviewer, Oncology Research, 2016-present
- Reviewer, Oncotarget, 2017-present
- Reviewer, Scientific Reports, 2017-present
- Recipient, 2016 ASCI Young Physician-Scientist Award
- Recipient, G. David Roodman, MD Excellence in Mentoring Award, 2017
- American Association for Cancer Research, 1998-present
- American Medical Association, 1998-present
- American Association of Clinical Oncology, 2008-present
- International Association for the Study of Lung Cancer, 2010-present
- Eastern Cooperative Oncology Group (ECOG), 2012-present
- Alliance for Clinical Trials in Oncology, 2013-present

Lisa H Butterfield PhD

- Ad Hoc External Advisory Committee, University of Maryland Greenebaum Cancer Center, Nov. 21-22, 2016
- Presenter, NCI ZCA1 SRB-C (M1): NCI R03/R21 SEP-2 Review Committee, Tyson’s Corner, VA, Feb. 16-17, 2017
- Chair, SEP Review Committee, NCI OTC K03 CII member conflict, March 8, 2017
- SEP Review Committee, NCI Program Project I (P01), June 8-9, 2017
- NIAID/CIC Luminex Steering Committee, 2012-present
- Editorial Board, Cancer Research, 2010-present
• Editorial Board, OncoImmunology, 2011-present
• Section Editor, Journal for ImmunoTherapy of Cancer (JITC), Immunotherapy Biomarkers Section, 2012-present
• Society for Immunotherapy of Cancer (SITC), 2004-present
  o SITC Society Officer: President, 2016-2018
  o Vice President, 2014-2016
  o SITC Council for Immunotherapy Education, SITC, 2013-present
• Eastern Cooperative Oncology Group–American College of Radiologic Imaging Network (ECOG-ACRIN), 2005-present
  o Immunology Core Laboratory Director, ECOG-ACRIN, 2007-present
  o Lab Science Liaison, Melanoma Committee, ECOG-ACRIN, 2008-present
  o Biomarkers Committee, 2013-present
  o Immune Strategies Biomarker Committee, 2014-present
• NIH Cancer Immunotherapy Trials Network (CITN) Correlative Science Committee (CSC), 2011-present
  o International Society for Cellular Therapy (ISCT), 2013-present
• NCI Cancer Steering Committee Immunotherapy Working Group, 2015-present
• AACR-Cancer Research Institute Lloyd J. Old Award in Cancer Immunology Committee, 2016-2017
• Food and Drug Administration Cellular, Tissues and Gene Therapies Advisory Committee, 2016-present
• FNIH Drug Selection Committee for the Lung-MAP Clinical Trial, 2017-present
• AAI Travel Award to the International Congress on Immunology, Melbourne, Australia, 2016
• 2016 Hillman Fellow for Innovative Cancer Research Award, 2016-2017

Edward Chu MD
• American Association for Cancer Research (AACR), 1985-present
  o Scientific Program Committee, 2011-present
  o Exhibits Committee, 2012-present
  o Basic Cancer Research Fellowships Scientific Review Committee, 2013-present
  o Clinical Research and Experimental Therapeutics Awards Committee, 2014-2016
  o Colon Cancer Research Fellowships Scientific Review Committee, 2014-present
• American Association for the Advancement of Science (Fellow), 2005-present
• American College of Physicians (Fellow), 1985-present
• American Federation for Medical Research, 1985-present
• American Society of Clinical Oncology (ASCO), 1990-present
  o Scientific Program Committee, 2012-2015
  o Track Leader, Colorectal Cancer, 2014-2015
• European Society for Medical Oncology, 2000-present
• International Colorectal Cancer Club, 1995-present
• Castle Connolly America’s Top Doctor for Cancer Award, 2005-present
• NCI Investigational Drug Steering Committee, 2010-present
• NCI Experimental Therapeutics (NeXT) Committee, 2012-present
- NCI Subcommittee F, 2016-present
- Chair, Clinical Research Committee, Consortium for Globalization of Chinese Herbal Medicine (CGCM), 2003-present
- Executive Council, Global Consortium for Chinese Herbal Medicine, 2015-present
- AACR Exhibits Committee, 2012-present
- AACR Basic Cancer Research Fellowships Scientific Review Committee, 2013-present
- AACR Colon Cancer Research Fellowships Scientific Review Committee, 2014-present
- AACR Education Program Committee, 2017-present
- ASCO Education Program Committee, 2016-present
- Oncology Scientific Committee, International Association of Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT), 2015-present
- Member/Reviewer, National Health Research Council of Italy, 2005-present
- Member/Reviewer, University Grants Committee, University of Hong Kong, 2005-present
- Member/Reviewer, Grants Committee, Singapore National Medical Research Council, 2008-present
- Scientific Advisory Board, Albert Einstein Cancer Center, 2006-present
- Scientific Advisory Board, Dartmouth-Hitchcock Norris Cotton Cancer Center, 2007-present
- Scientific Advisory Board, Herbert Irving Columbia Cancer Center, 2012-present, Chair, 2015-present
- Scientific Advisory Board, USC Norris Cancer Center, 2012-present
- Scientific Advisory Board, University of Vermont Cancer Center, 2007-present; Chair, 2012-present
- Scientific Advisory Board, Case Western Seidman Cancer Center, 2013-present
- Scientific Advisory Board, NCI Cancer Centers, Medical University of South Carolina Hollings Cancer Center, 2013-present
- Scientific Advisory Board, NCI Cancer Centers, Indiana University Simon Cancer Center, 2014-present
- Reviewer/Consultant, NCI Cancer Centers, University of Wisconsin Cancer Center, 2014-present
- Reviewer/Consultant, NCI Cancer Centers, UNC-Lineberger Cancer Center, 2015-present
- Reviewer/Consultant, NCI Cancer Centers, University of Arizona Cancer Center, 2016-present, Chair
- Reviewer/Consultant, NCI Cancer Centers, University of Kentucky Markey Cancer Center, 2016-present
- Reviewer/Consultant, NCI Cancer Centers, Thomas Jefferson Kimmel Cancer Center, 2016-present
- Reviewer/Consultant, NCI Cancer Centers, University of Michigan Cancer Center, 2016-present
- International Cancer Centers Scientific Advisory Board, Taiwan Cooperative Oncology Group, National Health Research Institutes of Taiwan, 1998-present
- International Cancer Centers Scientific Advisory Board, Division of Clinical Research, NHRI, Taiwan, 1999-present
- Scientific Advisory Board, Celator, Vancouver, British Columbia, 2009-present
- Member and Chair, Scientific Advisory Board, Saladex, Bethlehem, PA, 2010-present
- Scientific Advisory Board, Salzburg Therapeutics, Winston-Salem, NC, 2011-present
- Scientific Advisory Board, Hope Biosciences, Irvine, CA, 2017-present
- Philanthropic Foundation, Colon Cancer Alliance (Chris4Life Foundation 2012-2016), Washington, DC, 2016-present
- Editorial Board, International Journal of Oncology, 1997-present
- Founding Editor-in-Chief, Clinical Colorectal Cancer, 2000-present
- Editorial Board, Oncology Special Edition, 2003-present
• Editorial Board, Current Reviews in Hematology and Oncology, 2004-present
• Editorial Board, Journal of Chemotherapy, 2004-present
• Editorial Board, Oncology, 2006-present
• Editorial Board, Oncology News International, 2006-present
• Editorial Board, Principles and Practice of Oncology: The Cancer Journal, 2006-present
• Editorial Board, Clinical Oncology News, 2008-present
• Editorial Board, Journal of Clinical Oncology, 2008-present
• Co-Editor-in-Chief, Oncology Research, 2008-present
• Editorial Board, Journal of Experimental and Clinical Medicine, 2009-present
• Co-Leader, UPCI Cancer Therapeutics Program, 2010-present
• UPCI Clinical Executive Committee, 2010-present
• UPCI Senior Leadership Committee, 2010-present
• UPCI Clinical Research Oversight Committee, 2010-present
• UPCI Biomarkers Steering Committee, 2010-present
• Division of Hematology-Oncology Fellowship Curriculum Committee, 2011-present
• UPCI/UPMC EMR Governance Committee, 2011-present
• UPCI Chemical Biology Facility, 2013-present
• University of Pittsburgh Materials Transfer Agreement (MTA) Exception Committee, 2011-present

Diwakar Davar MD
• Recipient, Conquer Cancer Foundation/Genentech BioOncology™ Young Investigator Award (YIA), July 2016
• Recipient, SPORE in Melanoma & Skin Cancer Developmental Research Project Award, July 2016

Laura De Castro MD
• Steering Committee, STRIDE Study, 2012-present
• Leader, Safety Review Committee (SRC), NKTT 120-SCD1 Study, 2013-present
• Interviewing Committee, University of Pittsburgh School Admissions, 2015-present
• Program Evaluation Committee, Hem Onc Fellowship, 2016-2017
• Clinical Competency Committee, Hem Onc Fellowship Program, 2016-2017
• Committee, FDA Office of Orphan Products Development, 2012-present
• Committee, Beckwith Institute Frontline Innovation Program Grant, 2015-present
• American Society of Hematology, 1996-present
• ASH Committee on Practice (4 yr. commitment), 2016-present
• European Hematology Association, 2017-present
Albert Donnenberg PhD
- Director, UPMC Hematopoietic Stem Cell Laboratory, 1998-present
- Director, University of Pittsburgh Cancer Institute Flow Cytometry Facility, 1998-present
- Laboratory Director, Children's Hospital of Pittsburgh Hematopoietic Stem Cell Laboratory, 2002-present

Kathleen Dorritie MD
- American Society of Hematology, 2011-present
- American Society for Blood and Marrow Transplantation, 2012-present
- American Society of Clinical Oncology, 2011-present
- American Association for Cancer Research, 2011-present
- Recipient, University of Pittsburgh Vascular Medicine P3HVB Pilot Grant, 2016-present
- Recipient, Department of Medicine Junior Faculty Scholar Award, University of Pittsburgh, 2015-2017
- Committee, Protocol Review Committee, University of Pittsburgh School of Medicine, 2015-present
- UPCI Committee, Foundation for the Accreditation of Cellular Therapies, 2015-present
- Data Safety and Monitoring Board–Hematologic Malignancies, 2015-present
- Peer Reviewer–three manuscripts for Leukemia, 2015-present
- University of Pittsburgh ICRE Certificate in Clinical Research Program July 2016-present

Jan Drappatz MD
- Neuro-Oncology Committee, Alliance for Clinical Trials in Oncology, 2012-present
- Chair, Neuro-Oncology Pathway Development, Via Oncology, 2016-present
- Data Safety Management Committee, University of Pittsburgh, 2012-present
- Committee D, Institutional Review Board, University of Pittsburgh, 2012-present
- Reviewer, Journal of Neuro-Oncology, 2007-present
- Reviewer, Neuro-Oncology, 2015-present
- Reviewer, Expert Reviews of Anticancer Therapy, 2007-present
- Reviewer, International Journal of Radiation Oncology, Biology, Physics, 2008-present
- Reviewer, Future Oncology, 2009-present
- Reviewer, Journal of Clinical Oncology, 2013-present
- Reviewer, Clinical Cancer Research, 2013-present
- Abstract Reviewer, Organizing Committee, 2017 Society of Neuro-Oncology Meeting 2017
- Castle Connolly, Top Doctors, 2012-present
- Best Doctors, Pittsburgh Magazine 2009-present
- Best Of Pittsburgh, 2011-present
- Above and Beyond Award, UPMC, 2014 and 2016
- American Association for Cancer Research, 2005-present
- American Society for Clinical Oncology, 2005-present
- American Academy of Neurology, 2005-present
- Society for Neuro-Oncology, 2005-present
Robert Ferguson PhD
- American Psychological Association (Society for Health Psychology, Div. 38), 1994-present
- American Psychosocial Oncology Society, 2015-present
- Society of Behavioral Medicine, 1994-present
- Referee, Journal of Cancer Survivorship, 2013-present
- Referee, Journal of Clinical Oncology, 2012-present
- Referee, Brain Imaging and Behavior, 2012-present
- Referee, Stress and Health, 2012-present
- Referee, Cancer, 2012-present
- Referee, Clinical Breast Cancer, 2012-present
- Referee, Clinical Rehabilitation, 2010-present
- Referee, Psycho-Oncology, 2006-present

Julien Fourcade PhD
- American Association of Immunology (AAI), 2007-present
- Recipient, U.S. Army Department of Defense CDMRP Career Development Award, Role of the Inhibitory Receptor TIGIT in the Regulation of CD4+ Tregs in Patients with Advanced Melanoma, October 2015-present

Deborah Galson PhD
- Research Grant Review Committee, UPSOM Competitive Medical Research Fund, 2004-present
- Subcommittee of Research Safety/Biosafety, VAPHS, 2005-present
- Director and Founder, Pittsburgh Center for Bone & Mineral Research, 2012-present
- Session chair, 2017 UPCI Annual Retreat Committee, Fall 2016-June 2017
- Provost's Advisory Committee on Women's Concerns (PACWC), 2015-present
- Luminex Core Advisory Committee, Fall 2015-present
- Kurt Weiss Mentoring Committee, Fall 2015-present
- Qualifying Exam and Thesis Committee, PhD candidate Sree Harsha Pulugulla, Department of Biological Sciences, Duquesne University, Pittsburgh, PA, 2015-present
- American Society for Bone and Mineral Research (ASBMR), 1996-present
- Finance Committee, ASBMR, October 2016-October 2019
- American Society for Biochemistry and Molecular Biology (ASBMB), 1996-present
- Federation of American Societies for Experimental Biology (FASEB), 1996-present
- Association for Women in Science, 2008-present
- American Society of Hematology (ASH), 2014-present
- American Association for Cancer Research (AACR), 2015-present
- Cancer and Bone Society, 2016-present
James Herman MD
• Editor, Cancer Research, 2016-present
• Editor, Clinical Cancer Research, 2003-present
• Senior Editor, Epigenomics, 2009-present
• Editorial Board, Cancer Prevention Research, 2010-present
• American Association for Cancer Research, 2015-present

Annie Im MD
• ECOG-ACRIN Leukemia/BMT Core Committee, 2012-present
• Reviewer, Protocol Review Committee, University of Pittsburgh Cancer Institute, 2011-present
• Phase I Clinical Trials Group, Molecular Targeted Drug Discovery/Translational Science Group, 2012-present
• Researcher, Chronic Graft-Versus-Host-Disease (GVHD) elective, National Institutes of Health, Experimental Transplantation and Immunology Branch, 2013-present
• Editorial Board, Frontiers in Oncology, 2014-present
• Reviewer, Bone Marrow Transplantation, American Journal of Hematology, Biology of Blood and Marrow Transplantation, Croatian Medical Journal, 2016-2017
• Advisory Board, PA/WV Chapter, Leukemia & Lymphoma Society, 2015-present
• GVHD Symposium Planning Committee, Meredith Cowden Foundation, 2015-present
• Fundraising, Team in Training, Leukemia & Lymphoma Society Western Pennsylvania and West Virginia chapter, May 2011-present
• Course Director, UPMC Stem Cell Transplant Conference and Tumor Board, 2013-present
• Advisor, GVHD Global Advisory Board, Incyte, 2016-2017

Rachel Jankowitz MD
• Eastern Cooperative Oncology Group (ECOG), 2010-present
• Committee, Annual Retreat, Women's Cancer Research Center, 2011-present
• Translational Breast Cancer Research Consortium (TBCRC), 2010-present
• National Surgical Adjuvant Bowel and Breast Project (NSABP), 2009-present

Gregory Kato MD
• Medical Director, Children’s Sickle Cell Foundation, Pittsburgh, PA, 2014-present
• Steering Committee, Evaluation of Purified Poloxamer 188 in Vaso-Occlusive Crisis of Sickle Cell Disease (EPIC), 2014-present
• Editorial Board, Heliyon Journal, 2015-present
• Abstract Reviewer and Session Moderator, American Society of Hematology Meeting, 2016
• Interviewer, Residency Research Track, Department of Medicine, University of Pittsburgh, 2016
• Moderator, Investigational Drugs, Therapeutic and Device Symposium; Co-Moderator, Pulmonary Complications: Emerging Concepts in Sickle Cell Lung Disease, 11th Annual Sickle Cell Disease Research and Educational Symposium, 40th National Sickle Cell Disease Scientific Meeting, Ft. Lauderdale, FL, 2017
• Presenter, NIH Study Section 08 ZRG1 PSE-V (56) R PAR-17-004: Heart, Lung and Blood Diseases and Sleep Disorders, 2017
• NIH Pre-Review Committee and Study Section, 10 ZTR1 DPI-8 (01) 1 pre-application for the NIH-Industry Program: Discovering New Therapeutic Uses for Existing Molecules (X02), 2017
• Session Co-Moderator, Symposium on Emerging Concepts in Sickle Cell Lung Disease, 11th Annual Sickle Cell Disease Research and Educational Symposium, 40th National Sickle Cell Disease Scientific Meeting, Ft. Lauderdale, FL, 2017
• Advisory Board, Novartis, East Hanover, NJ, 2017
• Grant Application Reviewer, Thrasher Research Fund, Salt Lake City, UT, 2017

John M Kirkwood MD
• Chair, DOD Peer-Reviewed Cancer Research Program, 2009-present
• Research Review Section, HJ Lloyd Trust, 2003-present
• M. Scheel Grant Review Study Section, German Cancer Research Foundation, 2007-present
• Professional Advisory Panel, Joanna Nicolay Melanoma Foundation, 2009-present
• Scientific Grant Review Committee, Ocular Melanoma Foundation Fellowship, American Association for Cancer Research (AACR), 2014-present
• Cancer Research Institute Clinic and Laboratory Integration Program Grant Review Study Section (CLIP), 2014-present
• Tissue Bank Committee, Pittsburgh Cancer Institute, 1986-present
• Scientific Advisory Committee, Cancer Research Institute, 1988-present
• Corresponding Melanoma Program, European Organization for Research and Treatment of Cancer (EORTC), 1990-present
• Kirby Memorial Grant Review Committee/Study Section, Cancer Research Institute, 1992-present
• Committee on Tenure, Appointments, and Promotions, Department of Medicine, 2007-present
• Scientific Advisory Committee and Grants Study Section, National Cancer Center, New York, NY, 1984-present
• Scientific Advisory Committee, Melanoma Research Foundation, 2000-present
• TARPS Shared Resource Advisory Committee, 2002-present
• Chairman, Medical Advisory Board, Our Clubhouse (formerly Gilda's Club), 2004-present
• Advisory Committee, TAFCS Faculty Assembly, 2005-present
• Ad Hoc Appeals Committee, School of Medicine, 2009-present
• Jr. Scholar Committee, UPCI Retreat, 2017
• IMCPL Advisory Committee, 2017
• Eastern Cooperative Oncology Group (ECOG) Research and Education Foundation, 2011-present
• Advisory Committee, Association of Community Cancer Centers (ACCC), 2012-present
• Scientific Planning Committee, ECOG-ACRIN, 2012-present
• Principal Investigator Committee, ECOG-ACRIN, 1982-present
• Chair, Melanoma Committee, ECOG-ACRIN, 1989-present
• Advisory Committee, Physicians' Education Resource, LLC (PER), 2014-present
• UT Southwestern i-SAbR SPORE External Advisory Board, 2016-present
• Reviewer, The Italian Association of Medical Oncology (AIOM), 2016-present
• Fellowship Review Task Force, Society of Immunotherapy of Cancer (SITC), 2016-present
• External Steering Committee, Melanoma Value Stream, Oregon Health & Science University, 2016-present
• 2018 Scientific Program Committee, American Association of Cancer Research (AACR), 2018-present
• Associate Editor, Clinical Cancer Research, 1995-present
• Associate Editor, American Journal of Clinical Oncology, 1998-present
• Compendium Editor, ASCO, 2005-present
• Editorial Board, Hem-Onc Today, 1998-present
• Editorial Board, Melanoma Research, 1998-present
• Editorial Board, Clinical Advances in Hematology & Oncology, 2002-present
• Editor, Cancer.net, 2005-present
• Associate Editor, inPractice Oncology, Clinical Care Options, 2009-present
• Reviewer, Current Cancer Therapy Reviews, 2010-present
• Reviewer, Journal of Translational Medicine, Combinational Strategies Section, 2010-present
• Contributing Editor, Cancer Immunity, 2011-present
• Editor, OncolImmunology, 2012-present
• Editor, Melanoma Management, 2013-present
• AIM at Melanoma, 2004-present
• Steering Committee, Society for Immunotherapy of Cancer, 2009-present
• Steering Committee, DERMA Publications, 2012-present
• ASCO Research Methodologies in Immunotherapy Development Working Group, 2016-present
• ASCO/SSO Sentinel Node Biopsy in Melanoma Guideline Expert Panel, 2016-present
• Immunotherapy Working Group Subgroup 3, Clinical Trial Endpoints, ASCO Research Policy, 2017
• Immunotherapy Working Group Subgroup 4, Research Design, ASCO Research Policy, 2017
• Immunotherapy Working Group Subgroup 5, Combination or Sequencing of Immunotherapies, ASCO Research Policy, 2017
• Presenter, European Academy for Tumor Immunology (EATI), 2016-present
• ASCO/SSO Sentinel Node Biopsy in Melanoma Guideline Panel, 2017
• Recipient, Giants of Cancer Care Award, 2017
• American Society for Clinical Oncology, 1975-present
• American Association for Cancer Research, 1975-present
• ECOG-ACRIN Cancer Research Group, 1978-present
• National Cancer Foundation, 1981-present
• International Society for Interferon and Cytokine Research, 1986-present
• Allegheny County Medical Society, 1986-present
• Society for the Immunotherapy of Cancer, 1986-present
• Pennsylvania Society of Oncology and Hematology, 1987-present
• Clinical Immunology Society, 1990-present
• Society for Investigative Dermatology, 1991-present
• Pennsylvania Medical Society, 2001-present
• Society of Melanoma Research, 2007-present
• American Medical Association, 2014-present
• Association of American Physicians, 2015-present
Joseph E Kiss MD
- Reviewer, Transfusion, American Society for Apheresis, 2012-present
- Reviewer, Vox Sanguinis, 2017-present
- Invited, Research Applications Committee, American Society for Apheresis, 2013-present
- Invited, Joint Commission eCQM Blood Management Technical Advisory Panel (TAP) 2014-present
- RBC-Omics Iron Working Group, NHLBI Recipient Donor Epidemiology Study III (REDSIII), 2015-present
- Co-Chair, TTP/TMA Subcommittee, American Society for Apheresis, 2016-present

James J Lee MD PhD
- Colon Cancer Task Force, NCI Gastrointestinal Steering Committee (GISC), 2016-present
- NRG Oncology Colorectal Cancer Core Committee, 2016-present
- Colorectal Cancer Working Group, NCI Radiation Research Program (RRP), 2017
- Associate, American Society of Clinical Oncology (ASCO), 2004-present
- Associate, American Association for Cancer Research (AACR), 2007-present
- Editorial Board, Clinical Colorectal Cancer, 2006-present
- Editorial Board, Oncology Research, 2015-present
- Protocol Review Committee, UPCI, 2012-present, (Vice-Chair 2015-present)
- GI Cancer Center Data and Safety Monitoring Board (DSMB), 2012-present
- Phase I Program Data and Safety Monitoring Board (DSMB), 2012-present
- Medical Director, UPCI Phase I Clinic, 2014-present
- Director, UPCI Early Phase Clinical Research Support (EPCRS), 2014-present
- Voting member, UPMC System Pharmacy & Therapeutics Committee, 2012-present

Frank S Lieberman MD
- Biomarkers Committee, ECOG-ACRIN, 2012-present
- Experimental Imaging Committee, ECOG-ACRIN, 2013-present
- CNS Tumor Committee, ECOG-ACRIN, 2012-present
- Neurooncology Section, American Academy of Neurology, 1990-present
- Examination Committee, ACNS Neurooncology Board, 2009-present
- Adult Brain Tumor Consortium, 2004-present
- Society for Neurooncology, 1996-present
- American Society of Clinical Oncology, 1996-present
- Reviewer, Cancer Chemotherapy and Pharmacology, 2007-present
- Reviewer, Journal of Neuroimaging, 2007-present
- Reviewer, Journal of Clinical Oncology, 2011

Anna Lokshin PhD
- Advisory board, Biophysical Inc., Austin, TX, 2016-2017
- Ad hoc reviewer, NIH Special Emphasis Panel ZCA1 SRRB-Y: Cancer Prevention Research Small Grant Program, 2016-2017
- Ad hoc reviewer, NIH SBIR/STTR panel, Cancer Diagnostic and Treatment, 2016-2017
- Associate Editor, Cancer Biomarkers Journal, 2016-2017
- Editorial Board, Editor, Journal of Health & Medical Informatics, 2016-2017
- American Association for Cancer Research, 1989-present
- American Society of Clinical Oncology, 2009-present
- Early Detection Research Network, 2003-present

Carissa Low PhD
- Society for Behavioral Medicine, 2014-present
- American Psychosomatic Society, 2006-present
- Mobile Health Training Institute Scholar, 2017

Enrico Novelli MD
- Protocol Review Committee, University of Pittsburgh Cancer Institute, 2008-present
- AHA Study Section, 2013-present
- Editorial Advisory Board, American Journal of Hematology, 2015-present
- NIH SBIR/STTR Study Section, 2015-present
- Coordinating Reviewer, American Society of Hematology Annual Meeting, 2016
- Peer Reviewer, UpToDate, 2016

Solomon Ofori-Acquah PhD
- Ghana Biomedical Convention, 2008-present
- Ad Hoc Grant Review Committee, Minority Medical Student Award, American Society of Hematology, 2010-present
- Chair, Minority Graduate Student Abstract Achievement Award Committee, American Society of Hematology, 2011-present
- Respiratory Integrative Biology and Translational (RIBT) Science Study Section, NIH, 2013-present

Amma Owuwu-Ansah PhD
- Sponsor-Investigator, Phase Ib study of NVX-508 in adults with sickle cell disease in Ghana (NCT03013426)

Rahul A Parikh MD PhD
- Recipient, NCI’s Cancer Clinical Investigator Team Leadership Award (NCI-CCITLA), 2017-2019
- Committee G, Institutional Review Board, University of Pittsburgh, 2013-present
- Clinical Translational Research Institute (CTSI), 2013-present
- Ad Hoc Reviewer, Oncology Research, 2013-present
- Ad Hoc Reviewer, Clinical Cancer Research 2015-present
- Ad Hoc Reviewer, Journal of Hematology and Oncology 2017-present
- Recipient, Alan Winkelstein, MD Memorial Fellow Educator of the Year Award, 2017
Vida Cecilia Almario Passero MD
- Section Chief, Hematology Oncology, VA Pittsburgh Healthcare System, 2013-present
- Associate Fellowship Program Director, UPMC Hematology-Oncology, 2011-present
- Chair, Commission on Cancer Care Committee, VA Pittsburgh Healthcare System, American College of Surgeons, 2011-2016
- Oncology Field Advisory Committee, Veterans Health Affairs, 2015-present
- High Cost Oncology Drug Workgroup, Veterans Health Affairs, 2011-present
- Writer, American Society Clinical Oncology (ASCO) Exam Questions, 2017-present
- Recognized Reviewer Status, Clinical Colorectal Cancer, 2016-present
- VA Molecular Oncology Subcommittee, generate practice guidelines for VA Health System regarding molecular testing in oncology, December 2014-present
- Telehealth Champion for Hematology-Oncology, VA Pittsburgh Healthcare System, 2010-present
- Presenter, Board Prep and Our Approach to the ASCO and ASH In Training Exams, American Society of Clinical Oncology Program Director’s Meeting, Alexandria, VA, October 2105

Donna Posluszny PhD
- Reviewer, written professional practice samples for candidates seeking national board certification in Clinical Health Psychology, American Board of Professional Psychology, 2015-present
- American Psychological Association, 1994-present
  - Division of Clinical Psychology, 2002-present
  - Psychologists in Academic Health Centers, 2003-present
  - Division of Health Psychology, 2008-present
- American Psycho-social Oncology Society, 2015-present
- American Society of Clinical Oncology (ASCO), 2014-present
- Pennsylvania Psychological Association, 2003-present
- Society of Behavioral Medicine, 2009-present

Shannon Puhalla MD
- Reviewer, ASCO Educational Book, 2015-present
- Reviewer, Oncology Research Journal, 2015-present
- Scientist Reviewer, Breast Cancer Research Program, Department of Defense Congressionally Directed Medical Research Programs (CDMRP), 2015-present

Margaret V Ragni MD MPH
- American Society of Hematology (ASH), 1983-present
  - Scientific Committee on Hemostasis, 2014-present
  - Chair, ASH Public Health Task Force, 2010-present
  - Co-Chair, Inaugural Annual ASH Networking Reception for Women Faculty 2015, 2016
  - ASH Media Experts Subcommittee 2014-2017
  - ASH Scientific Committee on Hemostasis, 2014-2018
- World Federation of Hemophilia (WFH), 1984-present
- WHF Treatment Guidelines Working Group, 2016-2017
- Chair, WFH Inhibitor Treatment Guidelines Working Group, 2016-2017
- National Hemophilia Foundation (NHF), 1987-present
- Invited, NHF Medical and Scientific Advisory Committee, 1990-present
- NHF Von Willebrand Disease Working Group, 2016-2017
- NHF-CDC-ATHN Inhibitor Summit I and Summit I and II, 2017
- Chair, NHF Inhibitor Prevention/Eradication Working Group, Biology Sbcmte, 2017
- Hemostasis & Thrombosis Research Society (HTRS), 1990-present
- Board HTRS, 1990-present
- Co-Chair, HTRS Research Committee, 2010-2016
- HTRS/THSNA Pre-Con Planning Committee, 2017-2018
- Advisor and Author, Health Resources and Services Administration (HRSA) 1st HRSA-Approved Use of 340B Funds for Research, 2008-2017
- HRSA Hemophilia Research Funding Proposal and Grant Guidance Committee, 1st HRSA-Approved Use of 340B Funds for Research, 2008-2017
- International Society of Hemostasis and Thrombosis (ISTH), 2007-present
- ISTH Scientific Subcommittee, on FVIII, Factor IX, 2014-present
- Reviewer, ISTH Abstracts Annual Meeting, 2013, 2015, 2017
- Chair, ISTH SSC Working Group: Extended Half-Life Proteins and Pharmacokinetics, 2016-2017
- International Advisory Board, 2017 XXV ISTH Congress, Berlin, 2015-2017
- National Heart Lung Blood Institute (NHLBI), 2002-present
- Invited Speaker, Fellow Grant Training Session by NHLBI at ASH, 2013-present
- Mentor, eMentoring Initiative (NHLBI), 2008-present
- Vascular Medicine Institute (VMI), 2008-present
- Scientific Proposal Review Committee (VMI), 2009-present
- Fellow, American College of Physicians, 1985-present
- Editorial Board, Advances in Hematology, 2008-present
- Editorial Board, Hemophilia, 2000-present
- Editorial Board, Journal of Coagulation Disorders, 2009-present
- Editorial Board, Journal of Hematology & Thromboembolic Diseases, 2012-present
- Editorial Board, Journal of Rare Disorders, 2012-present
- Associate Editor, Editorial Board, Blood Advances, 2016-present
- Ad Hoc Consultant, Food and Drug Administration (FDA), 2015-present
- Blood Products Advisory Committee (BPAC) FDA, 2014-2017
- Editor, Textbook, with Abutilib S, Connors J, Non-Malignant Hematology: Expert Clinical, 2016-2017
- Recipient, Maxwell Wintrobe Endowed Lectureship, University of Utah, 2017
- Best Doctors, Pittsburgh Magazine, 2016-2017
- University of Pittsburgh Medical Student Research Mentoring Merit Award, 2016
- Faculty Honoree, Research Mentoring Merit Award, Honors Convocation, University of Pittsburgh, 2016
- Women Leaders in Hematology (sponsored by Am J Hematology), 2016
- Alnylam Advisory Board, 2016-2017
- Biomarin Advisory Board, 2017
- Bayer Healthcare Hemophilia Pipeline Advisory Board, 2016-2017
- Shire Pharmaceutical Physician Leadership Council, 2016-2017
- Foundation for Women & Girls with Blood Disorders, 2016
- Co-Chair, Planning Committee, Division Benign Hematology Research Retreat, 2017

Priya Rastogi MD
- Working Group, NSABP Breast Committee, 2005-present
- Steering Committee, NSABP FRP, 2005-present
- Vice Chair, Medical Affairs, NSABP, 2006-present
- Pharmacy and Therapeutics Committee, Magee-Womens Hospital, 2006-present
- Senior Associate Medical Director, NSABP, 2011-present
- Steering Committee, CALOR, 2012-present
- Kathrine Trial Operations Committee, 2012-present
- Publications Committee, NRG Oncology, 2013-present
- Executive Committee, Olympia Trial, 2013-present
- Steering Committee, Olympia Trial, 2013-present
- Breast Committee, NRG Oncology, 2014-present
- Working Group Committee, NRG Oncology, 2014-present
- Steering Committee, NCI, 2016-present
- Steering Committee, NCI MBC Endpoints Working Group, 2016-present

Robert L Redner MD
- Test Material Development Committee, American Society of Hematology, 2006-present
- Editorial Board, Clinical Medicine: Blood Disorders, 2007-present
- Editorial Board, Leukemia and Lymphoma, 2008-present
- Co-Chair, Myelodysplastic Diseases Center of Excellence, UPCI, 2005-present
- Co-Chair MDS Clinical Pathways, UPCI, 2006-present
- Director, UPCI Clinical Oncology and Hematology Grand Rounds, 2007-present

John C Schmitz PhD
- UPCI Protocol Review Committee (PRC), 2015-present
- Biobehavioral Oncology Facility Advisory Committee, 2017
- Coordinator (Poster Session), UPCI Annual Retreat, 2012-present
- Session Chairperson, Mini-symposium, AACR Annual Meeting 2017
- Editorial Board, Oncology Research, 2015-present
- Reviewer, Oncotarget, Molecules, Scientific Reports, 2016-present
- AACR, 1991-present
Craig Seaman MD
- Presenter, American Society of Hematology item writing workshop, May 2017
- Journal Referee, Journal of Thrombosis and Hemostasis, 2017
- International Society on Thrombosis and Hemostasis, 2015-present
- Hemostasis and Thrombosis Research Society, 2013-present
- American Society of Hematology, 2011-present

Warren D Shlomchik MD PhD
- NIH Peer Review Committee (Study Section), Cancer Immunology and Immunopathology, 2011-present
- Scientific Committee on Transplantation Biology, American Society of Hematology, 2013-2016
- Immune Transplant Therapy Center Advisory Board, 2016-present
- American Society for Clinical Investigation, 2016-2017
- American Society for Hematology, 2016-2017
- American Society for Blood and Marrow Transplantation, 2016-2017
- American Association of Immunology, 2016-2017

Roy E Smith MD
- UPMC Anticoagulation Committee, 2005-present (Chair, 2012-present)
- Inaugural Director, American Society of Hematology (ASH) Medical Educators Institute (AMEI), 2014-present
- UPMC Pulmonary Embolus Response Team, 2014-present
- Governance Committee, National Pulmonary Embolus Response Team Consortium, 2014-present
- Coagulation Committee, The American Society for Apheresis, 2014-present
- Editorial Board General Medicine, Journal of OMICS Publishing Group, 2016-present
- Editorial Board, Journal of Hematology & Thrombosis, 2014-present
- Editorial Board, Journal of Blood Disorders and Medicine, 2015-present
- American Society of Hematology, 1980-present
- American Society of Clinical Oncology, 1979-present
- Fellow, American College of Physicians, 1980-present
- American Medical Association, 1978-present
- American Society for Apheresis, 1996-present
- North American Society of Thrombosis and Hemostasis, 2014-present
- Internal Society of Thrombosis and Haemostasis, 2014-present

Richard Steinman MD PhD
- Recipient, NIH ZRG1-F05 Fellowship: Cell Biology, Developmental Biology, and Bioengineering (F05-U), 2016
- External Advisory Board, Medical Scientist Training Program, UCLA-Caltech, 2016
- American Society of Hematology, 2000-present
- American Association for Cancer Research, 2014-present
- Academy of Master Educators, 2006-present

**Quanhong Sun PhD**
- American Society for Bone and Mineral Research (ASBMR), 2011-present

**Weijing Sun MD**
- GI Steering Committee, Hepatobiliary Task Force, NCI, 2008-present
- Core Committee for GI Colon Cancer, ECOG, 2007-present
- Director, Phase II Program of University of Pittsburgh Cancer Institute (UPCI), 2016-2017
- Visiting Professor, Zhejiang Province Cancer Hospital, Zhejiang University, 2012-present
- Visiting Professor, Zhenjiang University, School of Medicine, 2015-present
- Visiting Professor, Zhejiang University 2nd Affiliated Hospital 2016-present
- Deputy Editor, Journal of Hematology & Oncology, 2015-present
- Editorial Board, Clinical Colorectal Cancer, 2006-present
- Associate Editor, Journal of Gastrointestinal Cancer, 2011-present
- Associate Editor, Journal of Practical Oncology (China), 2015-present
- Editorial Board, Chinese Clinical Oncology, 2011-present
- Advisory Board, Journal of Hematology-Oncology, 2010-present
- Director, Medical Course, International Society of GI Oncology (ISGIO), 2013-present
- Co-Chair, GI/Surg Onc & Esophageal/Gastric Cancer Data and Safety Monitoring Board, University of Pittsburgh Cancer Institute, 2012-present
- Advisory Panel, guideline on the Evaluation of Molecular Markers for Colorectal Cancer; American Society for Clinical Pathology; College of American Pathologists; Pathology and Laboratory Quality Center and Association for Molecular Pathology, 2013-present
- Deputy Editor-in-Chief, Journal of Hematology-Oncology, 2016-2017
- Editorial Board, Clinical Colorectal Cancer, 2016-2017
- Associate Editor, Journal of Gastrointestinal Cancer, 2016-2017
- Reviewer, CancerSource (www.cancersource.com), 2016-2017
- Editorial Board, Chinese Clinic Oncology, 2016-2017
- Expert Reviewer, Anticancer Therapy, 2016-2017
- International Reviewers Panel (IRP), Medical Science Monitor, 2016-2017
- Associate Editor, World Journal Gastrointestinal Cancer, 2016-2017
- Associate Editor, Journal of Practical Oncology (China), 2016-2017

**Ahmad Tarhini MD PhD**
- UPCI Protocol Review Committee (PRC), 2006-present
- University of Pittsburgh Internal Review Board (IRB), 2007-present
- Eastern Cooperative Oncology Group (ECOG)-American College of Radiology Imaging Network (ACRIN), 2007-present
• Melanoma Steering Committee, ECOG-ACRIN, 2007-present
  Immune Strategy Biomarkers Group, ECOG-ACRIN, 2007-present
• Cytokine Working Group (CWG), 2008-present
• Editorial Board Oncology, 2014-present
• Peer reviewer, Clinical Cancer Research, 2013-present
• Peer reviewer, Cancer, 2012-present
• Peer reviewer, British Journal of Dermatology, 2013-present
• Peer reviewer, Journal of Immunotherapy, 2012-present
• Peer reviewer, Melanoma Research, 2012-present
• Peer reviewer, PLOS One, 2013-present
• Peer reviewer, Head & Neck, 2013-present
• Peer reviewer, Future Oncology, 2013-present
• Peer reviewer, Cancer Immunology, Immunotherapy, 2013-present
• Peer reviewer, Cancer Immunology Research, 2014-present
• Peer reviewer, Journal of Immunotherapy, 2010-present
• Peer reviewer, New England Journal of Medicine, 2015-present
• Cancer Education Committee on the Melanoma/Skin Cancers Track, ASCO, 2014-present
• Track Leader, Cancer Education Committee on the Melanoma/Skin Cancers Tracks, ASCO, 2016-present
• Director of Clinical Sciences, Pennsylvania Phase II Cancer Consortium, 2016-present
• Course Director (CME courses), Society of Immunotherapy of Cancer, 2015-present

Darcy Thull MS
• Advisory Board, University of Pittsburgh Genetic Counseling Program, 2016-2017

Gijsberta van Londen MD MS
• Organizing Committee, Magee Women’s Cancer LiveWell Survivorship Workshops, 2010-present
• Organizing Committee, UPMC Cancer Center’s Annual Conference on Survivorship Issues for Healthcare Providers, 2013-present
• UPMC CancerCenter Cancer Committee, representing cancer survivorship issues, 2012-present
• Patient Reported Outcomes (PRO) Committee, UPMC CancerCenter and Magee Womens Hospital, 2011-present
• EpicCare Electronic Health Record Care Plan Module Committee, national committee facilitating the development of a clinically meaningful care plan model, 2012-present
• consultant, Gilda’s Club, piloting efforts of the LIVESTRONG Cancer Transitions Program, 2012-present
• Grant Reviewer, CMRF, 2012-present
• Reviewer, Journal of Urology, 2012-present
• Medical Director, Women's Cancer LiveWell Survivorship Program, Magee, 2010-present
• Medical Director, Cancer LiveWell Survivorship Program, Hillman Cancer Center and UPMC CancerCenter, 2011-present
• National Surgical Adjuvant Bowel and Breast Project, 2011-present
• Course Director, UPMC Cancer Center Annual Conference about Survivorship Issues for Healthcare Providers, 2013-present
• Co-Chair, Survivorship Sub-Committee, Magee Women's Hospital Cancer Survivorship Committee, 2013-present
• Cancer Adjudicator, SWAN Study (Study of Women's Health Across the Nation), 2012-present
• Chair, Pathways Cancer Survivorship Taskforce, 2013-present
• Advocacy Taskforce, Magee Women's Cancer Center, 2013-present
• UPMC/American Cancer Society Committee, 2014-present
• UPMC Women's Cancer Center Committee, 2014-present
• Steering Committee, Center for Integrative Medicine, 2014-present
• Council Member, Our Clubhouse (OurClubHouse.org), 2014-present
• Affiliate SWAN study investigator, 2014-present
• Cancer Survivorship Committee, ASCO, 2015-present
• Geriatric Oncology Special Interest Group, ASCO, 2015-present
• Cancer Survivorship Guideline Advisory Group, ASCO, 2016-present
• Cancer and Aging Research Group, 2014-present
• UPMC Cancer Rehabilitation Steering Committee
• Cancer Adjudicator, ASPREE study, 2016-present

Liza Villaruz MD
• Protocol Review Committee B, UPCI, 2009-present
• American Society of Clinical Oncology, 2010-present
• International Association for the Study of Lung Cancer (IASLC), 2014-present
• Reviewer, Lung Cancer, 2011-present
• Reviewer, Oncology Research, 2012-present
• Reviewer, Cancer, 2014-present
• Reviewer, PlosOne, 2015-present
• Reviewer, Oncotarget, 2016-present
• Principal Investigator, The Academic Thoracic Oncology Medical Investigators Consortium (ATOMIC), July 2014-present
• Clinical Scientist, NCI/CTEP/IDB VX-970 Project Team, December 2014-present
• Study Chair, NCI-CTEP, Phase I trial of VX-970 and irinotecan, January 2015-present
• Principal Investigator, Lung Cancer Mutation Consortium (LCMC), July 2016-present
• Co-Leader, UM1 NCI-ETCTN, Phase 2 Consortium, July 2016-present
• DSMC, Phase II Trial of Brigantinib in Refractory ALK Rearranged NSCLC (Ariad), January 2017-present

Lazar Vujanovic PhD
• Recipient, 2016 Developmental Research Project Award - The SPORE in Melanoma & Skin Cancer, University of Pittsburgh Cancer Institute, 2016-2017

Donald V. Woytowitz Jr. MD
• Quality Collaborative: Pre-Surgical Anemia Correction, 2015-present
• UPCI Protocol Review Committee (PRC), Committee A, May 2016-present
• Bloodless Medicine Consults, 2017-present
- American Society of Hematology, 1995-present
- American Society of Clinical Oncology, 1995-present

**Hassane Zarour MD**

- Co-Leader, Melanoma Program, University of Pittsburgh Cancer Institute, 2013-present
- Co-Director, Cancer Immunotherapy Trial Network, University of Pittsburgh site, 2011-present
- Faculty Appointments and Promotions Committee, Department of Medicine, University of Pittsburgh, 2014-2016
- Protocol Review Committee (PRC), University of Pittsburgh Cancer Institute, 2004-present
- Interviewer, Hematology-Oncology Fellowship Program, 2006-present
- Internal Advisory Board, Ovarian Cancer SPORE (RPCI and UPMC Hillman Cancer Center), 2015-present
- Internal Advisory Board, NIBIB Biomedical Technology Resource Center P41, Anderson, C., 2015-present
- UPMC Hillman Cancer Center Shared Facilities Oversight Committee, 2015-present
- Advisory Board, Pierre Fabre, Paris, France, 2017
- Cancer Vaccine Collaborative Group, Cancer Research Institute, New York, NY, 2002-present
- Study Section, ZRG1 OTCX 14, Experimental Therapeutics SBIR, 2012-present
- Reviewer, Fond de la Recherche Scientifique (FNRS), Belgium, 2013-present
- Ad Hoc Reviewer, Melanoma Research Foundation, 2013-present
- Reviewer, NCI Program SPORE III, 2017
- Associate Editor, Journal of Immunology, 2012-2016
- Ad Hoc Reviewer, Aging Cell, 2017
- Ad Hoc Reviewer, Cancer Immunology Research, 2015-present
- Ad Hoc Reviewer, Journal of Experimental Medicine 2016-present
- Ad Hoc Reviewer, Nature Medicine, 2014-present
- Ad Hoc Reviewer, Nature Communication, 2014-present
- American Association of Immunology (AAI), 2000-present
- Eastern Cooperative Oncology Group (ECOG), 2000-present
- American Association for Cancer Research (AACR), 2000-present
- American Society of Clinical Oncology (ASCO), 2004-present
- International Society for Biological Therapy of Cancer (iSBTc), 2005-present
- Society of Immunotherapy of Cancer (SITC), 2010-present
## Grants and Contracts Awarded

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<td><strong>HEPATITIS C VIRUS (HCV) OUTCOMES AFTER TREATMENT WITH DAA IN PATIENTS WITH BLEEDING DISORDERS (ATH5: OUTCOMES STUDY)</strong></td>
<td>AMERICAN THROMBOSIS AND HEMOSTASIS NETWORK</td>
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<td>RAGNI, MARGARET</td>
<td><strong>A PHASE 1 SAFETY STUDY IN SUBJECTS WITH SEVERE HEMOPHILIA B (FACTOR IX DEFICIENCY) USING ADENO-ASSOCIATED VIRAL VECTOR (&quot;AAV VECTOR&quot;) TO DELIVER THE GENE FOR HUMAN FACTOR IX INTO THE LIVER COUPLED WITH TRANSIENT IMMUNOMODULATION</strong></td>
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<td>A PHASE III RANDOMIZED, OPEN-LABEL STUDY TO EVALUATE EFFICACY AND SAFETY OF PEMBROLIZUMAB (MK-3475) IN COMBINATION WITH AXISITINIB VERSUS SUNITINIB MONOTHERAPY AS A FIRST-LINE TREATMENT FOR LOCALLY ADVANCED OR METASTATIC RENAL CELL CARCINOMA (MRCC)</td>
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<td>AN A PHASE III, MULTICENTER, RANDOMIZED STUDY OF ATEZOLIZUMAB (ANTI-PD-L1 ANTIBODY) IN COMBINATION WITH ENZALUTAMIDE VERSUS ENZALUTAMIDE ALONE IN PATIENTS WITH METASTATIC CASTRATION-RESISTANT PROSTATE CANCER AFTER FAILURE OF AN ANDROGEN SYNTHESIS INHIBITOR A</td>
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<td>A PHASE 1B, OPEN-LABEL STUDY OF THE SAFETY AND TOLERABILITY OF ATEZOLIZUMAB IN COMBINATION WITH RADIUM-223 DICHLORIDE IN PATIENTS WITH CASTRATE-RESISTANT PROSTATE CANCER WHO HAVE PROGRESSED FOLLOWING TREATMENT WITH AN ANDROGEN PATHWAY INHIBITOR</td>
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<td>A Randomized Phase 3 Study of AM0010 in Combination with FOLFOX Compared with FOLFOX Alone as Second-Line Therapy in Patients with Metastatic Pancreatic Cancer That Has Progressed During or Following a First-Line Gemcitabine Containing Regimen</td>
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<td>A Phase I, Open-Label, Multicentre Study to Assess the Safety, Tolerability, Pharmacokinetics and Preliminary Anti-Tumour Activity of Ascending Doses of AZD5363 Under Adaptable Dosing Schedules in Patients with Advanced Solid Malignancies</td>
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<td>A Phase 2-3, Multicenter, Randomized, Double-Blind Study of Selinexor (KPT-330) Versus Placebo in Patients with Advanced Unresectable Dedifferentiated Liposarcoma (DDLs)</td>
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<td>A Retrospective Study of the Survival of Patients with Advanced/Metastatic Synovial Sarcoma and Myxoid/Round Cell Liposarcoma</td>
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<td>In Situ, Autologous Therapeutic Vaccination Against Solid Cancers with Intratumoral Hiltonol (Poly-ICLC)</td>
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<td>Riociguat Study in SCD</td>
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<td>Hematopoietic Stem Cell Transplantation for Young Adults with Sickle Cell Disease</td>
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<td>A Phase 3, Multicenter, Randomized, Double Blind, Placebo Controlled, Parallel Group Study to Evaluate the Efficacy and Safety of Rivipansel (GMI 1070) in the Treatment of Vasoocclusive Crisis in Hospitalized Subjects with Sickle Cell Disease</td>
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<td>An Open-Label Extension Study to Evaluate the Safety of Rivipansel (GMI-1070) in the Treatment of One or More Vasoocclusive Crises in Hospitalized Subjects with Sickle Cell Disease</td>
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<td>A Phase 2, Fast Real-Time Assessment of Combination Therapies in Immuno-Oncology Study in Subjects with Advanced Non-Small Cell Lung Cancer (Fraction-Lung)</td>
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<td>A Randomized, Double-Blind Phase 3 Study of Ibrutinib in Combination with Corticosteroids Versus Placebo in Combination with Corticosteroids in Subjects with New Onset Chronic Graft Versus Host Disease (CGVHD)</td>
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<td>A Multicenter, Two Part, Phase 1B Study Evaluating Alternative Routes of Administration of CMP-001 in Combination with Pembrolizumab in Subjects with Advanced Melanoma</td>
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<td>A Phase 1B/3, Multicenter, Trial of Talimogene Laherparepvec in Combination with Pembrolizumab for Treatment of Unresectable, Stage IIIB to IVM1C Melanoma (MasterKey - 265)</td>
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<td>A Phase 2, Multicenter Study to Assess the Efficacy and Safety of Autologous Tumor Infiltrating Lymphocytes (LN-144) for Treatment of Patients with Metastatic Melanoma</td>
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<td>A Phase IB/II Open-Label, Multi-Center Study of the Safety and Efficacy of IMGP100 in Combination with Durvalumab (MEDI4736) or Tremelimumab or the Combination of Durvalumab and Tremelimumab Compared to IMGP100 Alone in Patients with Advanced Melanoma</td>
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<td>A PHASE III, OPEN-LABEL, MULTICENTER, THREE-ARM, RANDOMIZED STUDY TO INVESTIGATE THE EFFICACY AND SAFETY OF COBIMETINIB PLUS ATEZOLIZUMAB AND ATEZOLIZUMAB MONOTHERAPY VS. REGORAFENIB IN PATIENTS WITH PREVIOUSLY TREATED UNRESECTABLE LOCALLY ADVANCED OR MET</td>
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<td>A FIRST-IN-HUMAN, OPEN-LABEL, PHASE III STUDY TO EVALUATE THE SAFETY, PHARMACOKINETICS, PHARMACODYNAMICS, AND CLINICAL ACTIVITY OF JNJ-63723283, AN ANTI-PD-1 MONOCLONAL ANTIBODY, IN SUBJECTS WITH ADVANCED CANCERS</td>
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<td>A PHASE 1, OPEN-LABEL, DOSE ESCALATION AND DOSE EXPANSION TRIAL EVALUATING THE SAFETY, PHARMACOKINETICS, PHARMACODYNAMICS, AND CLINICAL EFFECTS OF ORALLY ADMINISTERED CA-170 IN PATIENTS WITH ADVANCED TUMORS AND LYMPHOMAS</td>
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<td>A PHASE 1B/2 OPEN-LABEL STUDY TO EVALUATE SAFETY, CLINICAL ACTIVITY, PHARMACOKINETICS AND PHARMACODYNAMICS OF AVELUMAB* (MSB0010718C) IN COMBINATION WITH OTHER CANCER IMMUNOTHERAPIES IN PATIENTS WITH ADVANCED MALIGNANCIES</td>
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<td>FIVE PRIME THERAPEUTICS</td>
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<tr>
<td>RAGNI, MARGARET</td>
<td>A PHASE 1/2A OPEN LABEL MULTICENTER DOSE ESCALATION STUDY TO ASSESS THE SAFETY PHARMACOKINETICS AND PHARMACODYNAMICS PROFILE OF A LONG ACTING RECOMBINANT FACTOR VIIIA (MOD-5014) IN ADULT MEN WITH HEMOPHILIA A OR B</td>
<td>OPKO BIOLOGICS, LTD</td>
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<tr>
<td>Project Description</td>
<td>Sponsor</td>
<td>Direct Costs</td>
</tr>
<tr>
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<tr>
<td><strong>PARIKH, RAHUL</strong></td>
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<tr>
<td>A PHASE IB/II STUDY OF PEMBROLIZUMAB (MK-3475) COMBINATION THERAPIES IN METASTATIC</td>
<td></td>
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<td>CASTRATION-RESISTANT PROSTATE CANCER (MCRPC) (KEYNOTE-365)</td>
<td>MERCK</td>
<td>$523,416</td>
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<td><strong>PARIKH, RAHUL</strong></td>
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<tr>
<td>A PROSPECTIVE OBSERVATIONAL COHORT STUDY OF PATIENTS WITH CASTRATION-RESISTANT</td>
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<td>PROSTATE CANCER (CRPC) IN THE UNITED STATES</td>
<td>ASTELLAS</td>
<td>$6,800</td>
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<td><strong>PARIKH, RAHUL</strong></td>
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<td>A PHASE I STUDY OF THE SAFETY AND PHARMACOKINETICS OF ESCALATING DOSES OF AGS15E</td>
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<td>GIVEN AS MONOTHERAPY IN SUBJECTS WITH METASTATIC UROTHELIAL CANCER</td>
<td>AGENSYS, INC.</td>
<td>$211,904</td>
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<tr>
<td><strong>PARIKH, RAHUL</strong></td>
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<tr>
<td>A PHASE I STUDY OF THE SAFETY AND PHARMACOKINETICS OF ESCALATING DOSES OF ASG-22CE</td>
<td></td>
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<tr>
<td>GIVEN AS MONOTHERAPY IN SUBJECTS WITH METASTATIC UROTHELIAL CANCER AND OTHER</td>
<td></td>
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<tr>
<td>MALIGNANT SOLID TUMORS THAT EXPRESS NECTIN-4</td>
<td>AGENSYS, INC.</td>
<td>$80,110</td>
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<td><strong>PUHALLA, SHANNON</strong></td>
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<tr>
<td>A RANDOMIZED, MULTICENTER, DOUBLE-BLIND, PLACEBO-CONTROLLED PHASE II STUDY OF THE</td>
<td></td>
<td></td>
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<tr>
<td>EFFICACY AND SAFETY OF TRASTUZUMAB EMTANSINE IN COMBINATION WITH ATEZOLIZUMAB OR</td>
<td></td>
<td></td>
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<tr>
<td>ATEZOLIZUMAB-PLACEBO IN PATIENTS WITH HER2-POSITIVE LOCALLY ADVANCED OR METASTATIC</td>
<td></td>
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<tr>
<td>BREAST CA</td>
<td>GENENTECH, INC.</td>
<td>$147,411</td>
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<tr>
<td><strong>PUHALLA, SHANNON</strong></td>
<td></td>
<td></td>
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<tr>
<td>PLASMA TUMOR DNA AND PATHOLOGIC COMPLETE RESPONSE IN EARLY-STAGE, HIGH-RISK BREAST</td>
<td></td>
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<tr>
<td>CANCER (TBCRC 040)</td>
<td>JOHNS HOPKINS UNIVERSITY</td>
<td>$53,184</td>
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<tr>
<td><strong>PUHALLA, SHANNON</strong></td>
<td></td>
<td></td>
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<tr>
<td>PALBOCICLUB IN COMBINATION WITH FULVESTRANT OR TAMOXIFEN AS TREATMENT FOR HORMONE</td>
<td></td>
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<tr>
<td>RECEPTOR POSITIVE METASTATIC BREAST CANCER WITH PRIOR CHEMOTHERAPY FOR ADVANCED</td>
<td></td>
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<tr>
<td>DISEASE: A PHASE II STUDY WITH PHARMACODYNAMICS MARKERS</td>
<td>JOHNS HOPKINS UNIVERSITY</td>
<td>$28,957</td>
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<tr>
<td>Researcher</td>
<td>Title</td>
<td>Costs</td>
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<tr>
<td>PUHALLA, SHANNON</td>
<td>Treatment of Metastatic Breast Cancer with Fulvestrant or Tamoxifen: A Randomized Phase II Trial with ESR1 Mutation Tested in Circulating Tumor DNA</td>
<td>$1,350,110</td>
</tr>
<tr>
<td>PUHALLA, SHANNON</td>
<td>A Phase IB, Open-Label, Two-Arm Study Evaluating the Safety and Pharmacokinetics of Atezolizumab (Anti-PD-L1 Antibody) in Combination with Trastuzumab Emtansine or with Trastuzumab and Pertuzumab (With or Without Docetaxel) in Patients with HER2-Positive</td>
<td>$292,667</td>
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<td>PUHALLA, SHANNON</td>
<td>Phase IB/II Trial of Taselisib (GDC-0032), a PI3K Inhibitor, in Combination with Enzalutamide in Patients with Androgen Receptor Positive Triple Negative Metastatic Breast Cancer</td>
<td>$22,606</td>
</tr>
<tr>
<td>RAGNI, MARGARET</td>
<td>ALN-AT3SC-002 An Open Label Extension Study of Subcutaneously Administered ALN-AT3SC in Subjects with Moderate or Severe Hemophilia A or B Who Have Completed a Previous Clinical Study with ALN-AT3SC</td>
<td>$6,620</td>
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<tr>
<td>RAGNI, MARGARET</td>
<td>Natural History Study of Factor IX Treatment and Complications (B-Natural)</td>
<td>$24,349</td>
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<tr>
<td>RAGNI, MARGARET</td>
<td>ALN-AT3SC-001 A Phase 1 Single-Ascending and Multiple-Ascending Dose, Safety, Tolerability and Pharmacokinetics Study of Subcutaneously Administered ALN-AT3SC in Healthy Adult Volunteers and Hemophilia A or B Patients</td>
<td>$13,112</td>
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<tr>
<td>RAGNI, MARGARET</td>
<td>Gene-Therapy, Open-Label, Dose-Escalation Study of SPK-9001</td>
<td>$22,175</td>
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<tr>
<td>Name</td>
<td>Project Description</td>
<td>Responsible Organization</td>
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<tr>
<td>RAGNI, MARGARET</td>
<td>A long-term follow-up study in subjects with severe hemophilia B (Factor IX deficiency) who received a single-stranded, adeno-associated pseudotype 8 viral vector to deliver the gene for human Factor IX (AAV8-HFIX19)</td>
<td>SPARK Therapeutics</td>
</tr>
<tr>
<td>RAGNI, MARGARET</td>
<td>Genotype and phenotype analysis of adolescents with heavy menstrual bleeding and low von Willebrand activity</td>
<td>Baylor College of Medicine/Baxalta</td>
</tr>
<tr>
<td>RAGNI, MARGARET</td>
<td>A phase III open-label safety and dose-finding study of adeno-associated virus (AAV) RH10-mediated gene transfer of human Factor IX in adults with moderate/severe to severe hemophilia B</td>
<td>PPD Development Corporation</td>
</tr>
<tr>
<td>RAGNI, MARGARET</td>
<td>A biomarker-directed phase 2 trial of SY-1425, a selective retinoic acid receptor alpha agonist, in adult patients with acute myeloid leukemia (AML) or myelodysplastic syndrome (MDS)</td>
<td>Syros</td>
</tr>
<tr>
<td>REDNER, ROBERT</td>
<td>A phase 2, international, multicenter, randomized, open-label, parallel group study to evaluate the efficacy and safety of CC-486 (oral azacitidine) alone and in combination with durvalumab (MEDI4736) in subjects with myelodysplastic syndromes who fail to</td>
<td>Celgene</td>
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<tr>
<td>REDNER, ROBERT</td>
<td>A phase III study of pembrolizumab (MK-3475) vs. best supportive care as second-line therapy in subjects with previously systemically treated advanced hepatocellular carcinoma (Keynote-240)</td>
<td>Merck</td>
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<tr>
<td>SUN, WEIJING</td>
<td>A multi-center study of HTERT immunotherapy alone or in combination with IL-12 DNA followed by electroporation in adults with solid tumors at high risk of relapse post definitive surgery and standard therapy</td>
<td>Inovio Pharmaceuticals, Inc</td>
</tr>
<tr>
<td>SUN, WEIJING</td>
<td>A PHASE II STUDY OF PERIOPERATIVE MFOLFOX6 CHEMOTHERAPY PLUS PEMBROLIZUMAB (MK-3475) COMBINATION IN PATIENTS WITH POTENTIALLY RESECTABLE ADENOCARCINOMA OF THE GASTROESOPHAGEAL JUNCTION (GEJ) AND STOMACH (MISP #52216)</td>
<td>MERCK</td>
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<td>SUN, WEIJING</td>
<td>A PHASE 2, FAST REAL-TIME ASSESSMENT OF COMBINATION THERAPIES IN IMMUNO-ONCOLOGY STUDY IN PARTICIPANTS WITH ADVANCED GASTRIC CANCER (FRACTION-GASTRIC CANCER)</td>
<td>BMS</td>
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<tr>
<td>TARHINI, AHMAD</td>
<td>A PHASE I, OPEN-LABEL, MULTI-CENTER, MULTI-DOSE STUDY OF INTRADERMAL GRN-1201 IN HLA-A*02 SUBJECTS WITH RESECTED STAGE IIB, IIC OR III MELANOMA</td>
<td>GREEN PEPTIDE</td>
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<tr>
<td>TARHINI, AHMAD</td>
<td>A PHASE II STUDY OF HIGH DOSE BOLUS IL2 IN PATIENTS WITH INOPERABLE STAGE III OR STAGE IV MELANOMA WHO HAVE FAILED ANTI-PD1 IMMUNOTHERAPY: EFFICACY AND BIOMARKER STUDY</td>
<td>PROMETHEUS, INC.</td>
</tr>
<tr>
<td>TARHINI, AHMAD</td>
<td>NEOADJUVANT COMBINATION BIOOTHERAPY WITH IPILIMUMAB AND NIVOLUMAB OR NIVOLUMAB ALONE IN PATIENTS WITH LOCALLY/REGIONALLY ADVANCED/RECURRENT MELANOMA: A RANDOMIZED EFFICACY, SAFETY, AND BIOMARKER STUDY (UPCI 15-113)</td>
<td>BRISTOL-MYERS SQUIBB</td>
</tr>
<tr>
<td>VAN LONDEN, GIJSBERTA</td>
<td>PROSPECTIVE OBSERVATIONAL STUDY OF MOBILE APP-BASED PATIENT-REPORTED OUTCOMES IN ADVANCED BREAST CANCER</td>
<td>PFIZER</td>
</tr>
<tr>
<td>VILLARUZ, LIZA</td>
<td>A PHASE III, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF CARBOPlatin PLUS ETOPOSide WITH OR WITHOUT ATEZOLizUMAB (ANTI-PD-L1 ANTIBODY) IN PATIENTS WITH UNTREATED EXTENSIVE-STAGE SMALL CELL LUNG CANCER</td>
<td>HOFFMAN LA-ROCHE, INCORPORATED</td>
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<tr>
<td>Project Description</td>
<td>Sponsor</td>
<td>Direct Costs</td>
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<tr>
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<tr>
<td>A Phase II Clinical Trial Evaluating the Safety and Efficacy of Durvalumab (MEDI4736) as 1st Line Therapy in Advanced Non-Small Cell Lung Cancer (NSCLC) Patients with Eastern Cooperative Oncology Group (ECOG) Performance Status of 2</td>
<td>AstraZeneca</td>
<td>$432,100</td>
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<tr>
<td>A Phase II Clinical Trial of the Safety and Efficacy of the Addition of Ramucirumab to Nab-Paclitaxel in Previously Treated Patients with Non-Small Cell Lung Cancer (NSCLC)</td>
<td>Eli Lilly and Company</td>
<td>$530,500</td>
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<tr>
<td>A Phase II Clinical Trial Evaluating the Safety and Efficacy of Durvalumab (MEDI4736) in Advanced Non-Small Cell Lung Cancer (NSCLC) Patients with Eastern Cooperative Oncology Group (ECOG) Performance Status of 2</td>
<td>AstraZeneca (UPCI 16-054)</td>
<td>$444,600</td>
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<td><strong>Total Industry</strong></td>
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<td>$15,661,329</td>
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<td><strong>Public Health Service</strong></td>
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<td>$8,208,760</td>
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<td><strong>Federal</strong></td>
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<td>$280,106</td>
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<td><strong>State</strong></td>
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<td>$1,294,312</td>
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<td><strong>Society and Foundations</strong></td>
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<td>$2,154,534</td>
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<tr>
<td><strong>Industry</strong></td>
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<td>$15,661,329</td>
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<tr>
<td><strong>Total</strong></td>
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<td>$27,599,041</td>
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TEACHING

School of Medicine

Ahmad Tarhini, MD, PhD, Associate Professor of Medicine, continued to serve as Director of MED 5715, Neoplasia and Neoplastic Diseases course, a 4-week elective offered to 4th-year medical students. The course’s goal is to expose students to the multidisciplinary approach to cancer diagnosis, patient management and follow up. It involves didactic lectures as well as practical clinic, pathology, and radiology experiences. In addition to didactic lectures, there is a series of journal club sessions and one “Great Debate” involving a controversial topic in Medical Oncology. The course also includes an introduction to clinical research by exposing students to the different phases of clinical trials, including lectures on biostatistical designs, study endpoints and outcomes. Finally, working in groups with an assigned biostatistician and a mentor (Dr. Tarhini), students are required to develop their own design for a research project that could be a clinical trial or a laboratory experiment to be presented on their final day of the course.

Dr. Tarhini also continued to serve in the role of Director of MED 5831, Medical Oncology Research, which is an elective course offered to 4th-year medical students. The overall goal of this course is to expose students to the conduct of cutting-edge research on cancer therapeutics and cancer biology. Students actively participate in the undertaking of a clearly defined research project in clinical, translational or basic cancer research.

Roy Smith, MD, Professor of Medicine, continued to serve as Director of the 2nd-year Hematology Module. This 2-week course for the 2nd-year medical students consists of lectures, workshops, virtual case presentations, interactive quizzes, and case conferences. The course is a combined effort with faculty members from the Division of Hematology-Oncology, pediatric hematology, hematopathology, palliative care medicine, and administrative staff from the School of Medicine. After implementing significant improvements in the course last year, Dr. Smith has revised the course again by further modifying the online, recorded lectures established with the previous revisions in the course. The team based learning (TBL) exercises have been eliminated and will be replaced by team based teaching exercises during which the students will be offered interactive multi-disciplinary seminars on anemia, coagulation, and hematologic malignancies. The live team based teaching seminars and audience response exercises (AREs) will be presented using TurningPoint software. This will encourage student interaction and ensure participation of most, if not all, of the class. The course syllabus has been improved with the addition of new information and format. Dr. Smith has created a question bank of approximately 600 questions, possible answers, and explanations that will be used for future online quizzes and final examinations in a rolling fashion. The online quizzes have been revised to both assess student progress in the course, encourage collaborative interactions among the students, and beguile the students away from “studying for the test” to learning to think clinically. A special effort has been made to emphasize new developments and the importance of translational research in clinical medicine. The completion of these described course revisions is planned over a one-year period.

Continuing Education

The Division of Hematology-Oncology is deeply committed to continuing education of physicians and other oncology professionals.

On Jan. 26, 2017, the Division hosted A Comprehensive Review of the Most Important Presentations from the 2016 San Antonio Breast Cancer Symposium for 196 oncology professionals. This conference is specifically designed for those providers involved in the clinical care of patients with breast cancer and to review the important presentations from the national conference. Drs. Shannon Puhalla and Dhaval Mehta served as course directors.
On June 24, 2017, the Division hosted the 7th annual post-American Society of Clinical Oncology (ASCO) conference at the Herberman Conference Center for over 90 oncology physicians, nurses, pharmacists, and APPs throughout the tri-state region. This conference is designed for those healthcare providers not able to attend the annual meeting held each year in Chicago and to provide summaries of the most noteworthy presentations for each of the main tumor types and the key message. Dr. Edward Chu continued in his role as course director, and several members of the Division, including Drs. Adam Brufsky, Len Appleman, Diwakar Davar, Liza Villaruz, and Nathan Bahary, served as faculty to provide important and timely reviews.

Division faculty were involved in chairing other CME educational events held in Pittsburgh, and they include the following:

- Weijing Sun, MD, served as Course Director for the ASCO GI Review 2017, held April 8, 2017.
- Robert Redner, MD, continues to serve as Director of the UPCI/UPMC Cancer Center Clinical Grand Rounds Series that is held each Wednesday throughout the year from Sept. 2016-June 2017.
- Edward Chu, MD, served as Course Director for the ASCO 2017 Review, held June 24, 2017.
- Shannon Puhalla, MD, and Dhaval Mehta, MD, served as Course Directors for the First Annual All-Pittsburgh San Antonio Breast Cancer Symposium Review, held January 26, 2017.
- Franklin Bontempo, MD, served as Course Director and faculty of the Cascade 2017, Advances In Hemostasis & Thrombosis Conference, held on May 5, 2017.
TEACHING ACTIVITIES

Alaoui-El-Azher, Mounia
- Mentor, Julia Miklasevich, UPCI Academy, Summer 2017
- Mentor, Katherine Mnuskin, Undergraduate Student, Summer 2017
- Mentor, Suqin Wang, MD, Visiting Scholar, 2017
- Mentor, Xuhui Zhang, MD, Visiting Scholar, 2016

Leonard J. Appleman MD PhD
- Lecturer, Division of Hematology/Oncology Fellowship Program, Fellows Lecture Series, University of Pittsburgh, 2013-present
- Moderator, Division of Hematology/Oncology Fellowship Program, Journal Club, University of Pittsburgh, 2013-present
- Instructor, Advanced Physical Diagnosis, University of Pittsburgh, 2007-present
- Attending Physician, Inpatient Oncology Service, University of Pittsburgh Medical Center, 2006-present
- Physician, Outpatient Oncology Clinic, Hillman Cancer Center, University of Pittsburgh Cancer Institute, 2006-present
- Lecturer, MED5715 Neoplasia Course Elective, Management of Advanced Disease, University of Pittsburgh, 2006-present
- Group Moderator, MED 5715 Neoplasia Course Elective Journal Club, Treatment for Hormone Refractory Prostate Cancer, University of Pittsburgh, 2006-present

Nathan Bahary MD PhD
- Course Director, weekly GI Multidisciplinary Tumor Board, Hillman Cancer Center, 2006-present
- Lecturer, Heme-Onc Fellowship Program, 2016-2017
- Lecturer, Surgical Oncology Fellowship lecture, Chemotherapy series, 2016-2017
- Lecturer, Clinical Oncology Department of Nursing, 2008-present
- Lecturer, PGYI-III / IV oncology rotation, 2008-present
- Clinical Teacher, Consult Service, Inpatient Attending Service, weekly clinic, weekly Journal Club, 2003-present

Jan H Beumer PharmD PhD
- Lecturer, MED5715, Neoplasia & Neoplastic Disease: Preclinical-Phase 0/I, 2008-present
- Facilitator, PSTP MSELCT 5100 Physician Scientist Training Program-grant writing, 2009-present
- Lecturer, MSCMP3710 and MSPHL3310, Cancer Biology and Therapeutics: Microtubule Inhibitors, 2011-present
- Lecturer, PHARM3002, Advanced Pharmacokinetics: Pre-Clinical Pharmacokinetics, 2012-present
• Lecturer, MSMPHL2370, Drug Discovery: Pre-clinical: PK and other Challenges, 2012- present
• Lecturer, PHARM5218, Drug Development II: Drug Therapy Individualization-Oncology, 2013-present
• Course Coordinator, PHARM2001, Pharmaceutical Analysis, 2010-present
• Student Advisor, Jonas Scemama, PharmD, Graduate, Faculty of Pharmacy Aix-Marseille University, (summer student), 2016
• Student Advisor, Melanie Ringeval, PharmD, Graduate, Faculty of Pharmacy Aix-Marseille University, (summer student), 2017

Franklin A. Bontempo MD
• Sole Director, CASCADE, Advances in Hemostasis & Thrombosis (previously co-directed this meeting when it was called Blood In Motion Conference), 2006-present
• Lecturer, medical students, hematology/oncology fellows, PUH/AGH pathology residents, and immunohematology students, 7M-housestaff at Shadyside, nurses, nurse practitioners and nurse anesthetists, sophomore medical students, 1995-present
• Invited lecturer, conferences, grand rounds, and other hospital systems, 1995-present
• Teacher, ITxM Coagulation Signout Rounds, 2-3 times a week for medical students, residents, fellows from UOP pathology, hematology/oncology, ITxM, AGH, UOP immunohematology, 1995-present
• Teacher, Hematology/Oncology Consult Service for both PUH and Shadyside Hospitals, 1995-present

Dana Bovbjerg PhD
• Mentoring Activities, Mid-level Faculty, Drs. Charles Horn, Faina Linkov, and Lyn Robertson, 2016-2017
• Mentoring Activities, Junior Faculty, Drs. Carissa Low and Donna Poslusny, 2016-2017
• Mentoring Activities, Undergraduate level, 10 Undergraduate students, 2016-2017
• Mentoring Activities, Graduate level, 1 Post-doctoral and 2 Graduate students, 2016-2017
• High School (college preparatory), 1 High School student, 2016-2017
• Lecturer, graduate students, University of Pittsburgh Department of Health and Physical Activity, Chronic Disease Case Studies Course, Biobehavioral Oncology, Psychological Stress and DNA Damage, 2017
• Lecturer, Pittsburgh Biobehavioral Medicine Community–Idea Series: Effects of Brief Psychological Stress on DNA Damage: Implications for Cancer Risk?, 2017

Michael Boyiadzis MD MHSc
• Didactic Lecturer, Hematology-Oncology Fellowship, University of Pittsburgh School of Medicine, 2008-present

Adam Brufsky MD PhD
• Presenter, Therapy for Estrogen Receptor Positive MBC, India Oncology Society, Delhi, India, Sept. 16th, 2016
• Presenter, Therapy for Estrogen Receptor Positive MBC, Oncology Tumor Board, Lucknow, India, Sept. 17th, 2016
• Presenter, Therapy for Estrogen Receptor Positive MBC, Malaysian Oncology Society Annual Meeting, Johor Bahru, Malaysia, Nov. 11, 2016
• Presenter, How I Treat Her2 Positive MBC, Malaysian Oncology Society Annual Meeting, Johor Bahru, Malaysia, Nov. 12, 2016
• Presenter, Genomic Assays for Breast Cancer: 2017 Update, Oncology Grand Rounds, University of Pittsburgh Cancer Institute, Pittsburgh, PA, Jan. 18, 2017
• Presenter, Bisphosphonates for Breast Cancer: From Prevention of Complications of Bone Metastasis to Prevention of Recurrence, Oncology Grand Rounds, ASAN Medical Center, Seoul, South Korea, Feb. 3, 2017
• Presenter, Where Are We Now and Future Horizons–Focus on Treatment Advances in ER+ HER2- Metastatic Breast Cancer, Oncology Grand Rounds, Pamela Youde Nethersole Eastern Hospital, Hong Kong, China, Feb. 6, 2017
• Presenter, Where Are We Now and Future Horizons–Focus on Treatment Advances in ER+ HER2- Metastatic Breast Cancer, Oncology Grand Rounds, Queen Elizabeth Hospital, Hong Kong, China, Feb. 7, 2017
• Presenter, Where Are We Now and Future Horizons–Focus on Treatment Advances in ER+ HER2- Metastatic Breast Cancer, Oncology Grand Rounds, Hong Kong Sanatorium Hospital, Hong Kong, China, Feb. 8, 2017
• Presenter, Genomic Assays for Breast Cancer: Fact, Myth, and Everything in Between, COEDS Grand Rounds, University of Miami Sylvester Cancer Center, Fort Lauderdale, FL, Feb. 28, 2017
• Presenter, Immune Checkpoint Inhibitors: Update. Miami Breast Symposium, Fontainebleau, Miami, FL, March 12, 2017
• Lecturer, Novel Mechanisms and Pathways in CDK4/6 Use in Breast Cancer, Rush University Medical Center, Chicago, IL, April 26, 2017
• Lecturer, CDK 4/6 Inhibitors: New Choices for HR-Positive, HER2-Negative Metastatic Breast Cancer, UCLA Olive View Medical Center, Los Angeles, CA, May 2, 2017
• Presenter, Breast Cancer Update. 2017 ASCO Review, University of Pittsburgh Cancer Institute, Pittsburgh, PA, June 24, 2017

Melissa Burgess MD
• Mentor, Christine Garcia (Hematology-Oncology Fellow), 2016-present
• Associate Program Director, Hematology-Oncology Fellowship Program, University of Pittsburgh, 2015-present

Timothy F. Burns MD PhD
• Teacher, medical students, residents, and fellows while in clinic, 2012-present
• Teacher, medical residents, and fellows while on consult service, 2012-present
• Course Director, Professional Development 2 Course (5120), 2015-present
• Lecturer, Lung Cancer, Cancer Biology and Therapeutics Course (MSCMP3710 and MSPHL3310), 2013-present
• Lecturer, Medical Management of Early/Late Stage, Neoplasia and Neoplastic Diseases Course (MED5715), 2013-2016
• Lecturer, Journal Club, 2 Phase I/II Using Molecularly Targeted Agents, Neoplasia and Neoplastic Diseases Course (MED5715), 2013-2016
• Lecturer, Hematology-Oncology Fellowship Conference, 2013-present
• Lecturer, Fundamentals of Bench Research, Precision Medicine: Bench Discovery to Bedside Therapies, 2016-present
• Mentor, Undergraduate Students (Susheel Khetarpal, Ian Christie, Kayla Myers, Margot Cohen, Sana Z. Mahmood, Eishan Ashwat), 2014-present
- Mentor, Medical Students (James O'Brien), 2017-present
- Mentor, Graduate Students (Zachary Yochum, Deena Mauer), 2013-present
- Mentor, Hematology-Oncology Fellows (Ashwin Somasundaram, Saveri Bhattacharya), 2014-present
- Mentor, Post-Doctoral Fellows (Chatterjee Suman), 2013-present
- Research Advisor, Hematology Oncology Fellowship Program (Aju Matthew, Kirsten Boughan, Yana Najjar, Ashwin Somasundaram, Richard Wu), 2013-present

Lisa H Butterfield PhD
- Lecturer, Department of Immunology: Immunology and Human Disease, MSIMM 3230, 2005-present
- Seminar Organizer, UPCI IMCPL Monthly Continuing Education Session, 2010-present
- Facilitator, MS-1 Immunology in Health and Disease Problem-Based Learning Course, February 2015-2017
- Lecturer, AAI Advanced Course, Tumor Immunology, 2015-2017

Edward Chu MD
- Lecturer, Hematology Course (MED5222), second-year medical students, University of Pittsburgh School of Medicine, 2011-present
- Lecturer, Cancer Biology and Therapeutics Course (MSCMP3710/MSPHL3310), Integrated Program in Biomedical Sciences and Departments of Pathology and Pharmacology, University of Pittsburgh School of Medicine, 2011-present
- Lecturer, Hematology-Oncology Fellowship Lecture Series, University of Pittsburgh School of Medicine, 2011-present
- Lecturer, Neoplasia Course (MED5715), fourth-year medical students, University of Pittsburgh School of Medicine, 2012-present
- Lecturer, Basics of Personalized Medicine Course (MSCMP3790), graduate students, University of Pittsburgh School of Medicine, 2012-present
- Teacher, Internal Medicine Residents and Fellows, UPMC Shadyside and Hillman Cancer Center, 2011-present
- Mentor, Yael Schenker MD, Assistant Professor in the Dept. of Medicine (Investigative Medicine Program), Role of Palliative, Supportive Care in the Treatment Of Cancer Patients, 2011-present
- Mentor, Wei Yang, Tsinghua/University of Pittsburgh School of Medicine, Role of Protein Kinase D Signaling in Colorectal Cancer, 2012-present
- Faculty Member, AACR-ASCO Vail Workshop in Clinical Cancer Research, Vail, CO, 2014-present
- Member, NCI/NIH T32 Training Program in Surgical Oncology and Cancer Immunotherapy, 2013-present
- PI, NCI/NIH T32 Training Program in Cancer Therapeutics, 2015-present

Laura De Castro MD
- Teacher, medical students, house officers, and fellows while on service for Hem and Sickle Cell consult services, July 2016-June 2017
- Teacher, residents in clinic, hematology/oncology outpatient rotation, and hematology/oncology exposure rotation, July 2016-June 2017
- Teacher, third-year medical students in Clinic, Combined Ambulatory Medicine and Pediatrics Course (CAMPC), Clinical Assignment, July 2016-June 2017
- Fellow Advisor, Apurva Pandey, first-year Fellow, 2016-2017
- Mentor, Ashwin Somasundaram, second-year Hem/Onc Fellow, rotating on Benign Hematology Fellow Outpatient Elective, July 6, 13, and 20, 2016
- Lecturer, Sickle Cell Disease Nurse Champion Meetings: July 14, Aug. 11, Oct. 13, and Dec. 8, 2016
- Lecturer, AHA Surp 2016, Basis of Clinical & Translational Research: from Bench to Bed, July 21, 2016
- Mentor, Kathan Mehta, first-year Hem/Onc Fellow, rotating on Coagulation Fellow Outpatient Elective, Aug. 1, 8, 15, and 22, 2016
- Mentor, Richard Wu, first-year Hem/Onc Fellow, rotating on Benign Hematology Fellow Outpatient Elective, Aug. 2, 3, 10, 17, and 24, 2016
- Presenter, first-year medical students: Intro. to Being a Physician, Introduction to Sickle Cell Disease, University of Pittsburgh, Aug. 25, 2016
- Panel Discussion, first-year medical students: Intro. to Being a Physician, Panel Discussion-Questions and Answers, University of Pittsburgh, Aug. 25, 2016
- Mentor, Ananth Arjunan, second-year Hem/Onc Fellow, rotating on Benign Hematology Fellow Outpatient Elective, Aug. 29, Sept. 12 and 19, 2016
- Lecturer, Sickle Cell Champion Initiative: 1st Annual Symposium, Longitudinal Care of Adults with SCD, Sept. 24, 2016
- Mentor, Ryan Massa, first-year Hem/Onc Fellow, rotating on the Coagulation Fellow Outpatient Elective, Oct. 31, Nov. 7 and 21, 2016
- Mentor, Arpita Gandhi, second-year Hem/Onc Fellow, rotating on Benign Hematology Fellow Outpatient Elective, Nov. 1, 9, and 23, 2016
- Mentor, Shelley Sahu, third-year Fellow, Continuity Clinic, Monday Clinic only, January-June 2017
- Teacher, Hematology Course, second-year medical students, Team-Based Teaching RBC Disorders, Jan. 6, 2017
- Lecturer, Updates of ASH 2016 Course, Sickle Cell Disease, March 10, 2017
- Teacher, Neoplasia Course, fourth-year medical students, Clinical Assignment–Babak Zaker Shahrak, March 15, 2017
- Teacher, Neoplasia Course, fourth-year medical student, Clinical Assignment–Daniel Brynien, March 20, 2017
- Teacher, Neoplasia Course, fourth-year medical student, Clinical Assignment–Alessandra Cardi March 22, 2017
- Lecturer, AHA Surp 2017, Basis of Clinical & Translational Research: from Bench to Bed, June 29, 2017
Albert Donnenberg PhD
- Lecturer, The First Monday Flow Cytometry Seminar Series, 2014-present
- Co-Mentor, Erika Moravcikova PhD, Research Fellow, Cardiothoracic Surgery, Role of BOK in cancer cell survival, 2016-2017
- Co-Mentor, Aisha Walker PhD, Research Assistant Professor, Mechanisms of Hydroxyurea Efficacy and Toxicity in Sickle Cell Disease, 2015-present

Kathleen Dorritie MD
- Lecturer, Myelodysplastic Syndrome Fellow Lecture, 2014-present
- Lecturer, Medical Student Hematologic Malignancies Team-Based Teaching Seminar Leader, 2015-present
- Block Coordinator, Medical Student Hematology Course, 2015-present
- Lecturer, Medical Student Neoplasia Course, 2014-present
- Lecturer, Palliative Care Grand Rounds–Malignant Hematology and Palliative Care: Bridging the Gap, University of Pittsburgh, Jan. 25, 2017
- Lecturer, Updates of ASH-Faculty Presenter, University of Pittsburgh, March 10, 2017
- Fellow Career Mentor for Hematology/Oncology Fellow Janet Retseck, July 2014-2017
- Research Mentor for Hematology/Oncology Fellow Arpita Gandhi, July 2016-present
- Research Mentor for Hematology/Oncology Fellow Konstantinos Lontos, 2016-present
- Clinical Teaching, Attending Physician, Leukemia and Stem Cell Transplant Services, University of Pittsburgh Medical Center, Pittsburgh, PA, 2014-present
- Clinical Teaching, Attending Physician, Malignant Hematology Consult Service, University of Pittsburgh Medical Center, Pittsburgh, PA, 2015-present
- Oakstone Board Review Course–Authored questions on Hodgkin’s Lymphoma, Non-Hodgkin’s and CLL, 2016-2017

Jan Drappatz MD
- Teacher, Neuro-Oncology Inpatient Attending Rounds (medical students, fellows and residents), 2010-present
- Preceptor, medical students, 2016-2017
- Preceptor, residents, 2016-2017
- Lecturer, Neoplasia Course, 2016-2017
- Fellowship Director, UCNS Fellowship Program in Neuro-Oncology, 2016-2017

Robert Ferguson PhD
- Conference Presentation, Memory and Attention Adaptation Training (MAAT): Cognitive Behavioral Therapy for Cancer-Related Memory Change, delivered at conference Memory and Concentration Changes After Cancer Treatment, Beatson West of Scotland Cancer Center, Glasgow, UK, April 24, 2017
- Conference Presentation, Cancer-Related Cognitive Changes: What It Is and What We Know? Delivered at conference Memory and Concentration Changes After Cancer Treatment, Beatson West of Scotland Cancer Center, Glasgow, UK, April 24, 2017
- Treatment of Cancer-Related Cognitive Dysfunction, Oncology Grand Rounds, University of Pittsburgh Cancer Institute, Division of Hematology-Oncology, University of Pittsburgh, Pittsburgh, PA, Oct. 12, 2016.
- Key Note Address, Cognitive and Emotional Resilience in Survivorship, 3rd Annual Oncology Nursing Symposium, Living Life as A Survivor, Dartmouth-Hitchcock Medical Center, Lebanon, NH, Oct. 8, 2016
Deborah L. Galson PhD
- Lecturer, Molecular Pathobiology Course (MSCMP 2740), Molecular Pathophysiology of Paget's Disease, 2013-present
- Lecturer, PBL Facilitator in Fuel Metabolism (MED 5115), 10 MD students, 2014-present
- Participant, Medical Student Oncology Interest Group Speed Networking Dinner, 2012-present
- Mentor, UPCI International Summer Academy high school students, 2013-present
- Cancer Biology Site Director, UPCI Summer Academy, Fall 2015-present
- Organizer, Monthly Seminar, Pittsburgh Center for Bone & Mineral Research, 2012-present
- Research Mentor, Konstantinos Lontos, PGY2 Internal Medicine (IST), 2015-present

James Herman MD
- Associate Director, Medical Oncology Fellowship Program, 2014-present
- Supervisor and teacher, medical oncology fellows in thoracic oncology clinic at VAMC, 2015-present
- Lecture for Pharmacology, Cancer Biology and Therapeutics Course, 2016-2017

Annie Im MD
- Director, Fellowship Program, UPMC, Pittsburgh, PA, 2017-present
- Leader, Team-Based Learning Seminar for second-year medical students, Hematology Course, University of Pittsburgh Medical School, Pittsburgh, PA, 2013-present
- Lecturer and Journal Club Moderator, fourth-year medical students, Neoplasia and Neoplastic Diseases Course, University of Pittsburgh Medical School, Pittsburgh, PA, 2014-present
- Coordinator and Lecturer, Hematology/Oncology Fellowship Didactic series, University of Pittsburgh Cancer Institute, Pittsburgh, PA, 2013-present
- Lecturer Internal Medicine Residency Noon Conference series, University of Pittsburgh Medical Center, Pittsburgh, PA, 2015-present

Rachel Jankowitz MD
- Lecturer, A Trial of Endocrine Response in Women with Invasive Lobular Carcinoma, Great Lakes Breast Cancer Symposium, University of Pittsburgh, School of Medicine, Pittsburgh, PA Sept. 10, 2016
- Lecturer, A Trial of Endocrine Response in Women with Invasive Lobular Carcinoma, 1st International Invasive Lobular Carcinoma Symposium, University of Pittsburgh, School of Medicine, Pittsburgh, PA Sept. 30, 2016
- Lecturer, Breast Cancer Overview: Genomics and Screening, UPMC Experiential Training, Pittsburgh, PA Jan. 19, 2017
- Lecturer, A Single Institution Experience with Invasive Lobular Carcinoma: Associations Between Biomarkers and Outcome, TBCRC Spring 2017 Symposium, Dallas, TX, May 1, 2017

Gregory Kato MD
- Instructor, Pitt medical students, 2013-present
- Lectures and clinic supervision, Pitt Hematology Fellows, 2013-present
- Lectures and clinic supervision, Hematology Oncology Fellows, Allegheny General Hospital/West Penn Hospital, 2014-present
- Clinic supervision, UPMC Hematology Clinic preceptorships, Chatham University Master of Physician Assistant Studies Program, 2016-present

**John M Kirkwood MD**
- Faculty Lecturer, second-year medical students, Introduction of Medicine Oncology Syllabus, University of Pittsburgh, 1987-present
- Mentor, Charalampos M. Floudas, PhD, Masters in Biomedical Informatics, Hellenic GWAS (geowide association studies) project with Yan Lin, PhD, 2010-present
- Mentor, Yana Najjar, MD, Fellow in Oncology, new protocol development and publication of two reviews (one already published) on anti-PD1 therapy, 2014-present
- Mentor, Brittani Seynnaeve, MD, Pediatric Oncology Fellow who is now supported on our Melanoma T32 award for genomic studies of pediatric melanoma, 2014-present
- Mentor, Nolan Priedigkeit, MD/PhD Student, Carnegie Mellon University Medical Scientist Training Program (MSTP), Longitudinal Clinical Clerkship, 2016-2017

**Joseph E Kiss MD**
- Lecturer, Host Defense Course, Introduction to Medicine, University of Pittsburgh School of Medicine, 1993-present
- Lecturer, Blood Coagulation Teaching Rounds (MED5481), University of Pittsburgh School of Medicine, 1986-present
- Lecturer, University of Pittsburgh trainees in Internal Medicine, Pathology, Hematology/Oncology, and Blood Banking, 1985-present

**James J Lee MD PhD**
- Lecturer, Hematology-Oncology Fellowship Lecture Series, University of Pittsburgh School of Medicine, 2012-present
- Lecturer, Immunotherapy of Colorectal Cancer with Immune Checkpoint Inhibitors, NSABP Foundation Research Collaborators Meeting, Chicago, IL, Oct. 14, 2016
- Lecturer, A Randomized Phase III Study of mFOLFOX6/Bevacizumab Combination Chemotherapy with or without Atezolizumab in the First-Line Treatment of Patients with Microsatellite Instability-High (MSI-H) Metastatic Colorectal Cancer (NRG CR1556), NCI Colon Task Force, San Francisco, CA, Jan 19, 2017
- Lecturer, Update on Clinical Trials for Colorectal Cancer at UPMC/UPCI, UPMC/UPCI GI Oncology Symposium 2017 Highlights and Updates from ASCO GI, SSO, DDW, and ASP, Pittsburgh, PA, April 8, 2017

**Frank S Lieberman MD**
- Preceptor, Neuro Oncology Clinical Rotation for Neurology Residents, neurology and neurosurgery residents, 1999-present
- Preceptor, Neuro Oncology Component, Outpatient Specialty Clinic for Hematology/Oncology, residents and medical students, 1999-present
- Didactic Lecturer, third-year students, Neurology Externship, 1999-present
- Lecturer, Hematology/Oncology Fellows Lecture and Case Conference, Topic: Metastatic CNS Tumors and Management, UPMC Cancer Center, Feb. 19, 2016
- Discussant, Prolonging Survival of Glioblastoma Patients, Medscape, Aug. 5, 2016
- Director, Neuro-Oncology Tumor Board, weekly conference to discuss patient care with representatives from Departments of Neurological Surgery, Neuro-Pathology, Neurology and Hematology/Oncology, 2004-present
- Presenter, Neuro-Pathology Tumor Conference, weekly conference involving Departments of Pathology, Neurological Surgery and Neurology residents, and Neuro-Pathology fellows, 1999-present
- Presenter, Medical Oncology/Hematology Teaching Service, monthly lecture series on Brain Tumors: Diagnosis and Management, for the House Staff, attended by medicine and oncology residents, 1999-present
- Presenter, Grand Rounds, 1999-present
- Presenter, Shadyside Tumor Board, monthly discussions and case presentations in Neurooncology as part of General Tumor Board schedule, 1999-present
- Presenter, Bioethical Issues in Jewish Law: A Case Discussion Series, 2016-present

Anna Lokshin PhD
- Mentor, Mounia Alaoui Al Azher, Research Assistant Professor, 2015-present
- Teacher, Shadyside Hospital Staff, 2012-present
- Mentor, Visiting Scientists Xuhui Zhang, Sherry Wang, 2016-2017
- Mentor, summer students Katherine Mnuskin, Julia Kovalchik, Evgeniy Gutkin, 2016-2017

Carissa Low PhD
- Co-developed and co-taught (with Anind Dey) 3-credit course in Mobile Health Technology at CMU in Spring 2017 (35 undergraduate & graduate students enrolled), January-May 2017
- Supervised 14 undergraduate psychology externs in directed research, 2014-2017

Enrico Novelli MD
- Developer, Weekly Benign Hematology Conference, 2013-present
- Instructor, Medical Student Hematology Course, 2016-present

Solomon Ofori-Acquah PhD
- Mentor, Amma Owusu-Ansah, MD, Assistant Professor of Medicine, 2014-2017
- Mentor, Aisha Walker, PhD, Research Assistant Professor, 2014-2017
- Mentor, Samit Ghosh, PhD, Research Assistant Professor, 2014-2017
- Mentor, Rimi Hazra, PhD, Research Associate, 2014-2017
- Mentor, Maureen Mburu, MD, T32 Postdoctoral Fellow, 2016-2017
- Mentor, Nkeiruka Nwobu, R25 Undergraduate Trainee, 2017
- Mentor, Mingli Liu, MD, PhD, R25 Trainee, 2017
- Mentor, Oluwaseun Orikogbo, first-year medical student, Global Health Research Summer Intern, 2017
- Mentor, Chibueze Ihunnah, PhD, T32 Postdoctoral Fellow, 2014-2016

Amma Owusu-Ansah MD
- Teacher, Fellows on the Hematology inpatient and consult service, 2014-present
- Teaching rounds with medical students, pediatric residents and pediatric hematology oncology fellows, 2016-2017
- Mentor, residents’ clinical notes, 2016-2017
- Preceptor, pediatric residents on the inpatient hematology rotation, 2016-2017
- Preceptor, medical students and pediatric residents on inpatient hematology rotation, Children’s Hospital of Pittsburgh of UPMC, November 2014-August 2016
- Preceptor, Pediatric Hematology Oncology Fellows on the Hematology inpatient and consult service, November 2014-August 2016

Rahul Parikh MD PhD
- Co-author, Section on Genito-urinary malignancies, Oakstone Hematology / Oncology Board Review CME Course 2016-current
- Faculty in charge of Hematology-Oncology Fellowship Journal Club, June 2016-current
- Course Director, Neoplasia, fourth-year medical students 2016-current
- Sub-Speciality Education Coordinator, Hematology-Oncology, 2016-current
- Mentor, Kathan Mehta, matched for fellowship at University of Pittsburgh, 2014-present
- Mentor, Jonathan Rush, 2016-present
- Mentor, Tala Achkar, 2016-present
- Mentor, Christopher D’Avella, 2015-2017, matched for fellowship at Fox Chase Cancer Center
- Mentor, Brian Heiss, 2015-2017, matched for fellowship at University of Chicago

Vida Almario Passero MD
- Developer, Course Director, National Oncology Webinar series, Veterans Health Administration, June 2016-present
- Member, UPMC Medical Education, Graduate Medical Education Committee Subcommittee on Accreditation, Review, and Quality (ARQC), July 2014-present
- Associate Director, UPMC Hematology-Oncology Fellowship Program, 2011-present
- Site Director, Hematology-Oncology Fellowship Program, VA Pittsburgh Healthcare System, 2011-present
- Small Group Facilitator, ASCO Program Director’s Meeting, October 2016
- Telehealth Champion, VA Pittsburgh Healthcare System, 2010-present
- Developer, Oral Anticancer Therapy Protocol, 2011-present
- Chair, Commission on Cancer Care Committee, VA Pittsburgh Healthcare System (VAPHS), 2011-2016
- Developer, Course Director, VAPHS Updates in Cancer Care, Jan. 9, 2015, February 2016, February 2017

Donna Posluszny PhD
- Instructor, Patient Interviewing Skills, University of Pittsburgh School of Medicine, 2003-present
- Lecturer, UPMC Cancer Centers Foundations to Practice series, Psychological Needs of Cancer Patients, Families, and Caregivers, 2004-present
- Lecturer, Consultation in Oncology, University of Pittsburgh School of Medicine, WPI Clinical Psychology Interns, 2010-present
- Facilitator, Cultural Diversity, Inclusion Awareness and Acceptance, Workshop, University of Pittsburgh School of Medicine, first-year medical students, 2016
- Clinical Supervisor, UPCI Behavioral Medicine Externship Placement, University of Pittsburgh clinical psychology graduate students and Chatham University counseling psychology graduate students, 2007-present
Shannon Puhalla MD

- Lecturer, Living with Triple Negative Breast Cancer, CancerCare Teleconference, Oct. 5, 2016
- Lecturer, Endocrine Therapy, Neo-Adjuvant, Adjuvant and Metastatic Breast Cancer, Fellows Lectures, Hillman Cancer Center, Pittsburgh, PA, Oct. 21, 2016
- Lecturer, Stage IV-Triple Negative, Young Women's Breast Cancer Foundation, Pittsburgh, PA, Nov. 14, 2016
- Lecturer, Metastatic Breast Cancer: Targeted Agents and Chemotherapy, UPMC Experiential Training Pittsburgh, PA, Jan. 19, 2017
- Lecturer, Endocrine Therapy in Breast Cancer: Too Much of a Good Thing?, Grand Rounds, Pittsburgh, PA, March 14, 2017
- Lecturer, Endocrine Therapy in Breast Cancer: Too Much of a Good Thing?, Grand Rounds, Pittsburgh PA, March 22, 2017
- Lecturer, Endocrine Therapy in Breast Cancer: Too Much of a Good Thing?, Grand Rounds, UPMC Shadyside Hospital, Pittsburgh, PA, April 13, 2017

Margaret V Ragni MD PhD

- Lecturer, Host Defense Course, second-year hematology course, 1981-present
- Preceptor, Hematology Consultation Rounds, 2015-present
- Presenter, Novel Non-Factor Therapeutics for Hemophilia, Hematology Oncology Grand Rounds, University of Pittsburgh, UPCI, Sept. 28, 2016
- Lecturer, Diagnosis and Management of Thrombophilia in Pregnancy, Maternal Fetal Medicine Lecture Series, Magee Womens Hospital, University of Pittsburgh, Sept. 30, 2016
- Lecturer, Hemophilia Diagnosis and Management, Benign Hematology Case Conference, UPCI Fellows Teaching Conference, Pittsburgh, Oct. 20, 2016
- Lecturer, Hemophilia INHIBITORS: Case Conference, Benign Hematology Case Conference, UPCI Fellows Teaching Conference, Pittsburgh, Jan. 5, 2017
- Lecturer, Careers in Hematology: first- and second-year medical students, Pittsburgh, Jan. 6, 2017
- Lecturer, Coagulation Cases: Medical School Teaching, second-year medical students, Pittsburgh, Jan. 11, 2017
- Lecturer, Thrombophilias in Pregnancy: Case Conference, Benign Hematology Case Conference, UPCI Fellows Teaching Conference, Pittsburgh, March 30, 2017
- Lecturer, Hemophilia Cases, Allegheny General Hospital AHN Pathology Conference West Penn Hospital, Pittsburgh, March 7, 2017
- Lecturer, Hemophilia Case Conference Allegheny General Hospital Residency Lecture Series, West Penn Hospital, May 17, 2017
- Lecturer, Hemophilia Chapter Ask the MD Dinner Program: Hemophilia Carriers Education/ Support Series, June 2, 2017
- Panelist, How to Combine a Career in Research with Clinical Practice, Dean’s Summer Research Program, University of Pittsburgh, Pittsburgh, July 18, 2017
- Lecturer, Essential of Hemophilia, Children’s Hospital of Pittsburgh of UPMC, Pediatric Hematology/Oncology Fellowship Orientation Lecture Series, July 27, 2017
- Lecturer, Hemophilia Lecture, UPCI Hematology/Oncology Fellows Lecture Series, July 28, 2017
- Lecturer, Hemophilia & Von Willebrand Disease, UPMC UPCI Hematology/Oncology Fellows Lecture Series, July 29, 2016
- Mentor, Junior Faculty, Craig Seaman, MD, MS, Assistant Professor of Medicine, 2014-present
- Mentor, Junior Faculty, Lynn Malec, MD, MS, Assistant Professor of Pediatrics, 2014-present
- Mentor, Resident, Kathan Mehta, MD, Medical Resident, Outcomes of Liver Transplant and Thrombocytopenia in Hemophilic Men: HIV+ and HIV-, Analysis NIS data, ASH 2015 manuscript in preparation, 2015-present
- Mentor, Mariya Apostova, MD, Heme Onc Fellowship (AGH), HBP in VWD, Hemophilia Research, abstract, NIS Research, ISTH abstract, manuscript 2014-2016
- Advisor, Krishna Patel, MD, Heme Onc Fellowship, Research Track, 2014-2017
- Advisor, Swathi Namburi, MD, Heme Onc Fellowship, Research Track, 2016-2018
- Mentor & Advisor, Shelley Sahu, MD, Heme/Onc Fellowship, QI Project: Hemo/VWD Ordersets, 2016-2018
- Advisor, Arpita Ghandi, MD, Heme Onc Fellowship, Research Track, 2016-2018
- Mentor, Kathan Mehta, MD, Medical Resident, Bleed and Liver Transplant (OLTX) in Hemophilic Men, 2015-present
- Mentor, Nicoletta Machin, MD, Medical Resident, VWF for Menorrhagia in VWD: Literature Review and Survey, 2015-present
- Mentor, Nicoletta Machin, MD, Medical Resident, CTS-TL1 Master’s Program Clinical and Translational Science, 2015-present
- Advisor, Allison Close, MD, Menorrhagia in Adolescent VWD: Pilot Study, 2017
- Mentor, Christine Garcia, MD, Incremental Cost of Inhibitors: Claims Data/CDC, 2017
- Mentor, Jillian Roper Kyle, MD, Medical Resident, Menorrhagia in Magee ED, Outcomes, Disposition; QI Study, Comparing & Improving Outcomes, 2016-present
- Mentor, Medical Student, Afshan Rizvi, T35 Grant: Cost-Effect AC in Pregnant SCD (Ragni) Merit Award, 2013-2017
- Mentor, Medical Student, Shawn Tahata, T35 Grant: Braf-Mutations & IFN in Melanoma (Kirkwood) 2015, Scholarly Project; Feasibility of App for PBAC in VWD, 2016-present
- Mentor, Medical Student (non-Pitt): Umer Nisar, Research Project VWD, 2015-2016
- Mentor, Medical Student, Alvin Thallapillil, HCC and Hemophilia—NCIS, 2016
- Mentor, Medical Student, Jessica Cohen, T35 Grant: Menorrhagia & VWD: NIS Study (Ragni) 2017
- Mentor, Medical Student, Patrick Ebbert, T35 Grant: Adult ITI & Eloctate Pilot Study (Ragni) 2017
- Co-Mentor, Medical Student, Steven Garbin, T35 Grant: Surgery Management in Pediatric VWD (J Cooper), 2017
- Co-Mentor, Medical Student, Sara Mater, T35 Grant: Scleroderma Malignancy (Domcik) 2017
- Co-Mentor, Medical Student, Ben Zuchelkowski, T35 Grant: Sickle Cell Blood Storage (Gladwin) 2017
- Co-Mentor, Medical Student, Melissa Mariscal, NASTH 2017 Research Fellow Grant Recipient, Role of Platelet ERO1alpha in Thrombus Formation, 2017
Priya Rastogi MD
- Lecturer, NSAPB NRG BR-003 A Randomized Phase III Trial of Adjuvant Therapy Comparing Doxorubicin Plus Cyclophosphamide Followed by Weekly Paclitaxel with or without Weekly Carboplatin in Women with Node-Positive or High-Risk Node-Negative Triple Negative Invasive Breast Cancer, NRG Oncology Semiannual Meeting, Dallas, TX, July 15, 2016
- Lecturer, SWOG 1207/NSAPB-53 Phase III Randomized, Placebo-Controlled Clinical Trial Evaluating the Use of Adjuvant-Endocrine Therapy +/- One Year of Everolimus in Patients with High-Risk, Hormone-Receptor-Positive and HER2-Negative Breast Cancer, NRG Oncology Semiannual Meeting, Dallas, TX. July 15, 2016
- Lecturer, Neo-adjuvant and Adjuvant Therapy: Hormone and Chemotherapy, UPMC Experiential Training, Pittsburgh PA, Jan. 19, 2017
- Lecturer, HER2 Highlights, AGH San Antonio Breast Cancer Symposium Review, Pittsburgh, PA, Jan. 20, 2017
- Lecturer, NASBP Update, Clinical Oncology and Hematology Grand Rounds, UPMC Cancer Pavilion, Pittsburgh, PA, March 22, 2017
- Lecturer, LIVE-Staying Up to Date on the Treatment of Advanced HR-Positive, HER-2-Negative Breast Cancer, Rush University Medical Center, Chicago, IL, June 14, 2017

Robert L Redner MD
- Director, UPCI Clinical Oncology and Hematology Grand Rounds, 2006-present
- Lecturer, Acute Leukemia, Team-based Learning, Hematology Course, 2010-present
- Lecturer, Leukemia, Neoplastic Diseases, 2010-present
- Mentor, PTSP, 2011-2016
- Course Director, Med 5480 Senior Elective in Heme/Onc, 2009-present
- Course Director, MED 5831 Medical Oncology Research, 2013-present
- Moderator, Heme/Onc Board Review, March-April 2017
- Faculty Advisor, Christine Garcia PGY 4
- Fellow Lecture, Anemia, November 2016
- Fellow Lecture, CML, March 2017
- Fellow Lecture, APL, March 2017
- Clinical Teaching, Monday Clinic, 2016-2017
John C Schmitz PhD
- Continued training of two postdoctoral associates in experimental design and techniques, and scientific organization and writing, 2011-present
- Trained Xirou Vassiliki and Nikos Syrigos, Greek medical students, in general molecular biology skills, July-September 2016
- Trained Jin Chang, a visiting scholar from Taishan Medical University in China, in general molecular biology techniques, April 2017-present

Craig Seaman MD
- Lecturer, Rare bleeding disorders, University of Pittsburgh Hematology Case Conference, June 2017
- Teacher, fellows, residents, and medical students during inpatient hematology consult service and outpatient hematology clinic
- Lecturer, Unfractionated Heparin in Acute Chest Syndrome, University Of Pittsburgh Sickle Cell Disease Meeting, June 2017
- Lecturer, Basics of Hemophilia and von Willebrand disease, Western Pennsylvania Chapter, National Hemophilia Foundation Education Weekend, April 2017

Warren D Shlomchik MD PhD
- Research Mentor, Arpita Gandhi, MD, Heme-Onc Fellow, April 2016-present
- Mentor, Paola Doris Augelo Vignali, medical student, rotation through lab, June 2016-August 2016
- Research Mentor, Christine Garcia, MD, Fellow, Hematology and Oncology, 2017-present
- Lecturer, Biology of Allogeneic Blood and Marrow Transplant, University of Pittsburgh Medical Center Fellows' Lecture, March 3, 2017
- Lecturer, Harnessing the Power of the Immune System to Kill Leukemia, MS-4 ILS Changing Science, Changing Society: A Guide to 21st Century Medicine, March 20 and April 17, 2017

Roy E Smith MD
- Teacher, medical students, house officers, and fellows while on service 9 months/year and weekly in the outpatient clinic, 2016-2017
- Director, Hematology Course, second-year medical students, University of Pittsburgh, Pittsburgh, PA, 2016-2017
- Presenter, Hypercoagulable States and Anticoagulation, Comprehensive Review of Cardiology, CME Multimedia course, University of Pittsburgh School of Medicine, 2016
- Teacher, Ryan Massa, first-year Hem/Onc Fellow, rotating on Benign Hematology Fellow Outpatient Elective, Jan. 4, 11, 18, and 25, 2017
- Teacher, Apurva Pandey, first-year Hem/Onc Fellow, rotating on Coagulation Fellow Outpatient Elective, Feb. 28, March 7 and 14, 2017
- Teachers, Roby Thomas, second-year Hem/Onc Fellow, rotating on Benign Hematology Fellow Outpatient Elective, March 8 and 15, 2017
- Teacher, Neoplasia Course, fourth-year medical student, Clinical Assignment, Bryan Wu, March 14, 2017
- Teacher, Neoplasia Course, fourth-year medical student, Clinical Assignment, Daniel Brynien, March 21, 2017
- Teacher, Neoplasia Course, fourth-year medical student, Clinical Assignment, Chelsea Milito, March 22, 2017
• Presenter, six presentations, including Pulmonary Embolism: What Is Known, and What We Need to Know; Suction Thrombectomy from A to Z; and We ‘Flip-Flopped’ on This Case, PERT 3rd Annual Symposium, Boston, MA, June 24, 2017

Richard Steinman MD PhD
• Director, Medical Scientist Training Program, 2012-present
• Director, Physician Scientist Training Program, 2008-present
• Course Director and Teacher, PSTP 5010 Professional Development 2 Course, Research Methods and Analysis, 2009-present
• Course Director and Teacher, MSELCT 5100 Professional Development 1 Course, 2010-present
• Course Director and Teacher, MSTP 5983 Ethics, 2008-present
• Course Director and Teacher, MSTP 5290 Research Basis of Medical Knowledge, 1998-present

Quanhong Sun PhD
• Tutor, UPCI International Summer Academy high school students, 2016-present

Weijing Sun MD
• Organizer, Annual GI Cancer Symposium, UPMC/UPCI, 2013-present
• Grand Rounds Speaker, Multidisciplinary Management of Biliary Cancer, Division of Hematology-Oncology, 2012-present
• Course Director, Current Trends in Pancreatic & Hepatobiliary Malignancies, GI Cancer Symposium, University of Pittsburgh, April 8, 2017
• Participant, weekly Hematology-Oncology Tumor Board, 2012-present
• Teacher, Hematology-Oncology Fellows, outpatient and consult service rotations, 2012-present
• Lecturer, Neoplasia and Neoplastic Diseases Course (MED5715), 2014-present

Ahmad Tarhini MD PhD
• Course Director, Medical Oncology Research (MED5831), 2010-present
• Course Director, Neoplasia & Neoplastic Disease Course (MED 5715), 2011-present
• Course Director/Leader, Oncology Course, University of Pittsburgh/Nazarbayev University School of Medicine, 2016-present
• Lecturer, Neoplasia & Neoplastic Disease Course (MED 5715), 2006-present
• Research Mentor, individual pre- and post-doctoral students, 2006-present
• Research Mentor, Hem-Onc Fellows, 2006-present
• Research Mentor, Graduate Students, 2006-present
• Research Mentor/Advisor (PGY1,2,3)
• Teacher, inpatient rounds (PGY 1,2,3,4,5,6) Hem/Onc inpatient service lectures, 2006-present
• Lecturer, Hematology-Oncology Fellows, Fellows Lecture Series, 2006-present
• Lecturer, Surgical Oncology Fellows, Fellows Lecture Series, 2006-present
• Training, Mentoring and Monitoring High Dose Interleukin-2 Inpatient Therapy (PGY 4,5,6), 2006-present
Darcy Thull MS
- Teacher, medical students, UPSOM-1: Molecular and Human Genetics, University of Pittsburgh School of Medicine, Nov. 1, 2016
- Teacher, Residents and Clinical Fellows, Magee-Womens OB/GYN Residents and Gynecologic Oncology Fellows, Didactic Lecture, Genomics, Research and Informatics in Pathology (GRIP) course for second-year pathology residents, Genetic Counseling and Testing for Hereditary Cancer Predisposition, Nov. 17, 2016
- Mentor, Cancer Genetic Counseling Clinic, Genetic Counseling students, Medical Genetics fellows, Molecular Diagnostics fellows, 2016-2017
- Mentor, genetic counseling graduate student, 2016-2017
- Lecturer, HUGEN 2036, Genetic Counseling, Oct. 6, 2016
- Lecturer, HUGEN 2038: Introduction to Genetic Counseling, Risk Assessment, Jan. 5 and 12, 2017

Gijsberta van Londen MD MS
- Preceptor, House staff, Cancer Survivorship Clinic, UPMC Cancer Centers, Pittsburgh, PA, 2012-present
- Preceptor, House staff, inpatient and consultative hematology/oncology service, Pittsburgh, PA, 2011-present
- Guest Lecturer, MED5717 Neoplasia Course, Cancer Survivorship, 2012-present
- Journal Club Lecturer, MED5717 Neoplasia Course, Chemotherapy, Long-term Effects in Breast Cancer, 2012-present
- Lecturer, Hematology-Oncology fellows, Pittsburgh, PA, 2012-present
- Lecturer, Late Consequences of Cancer Therapy, Internal Medicine house staff noon lectures at VA and MUH, Pittsburgh, PA, 2013-present
- Lecturer, Essential Elements of Cancer Survivorship Care, part of Osher educational event that I co-organized with a cancer certified personal trainer, Pittsburgh, PA, 2016
- Lecturer, Management of Menopausal Symptoms in Breast Cancer Survivors, 2016
- Lecturer, annual Breast Cancer Symposium for PCPs, Pittsburgh, PA, 2017
- Lecturer, Essential Elements of Cancer Survivorship Care, annual meeting, local chapter of the Leukemia and Lymphoma Society, Cranberry, PA, 2017
- Lecturer, Essential Elements of Cancer Survivorship Care, Eisai educational event, 2017
- Presenter, Care Coordination Post Treatment and the Impact of Cancer Treatment on Other Chronic Conditions, ASCO 2017 pre-annual meeting case-based course, Improving the Care of Older Adults with Cancer in Your Clinical Practice, Chicago, Il, June 2017
- Lecturer, Essential Elements of Cancer Survivorship Care, OurClubHouse reunion, Pittsburgh, PA, June 2017
- Lecturer, Essential Elements of Cancer Survivorship Care, patient educational sessions, local chapters Leukemia and Lymphoma Society, Pittsburgh and Uniontown, PA, June 2017

Liza Villaruz MD
- Moderator, Fellow’s Journal Club, Lung Cancer Block, 2012-present
- Lecturer, MED 5715 Neoplasia Course, Risk Factor/Basics of Lung Cancer, MS4 students, 2011-present
- Lecturer, MED 5715 Neoplasia Course, Medical Management of Early/Late Stage Lung Cancer, MS4 students, 2016
- Lecturer, Fellow lecture series, 2012-present
• Medical Oncology Moderator, Thoracic Oncology Tumor Board, 2015-present
• Preceptor, fellows attending lung cancer clinic, Hillman Cancer Center, 2011-present
• Preceptor, fellows attending inpatient Hem/Onc service, 2011-present
• Preceptor, fellows attending oncology consult service, 2011-present
• Preceptor, Residents in Clinic, Hematology/Oncology Outpatient Rotation and Hematology/Oncology Exposure Rotation, July 2016-June 2017
• Preceptor, Combined Ambulatory Medicine and Pediatrics Course (CAMPC), Clinical Assignment, third-year medical students in clinic, July 2016 to June 2017
• Mentor, Ashwin Somasundaram, Hem/Onc Fellow, Continuity Clinic, Tuesday Clinic Only, January-June 2017
• Mentor, Apurva Pandey, Hem Onc Fellow, Lung Outpatient Elective, Tuesday and Thursday clinics, January 2017
• Teacher, Neoplasia Course, Clinical Assignments, fourth-year medical students, (Mark Doyal, James Sincebaugh, William Doerfler, Justin Tay, Rebecca Wu), March 2017

Lazar Vujanovic PhD
• Immunologic Monitoring and Cellular Products Laboratory (IMCPL), Continuing Education Session, University of Pittsburgh, Pittsburgh, PA, August 2016
• Mentor, graduate students, Christopher A. Chuckran (rotation), January-March 2017

Donald V Woytowitz Jr MD
• Preceptor, 25 residents in clinic, Hematology/Oncology Outpatient Rotation and Hematology/Oncology Exposure Rotation, July 2016-June 2017
• Teacher, medical students, house officers, and fellows while on service in outpatient clinic, July 2016-June 2017
• Preceptor, 3rd year medical students in clinic, Combined Ambulatory Medicine and Pediatrics Course (CAMPC), Clinical Assignment, July 2016-June 2017
• Preceptor, Ashwin Somasundaram, second-year Fellow, rotating on Benign Hematology Fellow Outpatient Elective, July 2016
• Preceptor, Christine Garcia, first-year Hem/Onc Fellow, rotating on Coagulation Fellow Outpatient Elective, July 2016
• Preceptor, Apurva Pandey, first-year Hem/Onc Fellow, rotating on Continuity Clinic schedule, October-December 2016, January-June 2017,
• Preceptor, Richard Wu, first-year Hem/Onc Fellow, rotating on Benign Hematology Fellow Outpatient Elective, August 2016
• Preceptor, Ananth Arjunan, second-year Hem/Onc Fellow, rotating on Benign Hematology Fellow Outpatient Elective, August-September 2016
• Preceptor, Katerina Ancevski, second-year Hem/Onc Fellow, rotating on Benign Hematology Fellow Outpatient Elective, September-October 2016
• Preceptor, Tala Achkar, first-year Hem/Onc Fellow, rotating on Coagulation Fellow Outpatient Elective, October 2016
• Preceptor, Ryan Massa, first-year Hem/Onc Fellow, rotating on Coagulation Fellow Outpatient Elective, Benign Hematology Fellow Outpatient Elective, November 2016, January 2017
• Preceptor, Arpita Gandhi, second-year Fellow, rotating on Benign Hematology Fellow Outpatient Elective, November 2016
• Preceptor, Kathan Mehta, first-year Fellow, rotating on Benign Hematology Fellow Outpatient Elective, December 2016
• Lecturer, Neoplasia Course, University of Pittsburgh, March 2017
• Clinical Assignment, Neoplasia Course, Alessandra Cardi, fourth-year medical student, March 2017
• Clinical Assignment, Neoplasia Course, Justin Tay, fourth-year medical student, March 2017
• Presenter, Oakstone Board Review, Porphyria, PNH, PV, and ET, and Thrombocytosis and polycythemia (including PV and ET), Nov. 3, 2016

Hassane Zarour
• Lecturer, Hematology/Oncology fellows and medical staff, Shadyside Hospital, 2004-present
• Lecturer, Cancer Vaccines and Immunotherapy of Cancer, Neoplasia Course (MS-4), 2008-present
• Mentor, Zoe Futules, Undergraduate Student, Biological Sciences, 2014-2016
• Mentor, Carmine Menna, Undergraduate Student, Biological Sciences, 2016-present
• Mentor, Yingming Zhu, Visiting Graduate Student (China), 2016-present

Hematology-Oncology Fellowship Program

Dr. Edward Chu served as Program Director for the Hematology-Oncology Fellowship program during the last academic year in 2016. Effective July 1, 2017, Dr. Annie Im assumed the role of Program Director. Dr. Vida Passero continues in her role as Associate Program Director, with responsibilities that include oversight of the VA and assisting with clinical operations. Dr. Melissa Burgess continues in her role as Associate Program Director, with responsibilities that include management of quality improvement and oversight of clinical operations. Dr. James Herman continues in his role as Associate Program Director with a focus on research and academic development. Dr. Rahul Parikh has served as the Internal Medicine Subspecialty Education Coordinator and as the liaison between the Fellowship Program, the Division, and the Department of Medicine.

Our fellowship program has continued to make significant changes and improvements over the past year, which affirms our ongoing commitment to the success of this program and its trainees.

The major changes and other updates for our program for the academic year 2016-2017 follow.

• Didactics and conferences
  • Dr. Rahul Parikh implemented a new format for Fellows Journal Club, and feedback from the fellows has been very positive. Changes included: pairing a junior fellow with a senior fellow for each session; monthly journal club as opposed to weekly, to enable more preparation for each session; Dr. Parikh attends each session to help lead discussions, with a focus on study design and critical appraisal.
  • A Malignant Hematology Tumor Board Conference was started, providing the fellows with more educational opportunities in malignant heme.
  • A new structure for the every two-month Morbidity and Mortality (M&M) Conference was implemented. The conference is led by Dr. Melissa Burgess, one of the APDs; this year, one of the first-year fellows, Dr. Christine Garcia, who has published on implementation of M&M curriculum, is assisting in the leadership of these conferences.
  • The Benign Heme Case Conference structure was revised. This meeting now includes 30 minutes of a case discussion and 30 minutes of a didactic on a benign heme topic, led by the faculty. This change in the meeting structure was based on the need to cover more topics in benign hematology, especially for board preparation, but limited time allotted in the regular Fellows didactic schedule.
• The Fellows Didactic Conferences were better coordinated this past year in terms of topics. Conferences now include 1 hour of didactic, 1 hour of case discussion led by a fellow and a faculty, followed by optional Fellow-led board review session (30 minutes). Over this past year, special attention was given to scheduling the didactic, case and board review questions to focus on the same topic, which helped to solidify learning and application of concepts discussed in the didactic both clinically and for board preparation.

• New faculty and Personnel
  • Dr. Rahul Parikh was appointed as Subspecialty Education Coordinator in July 2016, in addition to his role in leading Fellows Journal Club
  • Dr. Annie Im returned to her role as APD in January 2017, and will assume the role of Program Director as of July 2017, taking over from Dr. Edward Chu.

• Other
  • The fellows workroom/microscope room on the Oakland campus (Montefiore) was renovated and updated to allow for more efficient work and to create a more useable space.
  • The fellows participated in the development of a Hematology/Oncology Board Review course, which involves UPMC faculty and fellows. They developed questions and evidence-based explanations for several Benign Heme topics, in conjunction with the faculty. Once finalized, this course will also be available to the fellows for their own board preparation.
  • MedHub is now used for bone marrow biopsy and other procedure logs. Previously paper logs had been used.
  • A “suggestion box” was implemented in the Fellows workroom to allow for anonymous feedback or suggestions about the program. These are reviewed by the Fellowship Coordinator and brought to the program leadership.
  • Our Chief Fellow, Dr. Rahim Remtulla, initiated an official weekly time for program announcements and updates, to maintain adequate communication and transparency between program leadership and the fellows.
  • The fatigue policy and Attending supervision policy were updated and reviewed with the fellows.

• Faculty development
  • The fatigue policy and Attending supervision policy were reviewed and discussed at two Faculty meetings.
## Fellowship Program

<table>
<thead>
<tr>
<th>Current Fellow</th>
<th>Medical School</th>
<th>Residency</th>
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<tbody>
<tr>
<td>Achkar</td>
<td>American University of Beirut Faculty of Medicine Lebanon</td>
<td>UPMC</td>
</tr>
<tr>
<td>Ancevski</td>
<td>University of Virginia School of medicine</td>
<td>University of Wisconsin Hospital and Clinics</td>
</tr>
<tr>
<td>Arjunan</td>
<td>Texas A&amp;M Health Science Center College of Medicine</td>
<td>Washington University/Barnes-Jewish Hospital</td>
</tr>
<tr>
<td>Bhattacharya</td>
<td>Touro University College of Osteopathic Medicine</td>
<td>UPMC</td>
</tr>
<tr>
<td>Garcia</td>
<td>St. George's University School of Medicine Grenada</td>
<td>Stony Brook University</td>
</tr>
<tr>
<td>Gandhi</td>
<td>Rutgers New Jersey Medical School</td>
<td>Rutgers University-New Jersey Medical School</td>
</tr>
<tr>
<td>Massa</td>
<td>University Of Maryland School of Medicine</td>
<td>UPMC</td>
</tr>
<tr>
<td>Mehta</td>
<td>B. J. Medical College, Ahmedabad India</td>
<td>UPMC</td>
</tr>
<tr>
<td>Minella</td>
<td>George Washington University School of Medicine and Health Sciences UPMC</td>
<td></td>
</tr>
<tr>
<td>Najjar</td>
<td>American University of Beirut Faculty of Medicine</td>
<td>The Cleveland Clinic</td>
</tr>
<tr>
<td>Namburi</td>
<td>Rutgers, Robert Wood Johnson Medical School</td>
<td>George Washington University</td>
</tr>
<tr>
<td>Pandey</td>
<td>American University of Antigua College of Medicine</td>
<td>UPMC Mercy</td>
</tr>
<tr>
<td>Patel</td>
<td>Chicago Medical School at Rosalind Franklin University of Medicine and Science</td>
<td>UPMC</td>
</tr>
<tr>
<td>Patel</td>
<td>Texas A&amp;M Health Science Center College of Medicine</td>
<td>Mayo School of GME</td>
</tr>
<tr>
<td>Remtulla</td>
<td>Drexel University College of Medicine</td>
<td>National Naval Medical Center</td>
</tr>
<tr>
<td>Retseck</td>
<td>Ohio State University College of Medicine</td>
<td>University of Wisconsin</td>
</tr>
<tr>
<td>Sahu</td>
<td>Northwestern University The Feinberg School of Medicine</td>
<td>University of Maryland Medical Center</td>
</tr>
</tbody>
</table>
Current Fellow  Medical School  Residency
Somasundaram Ashwin University of Texas Southwestern Medical Center at Dallas Southwestern Medical School
Thomas Roby American University of the Caribbean School of Medicine West Virginia University
Wu Richard University of Texas Medical School at Houston University of Texas Southwestern Medical Center

Departing Fellow  Current Position
Bhattacharya Saveri Thomas Jefferson University, Philadelphia, PA
Minella Gloria Private Practice Cleveland, OH (to complete program 09/18/2017)
Najjar Yana UPMC Academic Faculty Member
Patel Krishna Private Practice Round Rock, TX
Remtulla Rahim UPMC Oncology Hematology Associates
Retseck Janet Private practice Valparaiso, IN
Sahu Shelley NIH Transfusion Medicine Fellowship

Fellow Publications


Garcia CA, Ormond E, Chu E, Burgess M. Feasibility of a Geriatric Chemotherapy Toxicity Prediction Tool in Adults with Advanced Cancer: A Pilot Study at the University of Pittsburgh Medical Center (UPMC). American Society of Clinical Oncology Annual Meeting Publications. Chicago, IL, June 2017.


Ma C, Patel K, Shaikh F, Ren B, Sun W. Frequent Programmed Death-Ligand 1 Expression in Gastric Cancer Associated with Epstein-Barr Virus or Microsatellite Instability: Implications for Predictive Biomarker Development. J Clin Oncol 2016.15.34 (suppl; abstr e15579).

Remtulla R, Boyiadzis M, Soni A. An Institutional Based Cost Effective Description and Analysis of Acute Myeloid Leukemia in the United States. Manuscript in progress.


**Published abstracts**


**Fellow Presentations**


**Abstracts & Posters**

Garcia CA, Goolsarran N. Life After Death: Resuscitating Your Morbidity and Mortality Conference, University of Pittsburgh Medical Center Graduate Medical Education Day, Pittsburgh, PA, February 2017


Awards

Bhattacharya, Saveri. Selected for Second Annual Young Investigator’s Forum in Lung Cancer, March 2017

Garcia, Christine. UPMC Fellowship Teaching Award

Mehta, Kathan. Outstanding poster award, 30 Day Readmissions in Cancer Patients in United States, Department of Medicine, University of Pittsburgh, June 2016

Najjar, Yana. Trial Funding, $800,000, Industry funding of an investigator initiated phase I trial of metformin plus pembrolizumab versus pembrolizumab alone in advanced melanoma, 2016

Najjar, Yana. T32 Research Training Grant, Investigational Cancer Therapeutics Training Program, to begin July 2016, PI: Edward Chu MD, PhD


Patel, Krishna. Ron Yount Compassionate Care Award 2016.
CLINICAL CARE

The Division of Hematology-Oncology comprises 34 clinical faculty and 18 research faculty, who are dedicated to excellence in patient care, teaching the next generation of physician-scientists, and conducting innovative cancer-focused basic, clinical, translational, and population research. In addition, there are 70 members of the voluntary faculty, the majority of whom are employed by UPMC Hillman Cancer Center and practice in a UPMC Hillman Cancer Center site in western Pennsylvania and/or eastern Ohio.

Inpatient Service

In FY17, the Division faculty continued to focus on clinical care, which includes the inpatient service as well as the outpatient clinic at the Hillman Cancer Center. As projected, due to the increase in the number of weeks on the inpatient service at UPMC Shadyside, the Division realized an increase in inpatient WRVUs of 27% from FY16. Overall outpatient WRVUs decreased by 5%. Total WRVUs billed for FY17 were 82,333 (excluding psycho-oncology faculty and staff). In 2017, the Division saw an overall increase in total WRVUs by 3%.

The three inpatient oncology/solid tumor attending services at UPMC Shadyside are shared with our clinical colleagues from the UPMC Hillman Cancer Center. Two of these inpatient services are staffed by Advanced Practice Providers (APPs) and Nocturnists, while the third service is the housestaff teaching service supported by Fellows, Internal Medicine, Residents, and Nocturnists. A total of 4,770 patient admissions were seen by these three inpatient services. The overall number of admission represents a 1% increase over FY16. This number does not include oncology admissions to Magee-Womens Hospital of UPMC, where patients with breast cancer are admitted to a dedicated inpatient hospitalist service. These patients are seen by the inpatient oncology consult service, which is staffed by members of our Division.

There is also an inpatient service that was established in FY15 to specifically care for patients with sickle cell anemia. This service continues to expand and is provided at UPMC Presbyterian, Magee-Womens Hospital of UPMC, and UPMC Shadyside. Drs. Enrico Novelli, Laura De Castro, and Gregory Kato are the key faculty members who staff this service, which is also supported by APPs and Hematology/Oncology Fellows.

In addition to the attending services, there are 10 solid tumor oncology and hematology consult services:

- Bone Marrow and Stem Cell transplant at UPMC Shadyside
- Hematologic Malignancy consults at UPMC Shadyside
- Hematologic Malignancy consults at UPMC Presbyterian and Magee-Womens Hospital of UPMC
- Benign Hematology consults at UPMC Presbyterian and Magee-Womens Hospital of UPMC
- Benign Hematology consults at UPMC Shadyside
- Sickle Cell consults at Presbyterian and Magee-Womens Hospital of UPMC
- Solid Tumor Oncology consults at UPMC Shadyside
- Solid Tumor Oncology consults at UPMC Presbyterian and Magee-Womens Hospital of UPMC
- Neuro-Oncology consults at UPMC Shadyside, PUMC Presbyterian, and Magee-Womens Hospital of UPMC
- Hematology/Oncology consults at the Pittsburgh VA Medical Center
Outpatient Service

Division faculty continue to have robust outpatient clinical practices at the Hillman Cancer Center and Magee-Womens Hospital of UPMC. Both are hospital-based clinics and, as of June 1, 2013, both outpatient services are under the umbrella of Magee-Womens Hospital of UPMC.

Since October 2013, faculty based at the Hillman Cancer Center have used Aria, an electronic medical record (EMR). This system was designed specifically for use by oncologists and allows for the ordering and dispensing of chemotherapeutic agents. At Magee-Womens Hospital, our breast cancer medical oncologists use Epic, which is the EMR used by the rest of the UPMC clinical programs.

Benign Hematology

The Division has a benign hematology section with over 10 physician-scientists and research investigators, and this group is now considered to be one of the largest benign hematology programs in the United States. As a result of recent growth, grant funding and participation in clinical trials has increased, and a continued positive trajectory over the next few years is expected. In order to effectively manage the increase in hematology research activity, a consolidated effort between our colleagues at UPCI and our hematologists established a research infrastructure that provides research staff, and clinical and budgetary support for grants and clinical trials.

The benign hematology section has a close collaboration with the Institute for Transfusion Medicine, an organization that recently joined Blood Systems, Inc., and together, there are continued efforts focused on project planning and implementation of the Benign Hematology Center of Excellence under a federal HRSA grant. This Center will provide needed comprehensive outpatient clinical services for the entire spectrum of benign hematologic disorders and conduct state-of-the-art clinical and translational research in this population with emphasis on Hemophilia and Sickle Cell disease. In parallel to the planning and development phases of the project, patient-specific treatment plans, protocols, and guidelines of care have been established and delivered to patients within an outpatient, Day Hospital care model, currently housed in the UPMC Hillman Cancer Center. These clinical improvement and quality assurance interventions have been paired with direct patient compliance efforts, specifically in the area of sickle cell disease, hydroxyurea therapy, and chronic blood transfusion. As a main focus of the benign hematology clinical program, protocols have been developed and personnel have been hired to support these efforts.

The Benign Hematology Section has solidified its role in the trainee’s and fellow’s education by developing an extensive core-lecture curriculum mainly presented during the weekly benign hematology meeting. These conferences include didactic and clinical cases discussions. Enrichment of the four-week long rotation of residents and fellows in the outpatient hematology clinic and coagulation service, along with active participation of the benign hematology faculty in all aspects of medical student, resident, and fellow training will ensure enhancement of the pool of “bench-to-bedside clinical researchers” as well as the “system-based clinical hematologists”.

Psycho-Oncology Program

The Section of Psycho-Oncology has seen significant changes over the past year with the departure of Dr. Kevin Patterson as the section leader. During this transition period, Dr. Jack Cahalane was appointed Program Director and Dr. Kaleena Chilcote was appointed Medical Director. Additional changes included a physical move from the Hillman Cancer Center to the Shadyside Medical Building, Suite 604. This program has historically been referred to by multiple names and, following review with the marketing department, has been renamed The Center for Counseling and Cancer Support. The section currently includes three psychiatrists, five clinical psychologists, and a nurse practitioner. We
anticipate the hiring of a new psychiatric nurse in the near future, and a psychiatrist, who is focused on oncology care and presently at Magee-Womens Hospital, will be joining the team this fall.

There has been a significant expansion in the medical education opportunities with integration into the Psychosomatic Medicine Fellowship curriculum, including weekly clinical care and didactics, development of a popular formal residency elective in psycho-oncology through the Department of Psychiatry, engagement as an outpatient site during the psychiatry clerkship for University of Pittsburgh medical students, pending approval of an advanced medical student elective in psycho-oncology, and clinical experiences for fellows in palliative care and breast oncology surgery.

The group continues to provide a wide range of clinical services to cancer patients and their families including management of mood disorders, anxiety, sleep and appetite disturbances, substance use disorders, cognitive impairments, and other neuropsychiatric manifestations of cancer and its treatment. Outpatient services are available on multiple UPMC campuses, including Shadyside, Magee-Womens Hospital, Passavant, and McKeesport with plans to expand services through the use of telemedicine. We continue to provide inpatient consultations to the UPMC Presbyterian and Shadyside campuses through the nurse practitioner role, a shared position with Palliative Care. Additional collaboration between the two departments exists through weekly inpatient interdisciplinary rounds as well as a newly developed biweekly outpatient meeting to discuss shared cases. The department has also focused on increased collaboration with hematology through liaison work to care for the sickle cell patient population, including participation in monthly interdisciplinary meetings to review cases of high healthcare utilization.

The Center for Counseling and Cancer Support continues its close partnership with the UPCI Biobehavioral Oncology Research Program, under the direction of Dana Bovbjerg PhD, to identify opportunities for clinical and translational research and to develop innovative care approaches. Providers remain active in the local, national, and international communities through collaborations in research, invitations to speak, and involvement in symposiums, panel discussions, and poster presentations at local and national conferences, including the upcoming meetings for the Academy of Psychosomatic Medicine and the American Psychosocial Oncology Society.
**Clinic Locations**

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
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</thead>
<tbody>
<tr>
<td>Center for Counseling and Cancer Support at Magee Womens Hospital of UPMC</td>
<td>Magee Womens Hospital of UPMC 300 Halket Street Ground Floor, Suite 704, Pittsburgh, PA 15213</td>
</tr>
<tr>
<td>Women’s Cancer Center at Magee-Womens Hospital of UPMC</td>
<td>Magee Womens Hospital of UPMC 300 Halket Street, Suite 4628 Pittsburgh, PA 15213</td>
</tr>
<tr>
<td>Breast Cancer Specialty Care Clinic</td>
<td>Magee Womens Hospital of UPMC 300 Halket St., Suite 2601, Pittsburgh, PA 15213</td>
</tr>
<tr>
<td>Center for Counseling and Cancer Support at Hillman Cancer Center</td>
<td>Hillman Cancer Center 5115 Centre Ave., Suite 604 Pittsburgh, PA 15232</td>
</tr>
<tr>
<td>Hematology/Oncology at Hillman Cancer Center</td>
<td>Hillman Cancer Center 5115 Centre Avenue Pittsburgh, PA 15232</td>
</tr>
<tr>
<td>Center for Counseling and Cancer Support at UPMC Passavant</td>
<td>UPMC Passavant 9100 Babcock Boulevard Ground Floor Pittsburgh, PA 15237</td>
</tr>
<tr>
<td>Center for Counseling and Cancer Support at UPMC McKeesport</td>
<td>UPMC Cancer Center at UPMC McKeesport 1500 Fifth Avenue Mansfield Building, D Level McKeesport, PA 15132</td>
</tr>
</tbody>
</table>
CLINICAL QUALITY IMPROVEMENT INITIATIVES

Over the past year, significant efforts have been placed on quality improvement activities relating to patient care. The admission process for cancer patients from the ED, clinic, home, etc. was dramatically revamped due to curriculum changes in the fellowship program, which led to increased time to admission and frustration. Education of various hospital staff, and primarily the ED, was implemented, including a 3-pager system. These efforts resulted in a significant improvement in the flow of patient admissions from the ED as well as a decreased time to admission for our patients.

Another area that needed improvement was related to the effective transfer of cancer patients from the ICU to the regular nursing floor. A new paging process was instituted that added "warning" pages to the admitting teams and direct phone calls were utilized between the ICU and oncology teams. These two initiatives have resulted in a significant improvement in the number of "missed" patients.

Standardization of inpatient CPR status discussions and documentation within the Division of Hematology-Oncology and UPMC-Shadyside

Medical professionals are trained to provide life-sustaining and cardiac resuscitation measures for admitted hospital patients. However, not all patients desire such aggressive measures. Lack of discussion and/or documentation about resuscitation preferences has led to care incongruous with patients' wishes as previously documented or reported to providers or family members. In 2016, an average of 45% of patients on hematology and oncology admitted at UPMC Shadyside had a code status discussion documented prior to discharge. The aim of this quality improvement project was to improve the quality and number of CPR-status conversations with our cancer patients admitted to the inpatient service.

In January 2017, a workgroup was formed among key stakeholders, representing oncology physicians and fellows, palliative care faculty, oncology nursing, advance practice providers (APPs), and internal medicine house staff. A quality improvement (QI) proposal was developed and approved by the UPMC Quality Improvement Committee in February 2017. All oncology faculty, fellows, housestaff, and APPs were reminded weekly to complete CPR status conversations and documentation. APPs were formally trained by palliative care specialists to discuss and document CPR/code status with all admitted patients. Hospital leadership received a monthly update of CPR status documentation rates.

Since implementing this project in January 2017, there has been a marked improvement in the CPR status orders to >80%. In July 2017, 82% of our discharge patients at UPMC Shadyside had a documented CPR status assessment at discharge. Formal system-wide expectations are being developed by the CPR assessment workgroup that all admitted patients should have CPR/Code status discussion and documentation upon admission.
Overall, we found that standardization of CPR-status assessment, combined with formal training of clinicians and APPs, has resulted in a significant increase in the number of CPR-status assessments in the inpatient setting, which has been sustained >80%.
### FACULTY

#### Faculty in Core Divisions
Fiscal Year 2015-2017

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2003 (Base Year)</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
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<tbody>
<tr>
<td>Hematology/Oncology</td>
<td>44</td>
<td>58</td>
<td>61</td>
<td>58</td>
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</table>

*Note: Includes University of Pittsburgh full-time faculty and volunteer faculty who have a UPP appointment and excludes research associates, adjunct faculty and emeritus faculty.*

#### Full-Time Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agha</td>
<td>Visiting Research Associate Professor of Medicine</td>
</tr>
<tr>
<td>Alaouei-Al-Azher</td>
<td>Research Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Ambrose</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Appleman</td>
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<tr>
<td>Bahary</td>
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<td>Bauman</td>
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<td>Bontempo</td>
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<tr>
<td>Boyiadzis</td>
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<tr>
<td>Brufsky</td>
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<tr>
<td>Burgess</td>
<td>Assistant Professor of Medicine</td>
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<tr>
<td>Burns</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Butterfield</td>
<td>Professor of Medicine</td>
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<tr>
<td>Chu</td>
<td>Professor of Medicine</td>
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<tr>
<td>Davar</td>
<td>Assistant Professor of Medicine</td>
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<tr>
<td>DeCastro</td>
<td>Visiting Associate Professor of Medicine</td>
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<tr>
<td>Donnenberg</td>
<td>Professor of Medicine</td>
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<tr>
<td>Dorrilie</td>
<td>Assistant Professor of Medicine</td>
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<tr>
<td>Farah</td>
<td>Research Instructor in Medicine</td>
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<tr>
<td>Ferguson</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Fourcade</td>
<td>Research Assistant Professor of Medicine</td>
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<tr>
<td>Francis</td>
<td>Research Instructor in Medicine</td>
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<tr>
<td>Galson</td>
<td>Associate Professor of Medicine</td>
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<tr>
<td>Herman</td>
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<tr>
<td>Im</td>
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<td>Jankowitz</td>
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</tr>
<tr>
<td>Kiss</td>
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<tr>
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<tr>
<td>Zarour Hassane MD</td>
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**Affiliated Faculty with UPP Appointments**

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<td>Gorantla Vikram C. MD</td>
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<td>Woytowitz Donald V. MD</td>
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**Affiliated Faculty without UPP Appointments**

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<td>Ahmad Afaq MD</td>
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<td>Awan Rashid A. MD</td>
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<td>Bardelli Alberto PhD</td>
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<td>Bloom Elana J. MD</td>
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<td>Brufsky Jill Andrea PharmD</td>
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<td>Connell Cindylou F. MD</td>
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**Research Associates**

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<td>Adamick</td>
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<td>Amin Ali</td>
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<td>Chatterjee</td>
<td>Suman</td>
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<td>Joe-Marc</td>
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<td>Goff</td>
<td>Julie</td>
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<td>Li</td>
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<tr>
<td>Sun</td>
<td>Zhaojun</td>
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<tr>
<td>Wei</td>
<td>Ning</td>
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<tr>
<td>Zhang</td>
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## POST DOCS

### Current Post Docs in FY 2016-2017

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<th>Current Title</th>
<th>Summary of activities</th>
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<tr>
<td>Adamik</td>
<td>Juraj</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Adamik focuses primarily on the GFI-1 and osteoblast suppression in Multiple Myeloma, and he has expanded into studies on EZH2 in osteoclasts and MM cells.</td>
</tr>
<tr>
<td>Chatterjee</td>
<td>Suman</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Chatterjee is targeting KRAS-mutant NSCLC through inhibition of mTOR and Hsp90 pathways.</td>
</tr>
<tr>
<td>Chauvin</td>
<td>Joe-Marc</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Chauvin is studying the role of the TIGIT inhibitory pathway in modulating Treg functions in patients with advanced melanoma.</td>
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<tr>
<td>Gbotosho</td>
<td>Oluwabukola</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Gbotosho investigates the molecular pathways of heme entry and response to heme-induced expression of PIGF in bone marrow cells—and how PIGF mediate vascular pathophysiology of pulmonary hypertension in sickle cell mouse. She is also investigating the Nrf2 oxidant stress response pathway in sensing excess intracellular heme-bound iron in cultured erythroid cells. Project Title: Heme-Induced Placental Growth Factor (PIGF) Expression in Erythroid Progenitor Cells and its Contribution to Vascular Pathophysiology of Pulmonary Hypertension</td>
</tr>
<tr>
<td>Ka</td>
<td>Mignane</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Ka studies the role of inhibitory pathways in modulating innate immune responses to tumor antigens in patients with advanced cancer.</td>
</tr>
<tr>
<td>Liu</td>
<td>Haizhou</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Liu evaluates traditional Chinese herbal medicines as anticancer agents and has identified a water extract of a single herb that suppresses tumor growth. These results have been submitted for publication and are the basis for RO1 and GI SPORE submissions.</td>
</tr>
<tr>
<td>Mburu</td>
<td>Maureen</td>
<td>MD</td>
<td>T32 Post Doc</td>
<td>Dr. Mburu investigates the role of intravascular hemolysis in sickle cell cardiomyopathy as well as the role of Nrf2 activators in impeding progression of the condition.</td>
</tr>
<tr>
<td>Saada</td>
<td>Sofiane</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. Saada studies the mechanisms of tumor-induced T cell dysfunction in patients with advanced cancer.</td>
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<tr>
<td>Sacirbegovic</td>
<td>Faruk</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Sacirbegovic studies GVHD using a T cell receptor transgenic model, and focuses on the clonal nature of disease establishment and disease maintenance.</td>
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<tr>
<td>Tasdemir</td>
<td>Nilgun</td>
<td>PhD</td>
<td>Postdoctoral Fellow</td>
<td>Dr. Tasdemir is investigating mediators of disease progression in invasive lobular carcinoma.</td>
</tr>
<tr>
<td>Wei</td>
<td>Ning</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Wei researches the mechanism of action of bruceantinol, a natural product quassinoid, in colorectal cancer and has prepared a manuscript with this work.</td>
</tr>
<tr>
<td>Zhou</td>
<td>Meng</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>“Leukemia Stem Cells: Essential Targets for GVL and Mediators of GVL-Resistance” Dr. Zhou studies the mechanisms of graft-vs-leukemia and graft-vs-leukemia resistance in mouse models.</td>
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<tr>
<td>Zhu</td>
<td>Jieqing</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>“Role of Tissue Antigen Presenting Cells in GVHD” Dr. Zhu uses two photon intravital microscopy to study: a) GVHD of bowel and liver; b) mechanisms of T cell killing of leukemia cell in bone marrow; and c) Effector T cell trafficking in the bone marrow.</td>
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## Terminating Post Docs in FY 2016-2017

<table>
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<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree</th>
<th>Current Title</th>
<th>Summary of activities</th>
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<tbody>
<tr>
<td>Amin-Ali</td>
<td>Rada</td>
<td>PhD</td>
<td>Research Associate</td>
<td>Dr. Amin-Ali studies the mechanisms of tumor-induced T cell dysfunction in patients with advanced cancer.</td>
</tr>
<tr>
<td>Attar</td>
<td>Myriam</td>
<td>PhD</td>
<td>Research Associate</td>
<td>Dr. Attar investigates the role of TWIST1 in oncogene driven NSCLC.</td>
</tr>
<tr>
<td>Ihunnah</td>
<td>Chibueze</td>
<td>PhD</td>
<td>T32 Post Doc/ has moved on to position in FDA</td>
<td>Dr. Ihunnah researches the pharmacogenomic role of NRF2 agonists in hematopoietic and endothelial cells in the context of Sickle Cell Disease (SCD). Researchers hope that these compounds show efficacy in the treatment of SCD patients suffering from pulmonary vascular dysfunction.</td>
</tr>
<tr>
<td>Li</td>
<td>Yingjian</td>
<td>MD PhD</td>
<td>Independently employed</td>
<td>Dr. Li uses an exosomal recombinase—a tool to dissect metastasis and the cancer microenvironment. Dr. Li develops tools to enable topographic and temporal control of cell genetics by adjacent cells.</td>
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High-Impact Publications

The Division's high-impact publications during FY17 include the following:


E4697 was a multicenter intergroup randomized placebo-controlled phase III trial of adjuvant GM-CSF and/or a multiepitope melanoma peptide vaccine for patients with completely resected, high-risk stage III/IV melanoma. A total of 815 patients were enrolled from December 1999 to October 2006 into this six-arm study. GM-CSF was chosen to promote the numbers and functions of dendritic cells (DC). The melanoma antigen peptide vaccine (Tyrosinase368-376 (370D), gp100209-217 (210M), MART-127-35) in montanide was designed to promote melanoma-specific CD8+ T-cell responses. Although the overall RFS and OS were not significantly improved with the vaccine or GM-CSF when compared with placebo, significant immunomodulatory effects were observed in peripheral blood and served as important correlates to this therapeutic study. Peripheral blood was examined to evaluate the impact of GM-CSF and/or the peptide vaccine on peripheral blood immunity and to investigate potential predictive or prognostic biomarkers. A total of 11.3% of unvaccinated patients and 27.1% of vaccinated patients developed peptide-specific CD8+ T-cell responses. HLA-A2+ patients who had any peptide-specific CD8+ T-cell response at day +43 tended to have poorer OS in univariate analysis. Patients receiving GM-CSF had significant reduction in percentages of circulating myeloid dendritic cells (mDC) and plasmacytoid DC (pDC) at day +43. In a subset of patients who received GM-CSF, circulating myeloid-derived suppressor cells (MDSC), and anti-GM-CSF-neutralizing antibodies (Nabs) were also modulated. The majority of patients developed anti-GM-CSF Nabs, which correlated with improved RFS and OS. This study is important as the assessment of cellular and humoral responses identified counterintuitive immune system changes correlating with clinical outcome.


Chest CT screening can reduce death from lung cancer. We sought to improve the diagnostic accuracy of lung cancer screening using ultrasensitive methods and a lung cancer-specific gene panel to detect DNA methylation in sputum and plasma. This is a case-control study of subjects with suspicious nodules on CT imaging. Plasma and sputum were obtained preoperatively. Cases (n = 150) had pathologic confirmation of node-negative (stages I and IIA) non-small cell lung cancer. Controls (n = 60) had non-cancer diagnoses. We detected promoter methylation using quantitative methylation-specific real-time PCR and methylation-on-beads for cancer-specific genes (SOX17, TAC1, HOXA7, CDO1, HOXA9, and ZFP42). DNA methylation was detected in plasma and sputum more frequently in people with cancer compared with controls (P < 0.001) for five of six genes. The sensitivity and specificity for lung cancer diagnosis using the best individual genes was 63% to 86% and 75% to 92% in sputum, respectively, and 65% to 76% and 74% to 84% in plasma, respectively. A three-gene combination of the best individual genes has sensitivity and specificity of 98% and 71% using sputum and 93% and 62% using plasma. Area under the receiver operating curve for this panel was 0.89 [95% confidence interval (CI), 0.80-0.98] in sputum and 0.77 (95% CI, 0.68-0.86) in plasma. Independent blinded random forest prediction models combining gene methylation with clinical information correctly predicted lung cancer in 91% of subjects using
sputum detection and 85% of subjects using plasma detection. This study is important as it demonstrated that high diagnostic accuracy for early-stage lung cancer can be obtained using methylated promoter detection in sputum or plasma.


The graft-versus-leukemia (GVL) effect in allogeneic hematopoietic stem cell transplantation (alloSCT) is potent against chronic phase chronic myelogenous leukemia (CP-CML), but blast crisis CML (BC-CML) and acute myeloid leukemias (AML) are GVL resistant. To understand GVL resistance, we studied GVL against mouse models of CP-CML, BC-CML, and AML generated by the transduction of mouse BM with fusion cDNAs derived from human leukemias. Prior work has shown that CD4+ T cell-mediated GVL against CP-CML and BC-CML required intact leukemia MHCII; however, stem cells from both leukemias were MHCII negative. Here, we show that CP-CML, BC-CML, and AML stem cells upregulate MHCII in alloSCT recipients. Using gene-deficient leukemias, we determined that BC-CML and AML MHC upregulation required IFN-γ stimulation, whereas CP-CML MHC upregulation was independent of both the IFN-γ receptor (IFN-γR) and the IFN-α/β receptor IFNAR1. Importantly, IFN-γR-deficient BC-CML and AML were completely resistant to CD4- and CD8-mediated GVL, whereas IFN-γR/IFNAR1 double-deficient CP-CML was fully GVL sensitive. Mouse AML and BC-CML stem cells were MHC-I+ without IFN-γ stimulation, suggesting that IFN-γ sensitizes these leukemias to T cell killing by mechanisms other than MHC upregulation. These studies are important as they identified the critical requirement of IFN-γ stimulation as a mechanism for BC-CML and AML GVL resistance, whereas independence from IFN-γ renders CP-CML more GVL sensitive, even with a lower-level alloimmune response.

**Peer-Reviewed Publications: 2015, 2016, 2017**


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Chao DT, Shah NH, Zeh HJ 3rd, Bahary N, Whitcomb DC, Brand RE. Increased Serum Insulin Exposure Does Not Affect Age or Stage of Pancreatic Adenocarcinoma Diagnosis in Patients With Diabetes Mellitus. Pancreas. 2016 Feb;45(2):228-33.


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Sun Z, **Fourcade J**, Pagliano O, Chauvin JM, Sander C, **Kirkwood JM**, Zarour HM. IL 10 and PD-1 Cooperate to Limit the Activity of Tumor-Specific CD8+ T cells. 2015 Apr 15;75(8):1635-44.


The continuing goals of the Division of Infectious Diseases (ID) are to:

- Provide state-of-the-art care that is easily accessible and responsive to the needs of patients and colleagues
- Mentor fellows in our training program to become the next generation of researchers, clinicians, and educators in the field of infectious diseases
- Rigorously train medical students and residents in the disciplines of infectious diseases
- Develop and perform cutting-edge basic and clinical research that translates progress into clinical practice and improves the standard-of-care for diagnosis, treatment, and prevention of infectious diseases
- Protect the public health from natural and man-made epidemics of infectious diseases

An Overview of the ID Division:

- **Inpatient Clinical Services:** Consult teams round at UPMC Presbyterian University Hospital, Magee-Women’s Hospital of UPMC, UPMC Mercy Hospital, Western Psychiatric Institute and Clinic, and the VA Pittsburgh Health System (VAPHS). There are dedicated rounding teams for General ID, Surgical ID, HIV-AIDS, and Transplant ID (TID). At UPMC Northwest and Bedford, inpatients consults are provided through telemedicine. The telemedicine service also provides curbside, e-consults, and live video consults at Penn Highlands Health System, a non-UPMC facility.

- **Outpatient Clinical Services:** Outpatients are seen in the Center for Care of Infectious Diseases (CCID) on Falk Medical Building’s 7th floor, and at UPMC Mercy Health Center. The CCID offers consultations and longitudinal care for general and surgical infectious diseases, HIV/AIDS, HIV prevention through pre-exposure prophylaxis (PrEP), recurrent *Clostridium difficile* infections, transplant infectious diseases (TID), Anal Dysplasia Clinic (ADC), and Travel Health. An expanding Outpatient Parenteral Antibiotic Therapy (OPAT) program is also a key component of the CCID, serving patients who require intravenous antimicrobial therapy after hospital discharge. Patients with recurrent *Clostridium difficile* infections are evaluated for fecal microbiota transplantation (FMT). The HIV/AIDS program provides primary care to approximately 1,668 HIV-infected persons from the Tri-State area. The TID clinic performs pre-transplant evaluations and follow-up for solid organ or stem cell transplant recipients with infections. The TID program provides telemedicine outpatient consult services to serve patients at UPMC Hamot Medical Center. The ADC provides preventive care for individuals at risk for anal cancer. Clinical services for the ADC were suspended in April 2016 due to the departure of the medical director. A new medical director was hired in mid-November 2016 and ADC services resumed. In December 2016, the Division entered a clinical services agreement with the Pittsburgh AIDS Task Force (PATF) to provide medical directorship and outpatient clinic examinations at their new facility in East Liberty. Sarah McBeth, MD, is the Medical Director at the PATF and provides two outpatient clinic sessions per week for patients with HIV/AIDS along with PrEP consultations.

- **Research Activities:** A vital activity of the ID Division is laboratory, translational, and clinical research. The Division’s major research strengths are in HIV-AIDS, TID, antimicrobial resistance, and nosocomial and community-acquired infections.

- **Training Activities:** Division faculty provides exceptional educational opportunities for graduate and medical students, medical residents, and postdoctoral PhD and MD fellows.
• **Infection Prevention:** Division faculty provides medical directorship of Infection Prevention at UPMC Presbyterian and UPMC Mercy Hospital.

In FY 2017, the Division continued to be successful in achieving its goals through the concerted efforts of its faculty, staff, and trainees. Overall, the Division maintained patient volumes in FY 2017 compared with FY 2016. Research operations showed a 2% increase in total research expenditures for FY 2017 compared with FY 2016—attributable to the new research awards received by our faculty. The Center for Innovative Antimicrobial Therapy (CIAT) named its first Director, Yohei Doi, MD, PhD, and was successful in recruiting an NIH K-08 funded investigator to begin on July 1, 2017. The CIAT was established to develop long-term solutions to the antimicrobial resistance crisis. The Center for AIDS Elimination comprises internationally recognized investigators and physicians involved in basic and translational research, clinical research, and HIV/AIDS care. The Division's HIV/AIDS leadership continues to participate in AIDS Free Pittsburgh, an initiative to end the HIV/AIDS epidemic in Allegheny County by 2020. AIDS Free Pittsburgh comprises government agencies, healthcare institutions, and community-based organizations that strive to support and improve the care of people living with HIV/AIDS and to prevent new infections. This initiative is well underway.
RESEARCH

Basic, translational, and clinical research is a major priority for the Division. In FY 2017, the Division’s research expenditures increased 2% from FY 2016 levels.

Its direct and indirect cost expenditures totaled just over $12 million, and ID continues to rank third in the Department of Medicine in terms of research expenditures.

The Division’s research portfolio includes awards from the National Institutes of Health (NIH), Centers for Disease Control and Prevention (CDC), Health Resources and Services Administration (HRSA), United States Agency for International Development (USAID), foundations, and industry sponsors. The Division also conducts numerous UPMC clinical trials, which, in FY 2017, resulted in $372,898 in gross revenues. Strong research themes within the Division include HIV-AIDS, epidemiology and molecular epidemiology of bacterial pathogens, antimicrobial resistance of gram-negative bacteria, pathogenesis of fungal infections, and biosecurity planning.

New Research Initiatives / Ongoing and Planned Collaborations

- Zandrea Ambrose, PhD, received a two-year NIH R21 subaccount in collaboration with Philiana Lin, MD, in pediatrics for the project, Host and Pathogen Diversity in Mtb and SIV Infection, with total costs of $136,188 for the period July 1, 2017, through June 30, 2018.
- Zandrea Ambrose, PhD, received a five-year R01 grant from the National Institutes of Health for the project, Influence of SIV replication of TB progression and Immunity, with total costs of $4,959,961 for the period June 26, 2017, through May 31, 2022.
- Cornelius (Neil) Clancy, MD, received a two-year NIH R21 grant for the project, Microbiome and Host Response Signatures for Pneumonia among Lung Transplant Recipients, with total costs of $467,768 for the period July 1, 2016, through June 30, 2018.
- Cornelius (Neil) Clancy, MD, was awarded a three-year study from Astellas Pharma Global Development, Inc., for the project, Determination of Intracellular and Extracellular Isavuconazole Levels within Bronchoalveolar Fluid and Blood, with total costs of $101,767 for the period January 10, 2017, through April 9, 2020.
- Lee Harrison, MD, received a five-year NIH R01 grant for the project, Enhanced Detection System for Healthcare-Associated Transmission of Infection, with total costs of $3,671,756 for the period September 26, 2016, through August 31, 2021.
- Ken Ho, MD, received a one-time supplement of $42,124 for his role as Clinical Director of the MACS, U01 AI035041, for a project, MACS Participation in NHLBI Heart, Lung, Blood and Sleep Research, for the period September 30, 2016, to April 30, 2018.
- Jane Marsh, PhD, was awarded a one-year CDC subcontract in collaboration with Johns Hopkins University for the project, Maryland Emerging Infectious Program (ABC Training), with total costs of $113,317 from January 1, 2017, through December 31, 2017.
• Bernard Macatangay, MD, received a $135,485, one-year supplement to U01A1110410 for the study, Evaluation of Adenosine Signaling Pathway in COPD Among HIV(+) Individuals on ART, for the period August 2016 through July 2017.

• John Mellors, MD, received a two-year grant from Gilead Sciences, Inc., for the project, Biomarkers of HIV Reservoirs, with total costs of $494,889 from September 1, 2016, through August 31, 2018.

• John Mellors, MD, was awarded a two-year grant from Gilead Sciences, Inc., for continued work on his project, Investigation of the Immunologic and Virologic Effects of Tlr-7 Agonism and the Elimination of HIV-1-Infected Cells by Autologous Immunologic Effector Mechanisms, with total costs of $443,796 from September 1, 2016, through August 31, 2018.

• John Mellors, MD, was awarded a five-year NIH sub-contract in conjunction with Beth Israel Deaconess Medical Center for a collaborative project entitled Combined Immunologic Approaches to Cure HIV-1, with total costs of $1,790,052 from July 14, 2016, through June 30, 2021.

• John Mellors, MD, was awarded a multi-year NIH subcontract from Family Health International (FHI) to support HIV Prevention Trials Network (HPTN) protocol 083 at Ohio State University, under the guidance of the University of Pittsburgh CTU, with total costs of $159,180 from May 2016 through November 2016.

• Hong Nguyen, MD, was awarded a five-year NIH subcontract in collaboration with Northwestern University for the project, Phase II Multi-Center, Prospective, Randomized, Double-Blind Study of Nitazoxanide in Acute and Chronic Norovirus in Hematopoietic Stem Cell and Solid Organ Transplant Recipients, with total costs of $350,468 for the period July 1, 2016, through June 30, 2021.

• Hong Nguyen, MD, received a three-year grant from Astellas Pharma Global Development, Inc., for the project, Efficacy, Safety and Pharmacokinetic of Isavuconazole Prophylaxis among Organ Transplant Recipients, with total costs of $447,924 from January 10, 2017, through December 9, 2020.

• Hong Nguyen, MD, was awarded a two-year R21 NIH grant for the project, Chromosomal and Plasmid Contributions to Colistin Resistance and Virulence in KPC-Producing Klebsiella Pneumoniae, with total costs of $443,918 for the period December 1, 2016, through November 30, 2018.

• Sharon Riddler, MD, was awarded a one-year grant from GlaxoSmithKline for a clinical trial entitled, A Phase 1, Multicompartmental Pharmacokinetic Study of Cabotegravir Long-Acting in Healthy Adult Volunteers, with a total award of $320,000 from October 2016 through September 2017.

• Sharon Riddler, MD, was awarded an NIH subcontract in conjunction with Magee Womens Research Institute for a Pitt CTU protocol, MTN 026, with a total award of $346,526 to study safety and PK of Dapivirine gel administered rectally to HIV-negative adults, for the period of March 1, 2017, through November 30, 2018.

• Sharon Riddler, MD, was awarded an NIH subcontract in conjunction with Magee Womens Research Institute for a Pitt CTU protocol, MTN 030, with a total award of $77,452 to study safety and PK of Dapivirine/Levonorgestrel Vaginal Rings, for the period of July 1, 2016, through November 30, 2017.

• Ryan Shields, PharmD, received a one-year grant from Allergan Sales, LLC., for the project, Suppression and Characterization of Ceftazidime-Avibactam Resistance among Carbapenem-Resistant K. Pneumoniae, with annual direct costs of $93,690 from June 5, 2017, through April 1, 2018.

• Nina Singh, MD, received a two-year NIH contract for the project entitled, Impact of HHV-6 on Outcomes after Liver Transplantation, with total costs of $456,888 for the period July 1, 2016, through September 30, 2018.
Faculty Research Interests

Rima Abdel-Massih MD
Dr. Abdel-Massih’s research interests include infectious complications in transplant recipients, cytomegalovirus, fungal infections, and bacterial resistance. She is a co-investigator on multiple clinical trials. She also has a special interest in telehealth models of care applied in the infectious diseases specialty.

Zandrea Ambrose PhD
The Ambrose laboratory studies HIV infection and therapeutics. Half of the laboratory’s research focuses on basic molecular and cellular retrovirology, while the other half uses animal models to address important questions about HIV infection, pathogenesis, prevention, and treatment.

Hassan Badrane PhD
Dr. Badrane is investigating opportunistic infections caused by Candida species of yeasts, particularly C. albicans. He is characterizing genes where expression has been found to be induced in vivo and their encoded protein have an immunogenic property. Presumably, these genes will be important during infection. Among them, he characterized IRS4 to encode for an Eps15 homology (EH) domain protein, which regulates the levels of phosphatidylinositol (4,5)-bisphosphate (PI(4,5)P2). This regulation is exerted by activating Inp51p, a 5-phosphatase enzyme that converts PI(4,5)P2 to PI4P. Indeed, mutant strains in which either IRS4 or INP51 has been knocked-out, had higher levels of PI(4,5)P2, which in turn affected the cell wall integrity pathway and hyphal growth, and attenuated virulence to mice in a disseminated candidiasis model. In addition, these mutant strains exhibited abnormal intracellular patches of PI(4,5)P2 that colocalized with septins. Currently, he is deciphering the upstream regulation that controls the function of lrs4p/inp51p as well as setpins.

Tatiana Bogdanovich MD PhD MSc
Dr. Bogdanovich’s research interests are focused on the prevention and treatment of infections in solid organ transplant recipients, Clostridium difficile infection, and fecal microbiota transplantation (FMT). Over the last year, she has primarily focused on development of the Volunteer Stool Bank for FMT and development of FMT protocols, including freeze-dried FMT capsules.

Malak Bokhari MD MPH
Dr. Bokhari’s research interests center on the prevalence of anal dysplasia in pre-transplant population; anal cancer screening post-transplant; and, image recognition of dysplasia using an artificial intelligence algorithm.

Karin Byers MD MS
Dr. Byers’ major areas of interest are orthopedic and neurosurgical infections. She is also interested in preventing adverse outcomes from antibiotics.

Shaoji Cheng MD
Dr. Cheng’s research focuses on the pathogenesis of Candida infection and the Enterobacter infection, as well as the mechanisms of antifungal drug resistance.

Cornelius (Neil) Clancy MD
Dr. Clancy’s laboratories are interested in the molecular pathogenesis of invasive infections caused by the fungus Candida albicans. The labs have implicated several novel genes in both organisms that contribute to the pathogenesis of candidiasis and aspergillosis. Biological processes related to these genes that are studied in the lab include histone methylation and transcriptional regulation, DNA damage responses, and phosphoinositide regulation. In addition, Drs. Clancy and Nguyen collaborate on research about mechanisms of antimicrobial resistance in bacteria and fungi and their clinical relevance.
Joshua Cyktor PhD
Dr. Cyktor is an immunovirologist who specializes in the interface of intracellular pathogens, like HIV-1 and Mycobacterium tuberculosis, within the human immune system. Specifically, he seeks to understand the mechanisms of HIV-1 persistence in patients despite years of suppressive treatment, and how HIV-1 may direct the course of our immune systems to its own benefit. He is a protocol virologist for several AIDS Clinical Trials Group studies that are at the forefront of translational HIV-1 clinical research and is the Associate Director of the Pitt Virology Specialty Laboratory.

Brooke Decker MD
As Director of Infection Prevention at the VA Pittsburgh Healthcare System, Dr. Decker’s primary research interest is the epidemiology of hospital-associated infections, transmission of resistant organisms, and prevention of hospital waterborne infections, including Legionnaire’s Disease.

Yohei Doi MD PhD
The mission of Dr. Doi’s laboratory is to identify and investigate antimicrobial resistance of clinical concern among gram-negative bacterial pathogens. The areas of research include the genetic and molecular basis of emerging antimicrobial resistance mechanisms; the rapid diagnosis of resistance using phenotypic, genetic, and lipidomic approaches; and inhibitor-based drug discovery. Current efforts are focused on colistin resistance in Acinetobacter baumannii, a problematic healthcare-associated pathogen, and fosfomycin resistance in Escherichia coli, the predominant cause of urinary tract infection in the healthcare and community settings. The latter work has expanded into drug discovery efforts aimed at reversing resistance using an inhibitor-based approach.

Bonnie Falcione PharmD
Dr. Falcione seeks to identify strategies to prevent and treat infectious diseases in critically ill patients as well as those at risk for critical illness due to the onset of infection or a complication of treating the infection, particularly those due to antimicrobial resistant organisms. She places particular emphasis on the use of available resources to improve empiric drug selection, dosing, and monitoring strategies for agents with high toxicity potential (vancomycin, colistin, aminoglycosides, nafcillin). She also seeks to identify concurrent drug therapies that may increase the risk of infections in these critically ill patients or those at risk of becoming critically ill.

Dr. Falcione’s research is also aimed at increasing the awareness of vaccine strategies in an effort to prevent infectious diseases and inappropriate antimicrobial use. She investigates the best use of tools to identify the presence or absence of infections as well as the antimicrobial-use principles most relevant to the individual patient.

Finally, she focuses on the development of teaching methods and strategies to educate pharmacy students and other healthcare professional trainees on optimal prevention and treatment strategies, including awareness of principles and strategies of antimicrobials stewardship.

Carolyn Fernandes MD
Dr. Fernandes’ research involves travel-related infections, tuberculosis, and infections due to Staphylococcus aureus.

Elias Halvas PhD
Dr. Halvas’ researches the human immunodeficiency virus type 1 (HIV-1). Specifically, he focuses on the development, validation, and testing of new technologies to detect and quantify major- and low-frequency drug-resistant HIV-1 variants. He monitors HIV-1 drug-resistance and evolution by standard genotyping of patient samples, and he investigates the role of low-frequency HIV-1 drug-resistance variants on clinical outcomes. Dr. Halvas also dissects the mechanisms of HIV-1 pathogenesis, carcinogenesis, and persistence as related to HIV cure strategies.

Early in his career, Dr. Halvas’ research dissected the structural determinants important for reverse transcriptase fidelity as well as the development and validation of novel genotypic assays used on clinical samples from HIV-1 infected patients) enrolled in either the AIDS Clinical Trial Group (ACTG) or Microbicides Trials Network (MTN). This work was
related to the detection/and quantification of major and minor drug-resistance variants employing standard genotyping, single genome sequencing (SGS), and allele-specific PCR in the context of ART efficacy and mother-to-child transmission. This research was instrumental in determining the predictive value that these major and minor HIV-1 drug-resistant variants have on clinical outcomes.

Currently, his research involves investigating the role that clonal expansions of HIV-1 infected cells play in HIV-1 persistence and carcinogenesis. This research is being conducted through the application of SGS to detect cell-associated viral DNA and RNA, virus-associated RNA, and full length viral genomes, as well as the recovery of infectious virus, and the capture of integration sites in these HIV-1 infected cells.

Lee Harrison MD
Dr. Harrison is a Professor in the Infectious Diseases Division and head of the Infectious Diseases Epidemiology Research Unit. His research has focused on the epidemiology and molecular epidemiology of important bacterial pathogens, including Haemophilus influenzae, Streptococcus pneumoniae, group B Streptococcus, Neisseria meningitidis, methicillin-resistant Staphylococcus aureus, and Clostridium difficile. He also researches methods for enhanced detection of hospital-acquired transmission of bacterial pathogens. Dr. Harrison is the Director of an NIH Fogarty International Center training grant on the epidemiology and molecular epidemiology of serious bacterial infections and dengue in Brazil.

Ken Ho MD MPH
Dr. Ho's primary research focuses on biomedical strategies for HIV prevention and, in particular, HIV pre-exposure prophylaxis (PrEP) and microbicide development. He conducts multiple clinical trials of PrEP and microbicides at the University of Pittsburgh Clinical Trial Unit. He was the investigator of record for the Next-PrEP Study (HPTN-069), a safety and tolerability study of maraviroc based regimens for PrEP. He is the protocol chair for MTN-033: An Open Label Randomized Phase 1 Pharmacokinetic Study of Dapivirine Gel Administered Rectally to HIV-1 Seronegative Adults. He is also the investigator of record of several other microbicide studies such as DREAM-01 (evaluation of a tenofovir enema) and MTN-026 (Dapivirine gel). Dr. Ho is the Medical Director of the Pitt Men’s Study, the Pittsburgh branch of the Multicenter AIDS Cohort Study. He conducts studies of periodic PrEP use and is the principal investigator of the EpiPrEP Pilot Study, which is looking at Intermittent PrEP for HIV prevention among gay, bisexual, and other men who have sex with men (msm).

Jae Hong MD AAHIVS
Dr. Hong’s research focuses on multidrug resistant bacterial infection.

Jana Jacobs PhD
Dr. Jacobs researches the characterization and eradication of the HIV reservoir. She concentrates on development and optimization of highly sensitive assays for the evaluation of the HIV reservoir in human clinical samples.

Eun Kwak MD
Dr. Kwak studies outcomes and therapeutics in viral infections in solid organ transplant recipients, including cytomegalovirus and respiratory viral infections in lung transplant recipients; the management of and prophylaxis for fungal infections in lung transplant recipients; outcomes and management of infections by multidrug-resistant (MDR) pathogens in solid organ transplant recipients; management of nontuberculous mycobacterial infections in transplant recipients and candidates; post-operative surgical site infections in liver transplant recipients; and antibiotic stewardship in the era of MDR infections.

Bernard Macatangay MD
Immunoregulatory mechanisms can influence many aspects of the body's immune responses to different antigens and can control inflammatory responses, thereby preventing pathology caused by persistent immune activation and inflammation. The Macatangay laboratory focuses on various immunoregulatory pathways in different inflammatory states, especially in HIV infection. Specifically, the lab seeks to define the role of different immunoregulatory pathways in the context of viral infection and in the development of antiretroviral resistance.
mechanisms in the inflammatory state associated with chronic HIV infection; HIV persistence; and various HIV immunotherapeutic strategies, such as in therapeutic vaccination. By using specimens obtained from the various studies at the Pittsburgh Treatment and Evaluation Unit (PTEU), the AIDS Clinical Trials Group (ACTG), and the Multicenter AIDS Cohort Study (MACS), the lab assesses the immunophenotype and frequencies of regulatory immune cell subsets. It also analyzes specific suppressive function and components of regulatory pathways to further understand the influence of specific immunoregulatory mechanisms in HIV pathogenesis and persistence. In doing so, Dr. Macatangay would like his research to improve existing or develop new immunotherapeutic strategies for the control of chronic HIV-associated inflammation and/or for the functional cure of HIV.

Jane Marsh PhD
Dr. Marsh is the Director of the Microbial Genomics Epidemiology Laboratory (MiGEL) and works closely with MiGEL Principal Investigator Dr. Lee H. Harrison to investigate genomic epidemiology of hospital-acquired infections. Current research is focused on integration of whole genome sequences of important multi-drug resistant bacteria from hospitalized patients with the electronic health record to enhance detection of hospital-associated transmission. MiGEL works closely with Infection Prevention to investigate genetic relationships of patient bacterial isolates suspected of being hospital acquired. Timely reporting of results enables rapid implementation of appropriate interventions to prevent further transmission and outbreaks. Other research interests include investigation of the human gut microbiome for prediction and transmission of infectious diseases as well as global genomic epidemiology and population structure of Neisseria meningitidis.

Sarah McBeth MD MPH
Dr. McBeth identifies barriers to Hepatitis C treatment and to monitoring treatment outcomes in our HIV/Hepatitis C co-infected population.

Deborah McMahon MD
Dr. McMahon's research focuses on the HIV reservoir and eradication strategies. She currently serves as co-chair of two NIH-funded AIDS Clinical Trials Group studies. The first study examines the decay of the HIV reservoir in HIV-infected patients receiving long-term antiretroviral therapy; its substudy intensively examines the reservoir in anatomic sites, such as the blood, gut-associated lymphatic tissue, and CSF. The second study evaluates the impact of a histone deacetylase inhibitor, romidepsin, on immune activation and HIV expression in HIV-infected patients suppressed on antiretroviral therapy. She is also site principal investigator for an NIH-funded study to examine the effects of rifaximin on immune activation and inflammation. She has more than 25 years of HIV clinical research experience.

John Mellors MD
Dr. Mellors led several studies with samples from the Multicenter AIDS Cohort Study (MACS) that established the critical relationship between plasma viremia (HIV-1 RNA) and HIV disease progression to AIDS and death in both acute and chronic HIV-1 infection. This work led to the universal use of plasma HIV-1 RNA and CD4+T-cell counts to estimate prognosis in HIV-1 infection and the optimal time to initiate antiretroviral therapy (ART). Dr. Mellors contributed to the development and testing of the first antiretroviral combinations that produced sustained suppression of viremia and recovery of CD4+T-cells that launched the current era of highly-effective ART.

Presently, Dr. Mellors' laboratory focuses on resistance to antiretroviral drugs used for treatment and HIV prevention and on mechanisms of HIV persistence and strategies to deplete the reservoirs that are the barrier to curing HIV infection. His work on HIV reservoirs showed that low-level viremia persists in most individuals on long-term suppressive ART, and that the level of residual viremia is predicted by the level of viremia before ART. Current work focuses on identifying agents to reverse HIV latency and to eliminate HIV-infected cells. The impact of innovative therapies on HIV reservoirs is being studied in Phase I/II trials of histone deacetylase inhibitors, monoclonal antibodies to immune checkpoint ligands, monoclonal antibodies to HIV envelope glycoproteins, and TLR agonists.
Minh-Hong Nguyen MD
Dr. Nguyen’s multiple research interests are medical mycology research, including projects on the mechanisms and clinical impact of antifungal drug resistance, and the molecular pathogenesis of invasive Candida infections. Since 2016, she has also been researching Zygomycetes genetics and epidemiology. In addition, her research focuses on XDR bacterial and antimicrobial stewardship research, including projects on evolution and tolerance/resistance and pathogenic mechanisms of carbapenem-resistant Enterobacteriaceae (CRE) and other Gram negative bacteria; the development of novel antibiotic treatment strategies based upon bacterial genetics and pharmacokineti- -pharmacodynamic (PK-PD) principles; the clinical and economic impact of XDR infections and antimicrobial stewardship interventions; and clinical trials of new antimicrobials and diagnostic tests. Dr. Nguyen’s Transplant Infectious Diseases (TID) research includes projects on the role of the microbiome in infections and outcomes among transplant recipients, the impact of rectal CRE carriage on transplant patients’ outcome, and clinical studies and trials on a wide range of opportunistic fungal, bacterial, and viral infections.

Urvi Parikh PhD
Dr. Parikh’s translational research laboratory uses novel technical approaches to solve public health problems in the areas of HIV prevention and drug resistance. Dr. Parikh leads the USAID/PEPFAR-funded Global Evaluation of Microbicide Sensitivity (GEMS) Project, which seeks to characterize resistance risk from pre-exposure prophylaxis (PrEP) trials and demonstration projects; to identify the most effective and efficient HIV testing and resistance monitoring strategies; to generate evidence-based policy recommendations for HIV diagnostic testing frequency and ARV resistance monitoring; and to monitor seroconverters from PrEP roll-out programs for ARV resistance in selected clinics in South Africa, Zimbabwe, and Kenya. The GEMS project brings together a diverse team of laboratory scientists, mathematical modelers, policy experts, health economists, in-country stakeholders, demonstration project teams, and others working toward the common public health goal of minimizing resistance risk during PrEP roll-out. Her laboratory also serves as the Virology Core for the MTN, with the aim of confirming virologic endpoints for all MTN studies; assessing population and low-frequency resistance in seroconverters from HIV prevention trials; developing new assays and addressing research questions relevant to the field of HIV prevention; and providing virology support to MTN protocols, international clinical research sites, and community working groups. In addition to these major projects, Dr. Parikh’s lab is investigating the detection of Y chromosome DNA in genital tract specimens using quantitative real-time PCR as a biomarker for unprotected sex and evaluating new HIV diagnostic algorithms using antigen-based rapid tests for identifying seroconverters.

Christian Perez MD
Dr. Perez’s research has included the investigation of endemic fungal infections and the examination of diagnostics and clinical presentations in immunocompromised populations. Dr. Perez has also investigated the utility of Outpatient Parenteral Antibiotic Therapy (OPAT) programs.

Brian Potoski PharmD BCPS
Dr. Potoski's research interests center on antimicrobial stewardship. He is also interested in how Monte Carlo simulations of antibiotic exposures may inform dosing strategies for problematic pathogens. He also investigates how risk-factor studies may assist antibiotic management teams and the impact of those teams on drug use and clinical outcomes.

Sharon Riddler MD
Dr. Riddler has more than 20 years of experience in clinical research funded by the NIH and industry. She is interested in all aspects of the clinical research process, including protocol development, implementation, and analysis of results. She is the Co-PI of the NIH/DAIDS-funded Pitt-OSU HIV/AIDS Clinical Trials Unit and Site Leader for the University of Pittsburgh Clinical Research Site (affiliated with both the AIDS Clinical Trials Group (ACTG) and the Microbicide Trials Network (MTN)). Dr. Riddler is a Protocol Physician for the Microbicide Trials Network. She has been Chair or Co-Chair for several network studies in the ACTG (A5115, A5142, A5276s, and A5342) and MTN (MTN-015 and MTN-0038). Local clinical trials have focused on immune-based therapies for chronic HIV infection. She is currently the Co-PI for an ongoing U-01-funded Phase I study of dipyridamole for immune activation in HIV-infected
participants. Additionally, she was the clinical PI and IND sponsor for two completed studies of dendritic cell-based therapeutic HIV vaccination. Dr. Riddler’s group collaborates widely across the University of Pittsburgh to accomplish state-of-the-art clinical trials.

**Neel Shah MD**  
Dr. Shah conducts research aimed at providing a better understanding of how to diagnose, manage, and treat prosthetic joint infections. He is currently working on determining what factors determine clinical outcomes associated with patients who undergo debridement and retention of their infected prosthetic joint, and how modifying these factors could help in improving patient outcomes.

**Kathleen Sheridan DO**  
Dr. Sheridan’s research focuses on the delivery of quality care to patients discharged from the hospital on IV antibiotics through the Outpatient Parenteral Antibiotic Therapy (OPAT) program, which seeks to prevent hospital readmissions and antibiotic-associated adverse events.

**Ryan Shields PharmD MS**  
Dr. Shields is a translational researcher who is interested in antimicrobial drug resistance in gram-negative bacteria and yeast. His research focuses on the use of molecular markers of resistance to predict patient responses to treatment; the use of pharmacokinetic-pharmacodynamic models to suppress and overcome antimicrobial resistance; antimicrobial susceptibility testing methods; and the clinical impact of infections due to extensively-drug resistant pathogens. Using these approaches, Dr. Shields has developed treatment paradigms for difficult-to-treat pathogens, including Candida glabrata, Acinetobacter baumannii, and carbapenem-resistant Klebsiella pneumoniae, leading to improved patient outcomes. Dr. Shields’s laboratory is also interested in elucidating new mechanisms of antimicrobial drug resistance against recently FDA-approved antimicrobial agents.

**Fernanda Silveira MD MS**  
Dr. Silveira is interested in clinical research that promotes the health of the patients in her care. Some of her projects include the study of the effectiveness of the influenza vaccine in preventing hospital admissions; clinical trials of new agents to treat respiratory viral infections in lung transplant recipients; clinical trials of new agents for the treatment of CMV; and optimization of colistin dose in critically ill patients with multi-drug resistant Gram negative infections.

**Nina Singh MD**  
Dr. Singh’s area of research interest is opportunistic viral and fungal infections in organ transplant recipients. Her specific interests include herpes virus infections (cytomegalovirus and human herpesvirus-6) in transplant recipients. Her work in this area pertains to clinical trials to optimize antiviral prophylaxis and assess CMV-specific immune responses after transplantation. The knowledge gained from these studies has implications for elucidating the mechanistic basis for CMV disease despite current prophylactic practices and for designing future immune-based therapies as adjuncts to antivirals for the prevention of CMV. A key area of Dr. Singh’s research interest is invasive cryptococcosis in transplant recipients. She has conducted pivotal studies to assess risks, disease associations, outcomes, and immunopathogenesis as it relates to this yeast in transplant recipients. These studies have made a major contribution toward the scientific rationale for the Infectious Diseases Society of America (IDSA) and American Society of Transplantation (AST) guidelines for cryptococcus in transplantation. More recently, Dr. Singh’s work has focused on characterizing immune reconstitution syndrome in organ transplant recipients with opportunistic infections and on understanding how manipulation of iatrogenic immunosuppressants has the ability to alter the host immunologic milieu, posing a risk for this poorly understood entity.
Nicolas Sluis-Cremer MD
Dr. Sluis-Cremer's laboratory uses a multi-disciplinary approach that includes biophysics, biochemistry, virology, and analysis of clinical samples to gain insight into the mechanisms of action of antiretroviral drugs; antiviral and antimicrobial drug resistance; and to understand how HIV-1 persists in infected individuals despite potent antiretroviral therapy. His lab uses state-of-the-art biophysical methods, including transient kinetic and single-molecule fluorescence approaches, to define how small molecules affect retroviral enzyme function, the intramolecular protein conformational dynamics, and the intermolecular enzyme-substrate interactions. Dr. Sluis-Cremer's HIV-1 resistance research focuses on identifying drug resistance mutations that are selected in infected-individuals failing therapy, defining the mechanisms by which these mutations decrease drug susceptibility, and predicting how acquired or transmitted drug resistance mutations impact treatment options. His lab also studies antibiotic resistance and explores novel therapeutic approaches to reverse fosfomycin resistance. In regard to HIV-1 persistence, the lab focuses on characterizing the latent pool of HIV-1 infection that resides in resting CD4+ T cells, in particular the naive and central memory subsets, using novel primary cell models of HIV-1 latency and by studying purified subsets of the resting CD4+ T cell population from HIV-infected individuals on suppressive antiretroviral therapy.

Peter Veldkamp MD MS
Dr. Veldkamp's long-term interests are HIV care, general infectious diseases, and travel/tropical medicine. These diseases especially affect underserved populations in low-resource settings, creating a challenge to diagnose and treat the conditions with minimal cost and maximal efficacy. Dr. Veldkamp strives to enhance the health care providers' impact in patient-centered care settings.

Paschalis Vergidis MD
Dr. Vergidis studies Candida-bacterial interactions and Candida gene expression using a whole-genome sequencing approach.

Emanuel Vergis MD MPH
Dr. Vergis is interested in behavioral and psychosocial aspects of HIV prevention. He was the principal investigator on several clinical research projects conducted in the HIV/AIDS clinic that focused on various non-biomedical prevention strategies.

J. Alexander Viehman MD
Dr. Viehman's clinical research comprises several areas, including drug resistance, antibiotic stewardship, and quality improvement. Currently, he is working on projects evaluating patient risk factors for drug-resistant pathogens, including vancomycin-resistant Enterococcus faecium and adjunctive therapy for patients with C. difficile infection. In addition, he is evaluating barriers to vaccination against Streptococcus pneumoniae in patients who meet appropriate indications.

Mohamed Yassin MD PhD
Dr. Yassin's research interests center on decreasing hospital-acquired infections. His areas of focus are infection prevention and hospital epidemiology; cost effectiveness analysis; Legionella prevention in hospital water; ventilator-associated pneumonia; surveillance for multidrug resistant organisms (MRSA, Acinetobacter, and other Gram negative resistant pathogens); and endoscopic processing and microbiological evaluation.
Faculty Research and Other Scholarly Activities

Rima Abdel-Massih MD
- Member, Antimicrobial Management Program, UPMC, 2009-present
- Ad hoc reviewer, Transplant Infectious Diseases, 2009 to present
- Member, Internal Medicine Residency Application Interviewing Committee, University of Pittsburgh Medical Center, 2010-present
- Member, ID Educational Initiative Workgroup, American Society of Transplantation, 2011-present
- Member, Infectious Diseases Society of America Program Directors Community, 2016-present

Zandrea Ambrose PhD
- Member, American Society for Microbiology (ASM), 2003-present
- Academic Editor, PLoS ONE Editorial Board, 2009-present
- Editor, AIDS Research and Human Retroviruses’ Young Investigator Editorial Board, 2011-present
- Member, PhD Thesis Committee, Jennifer Zerbato, Molecular Virology and Microbiology Program, University of Pittsburgh School of Medicine, 2012-present
- Member, PhD Thesis Committee, Kevin Raehtz, Molecular Virology and Microbiology Program, University of Pittsburgh School of Medicine, 2012-present
- Academic Editor, Peer J Editorial Board, 2012-present
- Chair, Graduate Thesis Committee, Kevin Melody, 2012-2017
- Member of PhD Thesis Committee, Ryan Slack, Molecular Biophysics and Structural Biology Program, University of Pittsburgh School of Medicine, 2013-present
- Chair, Graduate Thesis Committee, Douglas Fischer, 2014-present
- Chair, Graduate Thesis Committee, Zhou Zhong, 2014-present
- Grant Reviewer, Boston College Ignite Program, 2014-present
- Vice Chair, Institutional Biosafety Committee (IBC), University of Pittsburgh, 2015-present
- Grant Reviewer, Special Emphasis Panel, Neuro AIDS and Other End Organ Diseases (NAED) Study Section, NIH, 2015-present
- Grant Reviewer, Special Emphasis Panel, Risk of Adolescence and Injury in HIV Susceptibility, NIH, 2016
- Grant Reviewer, Special Emphasis Panel, Identification of Small Molecules for Sustained-Release Anti-HIV Products, NIH, 2016
- Grant Reviewer, Special Emphasis Panel, Understanding HIV Rebound (P01), NIH, 2016
- Member, Graduate Thesis Committee, Long Kwan Matthew Lam, 2016-present
- Member, Graduate Thesis Committee, Hawa Mariko, 2016-2017
- Grant Reviewer, Special Emphasis Panel, AIDS and Related Research, NIH, 2017
- Grant Reviewer, Israel Science Foundation, 2017

Tatiana Bogdanovich MD PhD MSc
- Member, Antimicrobial Management Program, UPMC, 2012-present
- Member, Center for Innovative Antimicrobial Therapy, 2016-present
- Member, C. Difficile Reduction Committee, 2016-present
Karin Byers MD MS
- Member, Antibiotic Approval Committee, UPMC, 2002-present
- Member, Clinical Directors’ Council, UPMC, 2012-present
- Member, Clinical Competence Committee (Infectious Diseases), University of Pittsburgh School of Medicine, 2013-present
- Member, Pharmacy and Therapeutics Subcommittee, UPMC, 2014-present
- Member, Healthcare-Associated Ventriculitis and Meningitis Guidelines Panel, Infectious Diseases Society of America, published 2017

Cornelius J Clancy MD
- Ad-hoc reviewer, Antimicrobial Agents and Chemotherapy, 2004-present
- Ad-hoc reviewer, Clinical Infectious Diseases, 2004-present
- Ad-hoc reviewer, PLoS Pathogens, 2004-present
- Member, Interviewing Committee for the Internal Medicine Residency and Infectious Diseases Fellowship Program, University of Pittsburgh, 2007-present
- Member, Academic Committee for the Infectious Diseases Division Fellowship Program, University of Pittsburgh, 2007-present
- Member, Research and Development Committee, VA Pittsburgh Healthcare System, 2008-present
- Member, NIH ZRG1 IDM S (81) Study Section AREA (R15): Infectious Diseases, Microbiology and Drug Discovery, 2014-present
- Director, Infection Control and Prevention, VA Pittsburgh Healthcare System, 2014-present
- Director, Antimicrobial Stewardship Program, VA Pittsburgh Healthcare System, 2014-present
- Member, Water Safety Committee, VA Pittsburgh Healthcare System, 2014-present
- Member, Pneumonia Committee, VA Pittsburgh Healthcare System, 2014-present

Yohei Doi MD PhD
- Member, Institutional Review Board, University of Pittsburgh, 2010-present
- Associate Editor, Journal of Infection and Chemotherapy, 2012-present
- Editorial Board Member, Diagnostic Microbiology and Infectious Disease, 2012-present
- Ad Hoc Reviewer, Antimicrobial Agents and Chemotherapy, 2012-present
- Ad Hoc Reviewer, Infection Control and Hospital Epidemiology, 2012-present
- Ad Hoc Reviewer, Journal of Antimicrobial Chemotherapy, 2012-present
- Ad Hoc Reviewer, PLoS One, 2012-present
- Ad Hoc Reviewer, International Journal of Antimicrobial Agents, 2012-present
- Ad Hoc Reviewer, Critical Care Medicine, 2012-present
- Member, Gram-Negative Subcommittee, Antimicrobial Resistance Leadership Group, National Institute of Allergy and Infectious Diseases, 2013-2015
- Chair, Gram-Negative Subcommittee, Antimicrobial Resistance Leadership Group, National Institute of Allergy and Infectious Diseases, 2015-present
- DSMB member, Clinical and Translational Science Institute, University of Pittsburgh, 2014-present
- Ad Hoc Reviewer, Journal of Microbiology, Immunology and Infection, 2014-present
- Editor, Antimicrobial Agents and Chemotherapy, 2014-present
- Recipient, Faculty Award, University of Pittsburgh School of Medicine, Honors Convocation of the University of Pittsburgh, 2015
- Editorial Board Member, Journal of Clinical Microbiology, 2015-present
Infectious Diseases

FY 2016-2017

- Ad hoc Reviewer, Joint Programming Initiative on Antimicrobial Resistance (European Union), 2016
- Ad hoc Reviewer, NIH/CSR Study Section (ZRG1 IDM S81), 2016
- Ad hoc Reviewer, NIH/CSR Study Section (ZRG1 IDM S02), 2017

Carolyn Fernandes MD
- Member, Magee-Womens Hospital of UPMC, ED/ICU/Medicine Committee, 2013-current
- Member, Clinical Competency Committee, University of Pittsburgh School of Medicine, 2014-present

Lee H Harrison MD
- Member, Alpha Omega Alpha, Honor Medical Society, 1982-present
- Member, CDC Emerging Infectious Diseases Network Steering Committee, 2000-present
- Member, CDC Active Bacterial Core Surveillance Steering Committee, 2000-present
- Member, American Society for Clinical Investigation, 2000-present
- Member, American Epidemiological Society, 2006-present
- Editorial Advisory Board, Journal of Infectious Diseases, March 2006-present
- Voting Member, Advisory Committee on Immunization Practices, 2012-2016
- Chairman, Allegheny County Board of Health, 2013-present

Ken Ho MD MPH
- Member, Education Committee, Gay Lesbian Medical Association, 2010-present
- Member, Pharmacovigilance Safety Officer, Microbicide Trials Network, 2011-present
- Member, University of Pittsburgh Institutional Review Board, Committee G, 2013-present
- Board Member, Pittsburgh AIDS Task Force, 2014-present
- AIDS Free Pittsburgh Advisory Committee, 2015-present
- AIDS Free Pittsburgh PrEP Subcommittee, Chair, 2015-present

Eun Jeong Kwak MD
- Member, American Society of Transplantation (AST), 2005-present
- Reviewer, American Journal of Transplantation, 2008-present
- Reviewer, Liver Transplantation Journal, 2008-present
- Reviewer, Transplant Infectious Diseases, 2008-present
- Member, American Society of Microbiology (ASM), 2009-present
- Member, Quarterly Pharmacy and Therapeutics Committee, System-wide committee, University of Pittsburgh Medical Center, 2012-present
- Selected, Best Doctors in America, 2016-2017 List
- Member, American Society of Transplantation (AST), 2005-present
Bernard Macatangay MD
- Elected Member, End-Organ and Inflammation Transformative Science Group, AIDS Clinical Trials Group (ACTG), 2014-present
- Member, Admissions Interview Committee for the University of Pittsburgh School of Medicine, 2010-present
- Member, Medicine Residency and Infectious Diseases Fellowship Interview Committee, University of Pittsburgh School of Medicine, 2010-present
- Member, Clinical Working Group, Multicenter AIDS Cohort Study, 2011-present
- Protocol Immunologist ACTG Studies A5315, A5321/A5341s, A5325/A5330s, A5342, A5370, 2013-present
- Member, Immune Activation Focus Group, ACTG, 2014-present
- Member, Clinical Working Group, Multicenter AIDS Cohort Study (MACS), 2014-present
- Protocol Co-Chair ACTG study A5347s, 2015-present
- Chair, Viral Immune Pathogenesis Working Group, Multicenter AIDS Cohort Study (MACS), 2014-present
- Elected Member, HIV Reservoirs and Viral Eradication Transformative Science Group, ACTG, 2016-2018

Deborah McMahon MD
- Member, Institutional Biosafety Committee, University of Pittsburgh, 2005-present
- Member, Clinical Advisory Committee, National HIVQUAL Project, 2008-present
- Member, Special Pharmaceutical Benefits Program, PA DPW, 2010-present
- Chair, Drug Utilization and Review Committee, Special Pharmaceutical Benefits Program, Pennsylvania Dept. of Health, 2010-present
- Medical Director and Member, Executive Committee, Brother’s Brother Foundation, 2010-present
- Member, HIV Reservoirs and Viral Eradication Transformative Science Group, ACTG, 2013-present

John Mellors MD
- Scientific Committee Member, Conference on Retroviruses and Opportunistic Infections (CROI), 1994-present
- Editor, HIV Database, Los Alamos National Laboratory, 1995-present
- Co-Chair, International Workshop on HIV Drug Resistance and Combination Therapies, 1996-present
- Member of Organizing Committee, International Workshop on HIV Drug Resistance and Combination Therapies, 1996-present
- Consultant, Center for Biologics Evaluation and Research, Food and Drug Administration, 1997-present
- Organizer, Symposium on Antiviral Drug Resistance Symposium, 2000-present
- Member, Executive Committee and Central Laboratory Committee, NIH-sponsored Microbicide Trials Network (MTN), and MTN Director of Virology, 2006-present
- Member, H1N1 Influenza Task Force, 2009-present
- Member and Past Chair, AIDS Clinical Trials Group (ACTG) Network’s HIV Reservoirs and Viral Eradication (Cure) Transformative Science Group (TSG), (2011-present)
- Distinguished Editor, Second Stage Reviewer, RCI Challenge Applications (Infectious Diseases, Microbiology and Immunology, NIH) (Panel ZRG1 1MM-E Calbert Laing, PhD, Panel Manager) 2012-present
- Member, International Microbicides Conference Scientific Program Committee, 2012-present
- Member, Scientific Committee, HIV Persistence Workshop, 2014-Present
- Endowed Chair for Global Elimination of HIV and AIDS, 2016-Present
- CTU PI/CRS Leader At-Large, AIDS Clinical Trials Group (ACTG) Executive Committee (AEC), 2017-Present
Minh-Hong Nguyen MD

- Reviewer, Antimicrobial Agents & Chemotherapy, 1994-present
- Reviewer, Clinical Infectious Diseases, Journal of Infectious Diseases, 1995-present
- Reviewer Transplantation, Transplant Infectious Diseases, 2008-present
- Reviewer, American Journal of Transplantation, 2009-present
- Ad-hoc Reviewer, PO1 Award, NIAID, 2011-present
- Ad-hoc Reviewer, T32, K awards, NIAID, 2011-present
- Ad-hoc Reviewer, SBIR and STIR award, NIAID, 2012-present
- Chair, Molecular Diagnostics Section, Aspergillosis in Solid Organ Transplant Section and Airway Aspergillosis Section of Aspergillosis Management Guidelines, Infectious Diseases Society of America, 2014-present
- Scientific Editor, PLoS ONE, 2014-present

Urvi M. Parikh, PhD

- MTN Bioscience Working Group Member, 2008-present
- MTN Laboratory Core Member, 2008-present
- MTN-003 Protocol and Publications Committee Member, 2008–present
- MTN-015 Management Team Member, 2008–present
- MTN-016 Protocol Team Member, 2008-present
- MTN SCHARP/Laboratory Core Group Member, 2008-present
- Active Voting Member, Virology Quality Assurance Advisory Board (VQAAB), 2010-present
- MTN-020 Protocol and Publications Committee Member, 2011–present
- MTN Community Working Group Member, 2014-present
- MTN-025 Management Team Member, 2014-present
- Abstract Reviewer for the American Public Health Association (APHA), 2016
- MTN-034 Protocol Team Member, 2016-present
- Kenya NASCOP Technical Working Group Member, 2016-present
- USAID MPii Project Leadership Network Member, 2016-present
- USAID/GEMS Internal and External Team Calls Member, 2016-present
- USAID/GEMS International Steering Committee Member, 2016-present

Brian Potoski, PharmD, BCPS

- American Society of Health-System Pharmacists, 1998-present
- American College of Clinical Pharmacy, 1998-present
- Society of Infectious Diseases Pharmacists, 2002-present

Sharon Riddler MD MPH

- Reviewer, AIDS, 2000-present
- Reviewer, Journal of Acquired Immunodeficiency Syndrome, 2003-present
- Reviewer, Journal of Infectious Diseases, European Journal of Clinical Investigation, 2004-present
- Member, NIAID Clinical Trial Implementation Cooperative Agreement (U01) Review Committee (ZAI1 UKS-A (M3)), 2014-present
- Reviewer, FDA, Office of Orphan Products Development (FY 2016) Infectious Disease Grant Panel, 2015-present
Neel Shah, MD
- Member, Infectious Diseases Society of America, 2010-present
- Member, Infection Control Committee, UPMC Magee-Women’s Hospital, 2016-present
- Member, Antibiotic Stewardship Committee, UPMC Magee-Women’s Hospital, 2016-present
- Co-Director, Division of Infectious Diseases Marketing and Communications Management, 2016-present
- Associate Program Director, Infectious Diseases Fellowship, 2017-present

Kathleen Sheridan, DO
- Member, Infectious Diseases Society of America Quality Committee, 2016-present

Ryan Shields PharmD
- Reviewer, Medical Mycology, 2012-present
- Reviewer, Transplant Infectious Diseases, 2012-present
- Reviewer, Antimicrobial Agents and Chemotherapy, 2013-present
- Reviewer, Journal of Antimicrobial Chemotherapy, 2013-present
- Reviewer, American Journal of Infection Control, 2013-present
- Ad-hoc scientific peer-reviewer, International Journal of Antimicrobial Agents, 2014-present
- Ad-hoc scientific peer-reviewer, PLoS ONE, 2014-present
- Ad-hoc scientific peer-reviewer, BMC Research Notes, 2015-present
- Ad-hoc reviewer, Diagnostic Microbiology and Infectious Diseases, 2015-present

Fernanda Silveira MD MS
- ID Educational Initiative Workgroup, American Society of Transplantation (AST), 2007-present
- Past Chair, Infectious Diseases Council, International Society for Heart and Lung Transplantation, 2013-2015
- Reviewer, Transplantation, 2013-present
- Associate Editor, Clinical and Biomedical Research, 2014-present
- Member, Writing Committee, Practice Consensus Document for Strategies to Prevent and Manage Infections Related to Mechanical Circulatory Devices, International Society for Heart and Lung Transplantation, 2015-present
- Past Chair, Infectious Diseases Council, International Society for Heart and Lung Transplantation, 2015-present

Nina Singh MD
- Member, Joint Research Awards Committee, Infectious Diseases Society of America, 2011-present
- Chair, Panel for Development of Guidelines for Donor-Derived Fungal Infections in Organ Transplant Recipients, 2013-present
- Member, INSIGHT Post-Transplant Infections Scientific Interest Group, 2013-present
- Associate Editor, Transplantation, 2014-present
- Member, External Advisory Committee for T32 Training Program in Infectious Diseases in the Immunocompromised Host, Fred Hutchinson Cancer Research Center, 2015-present
- Pittsburgh Magazine and Best Doctors in America 2017, Amongst 4% of U.S. physicians selected by peers as Best Doctors in America
- Scientific Organizing Committee Member, 2nd Annual Symposium on Infectious Disease in the Immunocompromised Host, 2017

Nicolas Sluis-Cremer PhD
- Scientific Committee Member, HIV DART, Frontiers in Drug Development for Antiretroviral Therapies, 2010-present
- Reviewer (Grant), NIH Study Section, Special Emphasis Panel/Scientific Review Group AARR-J (AIDS Predoctoral and Postdoctoral), 2011-present
- Reviewer, Chemistry of Life Processes Program in the Division of Chemistry, NSF Grant, 2011-present
- Reviewer, Special Emphasis Panel in Response to RFA-AI-12-003 entitled Integrated Preclinical/Clinical Program for HIV Topical Microbicides (IPCP-HTM), NIH Study Section, 2011-present
- Ad-hoc reviewer, AIDS, 2013-present
- Ad-hoc reviewer, Retrovirology, 2013-present
- Ad-hoc reviewer, Virology, 2013-present
- Ad-hoc reviewer, Biochemistry, 2013-present
- Ad-hoc reviewer, Journal of Virology, 2013-present
- Ad-hoc reviewer, Journal of Biological Chemistry, 2013-present
- Ad-hoc reviewer, Antimicrobial Agents & Chemotherapy, 2013-present
- Ad-hoc reviewer, Nature, 2013-present
- Ad-hoc reviewer, ZRG1 AARR-K (02) M: Special Emphasis Panel/SRG, 2016
- Ad-hoc reviewer, ZRG1 AARR-Q56 Special Emphasis Panel, 2017

Peter Veldkamp MD MS
- Academy of Master Educators, University of Pittsburgh School of Medicine, 2009-present

Paschalis Vergidis MD
- Reviewer, Transplant Infectious Diseases, 2010-present
- Reviewer, Journal of Infection and Chemotherapy, 2014-present
- Ad-hoc reviewer, American Journal of Transplantation, 2015-present
- Mentor, Infectious Diseases Society of America Education and Research Foundation Medical Scholars Program, 2015-present
Emanuel Vergis MD MS MPH

- Member, Carroll J. Reynolds History of Medicine Society, 1993-present
- Member, HIV/AIDS Program Continuous Quality Improvement and Quality Management Committee, 2000-present
- Member, IDSA Medical Scholars Program Committee, 2001-present
- Member, Accreditation, Review & Quality (ARQC) subcommittee, Graduate Medical Education Committee, 2003-present
- Member, Community Advisory Board, Pitt Men’s Study, 2006-present
- Member, Pneumonia Workgroup, UPMC, 2010-present
- Member, Regional HIV Strategic Collaborative, 2014-present
- Ad-hoc reviewer, American Journal of Infection Control, 2012-present
- Ad-hoc reviewer, Clinical Medicine, 2012-present
- Ad-hoc reviewer, Infection Disorder and Drug Targets, 2012-present
- Ad-hoc reviewer, Middle East Fertility Society Journal, 2012-present
- Member, IDSA ID Career Task Force subcommittee, 2013-present

J. Alexander Viehman, MD

- Member, Antimicrobial Management Program, University of Pittsburgh Medical Center, 2013-present
- Member, Clinical Competency Committee, Infectious Diseases Fellowship, University of Pittsburgh, 2016-present

Mohamed Yassin MD PhD

- Chair, Infection Control Committee, UPMC Mercy, 2011-present
- Volunteer Physician, Free Clinic, Braddock, PA, 2012-present
- Infection Control System-wide Committee, UPMC, 2013-present
- Antibiotic Core Committee, UPMC, 2013-present
- Quality Improvement Committee, UPMC Mercy, 2013-present
- E-practice Guide Committee, UPMC, 2013-present
## GRANTS AND CONTRACTS AWARDED

<table>
<thead>
<tr>
<th>PUBLIC HEALTH SERVICE</th>
<th>PROJECT DESCRIPTION</th>
<th>INSTITUTION</th>
<th>DIRECT COSTS</th>
<th>INDIRECT COSTS</th>
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<tbody>
<tr>
<td>AMBROSE, ZANDREA</td>
<td>PITTSBURGH CENTER FOR HIV PROTEIN INTERACTIONS (PCHPI)</td>
<td>NIGMS</td>
<td>$160,837</td>
<td>$74,264</td>
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<tr>
<td>AMBROSE, ZANDREA</td>
<td>VISUALIZATION OF IN VIVO HIV-1 VAGINAL TRANSMISSION IN THE PRESENCE AND ABSENCE OF PREP</td>
<td>NIAID</td>
<td>$192,655</td>
<td>$59,642</td>
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<td>AMBROSE, ZANDREA</td>
<td>HOST AND PATHOGEN DIVERSITY IN MTB AND SIV INFECTION</td>
<td>NIAID</td>
<td>$43,204</td>
<td>$23,246</td>
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<tr>
<td>CLANCY, CORNELIUS</td>
<td>EVOLUTION OF KPC-K. PNEUMONIAE THAT PERSIST IN PATIENTS ON PROLONGED ANTIBIOTICS</td>
<td>NIAID</td>
<td>$119,893</td>
<td>$36,137</td>
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<tr>
<td>CLANCY, CORNELIUS</td>
<td>IL-17 RECEPTOR SIGNALING IN THE ORAL MUCOSA</td>
<td>NIDCR</td>
<td>$503</td>
<td>$259</td>
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<tr>
<td>CLANCY, CORNELIUS</td>
<td>IMAGING AND PK-PD OF MICAFUNGIN AT SITE OF CANDIDA GLABRATA INFECTION IN VIVO</td>
<td>NIAID</td>
<td>$205,292</td>
<td>$50,926</td>
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<td>CLANCY, CORNELIUS</td>
<td>MICROBIOME AND HOST RESPONSE SIGNATURES FOR PNEUMONIA AMONG LUNG TRANSPLANT RECIPIENTS</td>
<td>NIAID</td>
<td>$51,776</td>
<td>$27,959</td>
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<tr>
<td>DOI, YOHEI</td>
<td>CONSORTIUM ON RESISTANCE AGAINST CARBAPENEMS IN KLEBSIELLA PNEUMONIAE AND OTHER ENTEROBACTERIACEAE (CRACKLE): A PROSPECTIVE, OBSERVATIONAL COHORT STUDY</td>
<td>DUKE UNIVERSITY/ NIAID</td>
<td>$1,105</td>
<td>$597</td>
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<tr>
<td>DOI, YOHEI</td>
<td>GRAM NEGATIVE ARLG STEERING COMMITTEE CHAIR</td>
<td>DUKE UNIVERSITY/ NIAID</td>
<td>$6,138</td>
<td>$3,315</td>
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<tr>
<td>DOI, YOHEI</td>
<td>ENHANCING NEUTROPHIL RESPONSES TO COUNTER MDR GRAM NEGATIVE BACTERIAL PNEUMONIA</td>
<td>NIAID</td>
<td>$5,548</td>
<td>$2,996</td>
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<tr>
<td>DOI, YOHEI</td>
<td>ANTIBACTERIAL RESISTANCE LEADERSHIP GROUP (ARLG) CRACKLE STUDY</td>
<td>UNIVERSITY OF NORTH CAROLINA/ NIAID</td>
<td>$8,594</td>
<td>$4,641</td>
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<tr>
<td>DOI, YOHEI</td>
<td>COLISTIN-RESISTANT ACINETOBACTER BAUMANNII</td>
<td>NIAID</td>
<td>$164,377</td>
<td>$88,405</td>
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<tr>
<td>Name</td>
<td>Project Description</td>
<td>Project Sponsor</td>
<td>Direct Costs</td>
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<tr>
<td>DOI, YOHEI</td>
<td>MECHANISMS AND IMPLICATIONS OF FOSFOMYCIN RESISTANCE IN ESCHERICHIA COLI</td>
<td>NIAID</td>
<td>$130,709</td>
<td>$70,371</td>
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<tr>
<td>DOI, YOHEI</td>
<td>PROCALCITONIN ANTIBIOTIC CONSENSUS TRIAL (PROACT)</td>
<td>NIGMS</td>
<td>$2,656</td>
<td>$1,434</td>
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<tr>
<td>HARRISON, LEE</td>
<td>ANALYZING ADULT PNEUMOCOCCAL VACCINATION IMPLEMENTATION IN THE UNDERSERVED</td>
<td>NIAID</td>
<td>$5,750</td>
<td>$3,105</td>
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<tr>
<td>HARRISON, LEE</td>
<td>GENOMIC EPIDEMIOLOGY FOR HOSPITAL OUTBREAK DETECTION</td>
<td>NIAID</td>
<td>$37,993</td>
<td>$19,480</td>
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<tr>
<td>HARRISON, LEE</td>
<td>ENHANCED DETECTION SYSTEM FOR HEALTHCARE-ASSOCIATED TRANSMISSION OF INFECTION</td>
<td>NIAID</td>
<td>$141,967</td>
<td>$37,834</td>
</tr>
<tr>
<td>HO, KEN SUJIN</td>
<td>FEASIBILITY OF SHORT-TERM PREP UPTAKE FOR MSM WITH EPISODIC HIGH-RISK FOR HIV</td>
<td>NIMH</td>
<td>$45,111</td>
<td>$23,955</td>
</tr>
<tr>
<td>HO, KEN SUJIN</td>
<td>UNIVERSITY OF PITTSBURGH MULTICENTER AIDS COHORT STUDY (MACS)</td>
<td>NIAID</td>
<td>$7,011</td>
<td>$3,786</td>
</tr>
<tr>
<td>HO, KEN SUJIN</td>
<td>GRIFFITHSIN-BASED RECTAL MICROBICIDES FOR PREVENTION OF VIRAL ENTRY (PREVENT)</td>
<td>UNIVERSITY OF LOUISVILLE / NIAID</td>
<td>$83,593</td>
<td>$45,353</td>
</tr>
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<td>HO, KEN SUJIN</td>
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<td>Relbactam in combination with imipenem against enterobacteriaceae and pseudomonas aeruginosa strains exhibiting various mechanisms of carbapenem resistance</td>
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<td>Evaluation of in vitro activity of fosfomycin alone or in combination with newly introduced β-lactam agents against carbapenem-resistant pseudomonas aeruginosa and enterobacteriaceae clinical isolates</td>
<td>Zavante Therapeutics</td>
<td>$10,613</td>
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<td>Efficacy and safety of isavuconazole prophylaxis among organ transplant recipients</td>
<td>Astellas Pharma US</td>
<td>$19,959</td>
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<td>A phase IB, randomized, blinded, placebo-controlled dose escalation study of the safety and biological activity of GS-9620 in HIV-I infected virologically suppressed adults</td>
<td>Gilead Sciences, Inc.</td>
<td>$200</td>
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<tr>
<td>Researcher</td>
<td>Title</td>
<td>Sponsor</td>
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<tr>
<td>Riddler, Sharon A.</td>
<td>A Phase 1b, Randomized, Blinded, Placebo-Controlled Dose Escalation Study of the Safety and Biological Activity of GS-9620 in HIV-1 Infected, Virologically Suppressed Adults</td>
<td>Gilead Sciences, Inc</td>
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<tr>
<td>Shields, Ryan</td>
<td>Mutation Rates Among C. Albicans and C. Glabrata Following Exposure to Different Echinocandins</td>
<td>Merck</td>
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<td>Shields, Ryan</td>
<td>Intra-Abdominal Candidiasis (IAC): Rates of Antifungal Resistance and Treatment Experience with Echinocandins</td>
<td>Astellas Pharma US</td>
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<tr>
<td>Shields, Ryan</td>
<td>Tolerability of Tedizolid Among Patients with Intolerance to Alternative Therapies</td>
<td>Merck</td>
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<td>Shields, Ryan</td>
<td>Suppression and Characterization of Ceftazidime-Avibactam Resistance Among Carbapenem-Resistant K. Pneumonia (Ceftazidime)</td>
<td>Allergan</td>
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<td><strong>TOTAL INDUSTRY</strong></td>
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<td>Public Health Service</td>
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<td>Society and Foundations</td>
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<td><strong>TOTAL</strong></td>
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</tbody>
</table>
TEACHING

The Division continues to prioritize education by teaching medical students, medical residents, infectious diseases fellows, and doctoral students in the School of Medicine and the Graduate School of Public Health. Faculty members in our Division are involved with teaching medical students throughout their four years of training. Beginning in their first year, faculty members facilitate small group discussions on HIV/AIDS with first-year medical students, and teach in our highly rated course that introduces the basic science and microbiology of infectious diseases. Our faculty members also teach in the evidence and discovery block. Faculty members teach in various second-year courses which focus on infections in different organ systems, and in their third-year, medical students receive an HIV didactic session during the Combined Ambulatory Medicine and Pediatric Clerkship (CAMPC). In addition to the didactic session, faculty members facilitate small group discussions on the management of HIV/AIDS in the ambulatory setting. Beginning in their third year, medical students can elect to rotate in the HIV/AIDS clinic where they are supervised by clinical faculty members. Both third- and fourth-year medical students can elect to rotate on the inpatient general infectious diseases (ID) consult service, as well as receive didactic teaching in antimicrobials with the pharmacology elective.

Resident teaching primarily occurs during popular elective rotations on the inpatient general ID consult service. House staff (Medicine, CCM, Obstetrics/Gynecology fellows, and Family Medicine residents) also have the opportunity to rotate in the HIV/AIDS clinic or on the Surgical ID and Transplant ID consult services, which offers one-on-one learning opportunities with the attending physician.

Faculty members also teach courses on the control and prevention of HIV/AIDS and prevention, treatment and control of global infectious diseases in the Infectious Diseases and Microbiology program in the Graduate School of Public Health. Our faculty members also teach residents about tropical medicine and parasitology in the global health track.

In addition to patient-oriented teaching, the ID Division provides multiple didactic conferences:

- Weekly ID core curriculum lecture series featuring the division’s finest lecturers
- Bi-monthly ID journal club that pairs fellows with faculty mentors to optimize the fellows’ presentations
- Weekly ID Grand Rounds that is the Division’s showcase for fellows and faculty members to discuss the diagnosis and management of a diverse range of infectious diseases
- Thrice-monthly HIV-AIDS educational conference during which fellows and faculty members are educated about HIV drug resistance and updated on the latest topics of importance for this patient population
- American Academy of HIV Medicine credentialing exam preparation
- Semi-monthly Transplant ID journal club and core curriculum lectures, during which fellows and faculty members are updated on the latest topics in infection prevention, diagnosis, and management in transplant recipients
- Monthly Transplant ID teleconference between UPMC, Cleveland Clinic, UNC, and the University of Sao Paolo, whereby each institution presents a case on a rotating basis. Our ID fellows are encouraged to present.
- Periodic Tropical Medicine teleconference between UPMC and University of Philippines Manila
- Quarterly Citywide ID Grand Rounds, during which each major hospital in the city of Pittsburgh takes turns presenting a new case
- Semi-annual fellows’ research-in-progress meetings, during which research objectives and results are presented to the division’s faculty members and critically reviewed by the division’s Academic Committee

The ID fellowship training program continues to provide excellent clinical training and opportunities to conduct research with nationally prominent investigators. Fellows’ development is carefully guided by faculty mentors and the division chief, who meet one-on-one with each fellow quarterly. Fellows spend time on the general, surgical and transplantation infectious diseases consult services at the UPMC Presbyterian and VAPHS sites. An infectious diseases fellowship
rotation on the UPMC Shadyside hematology/oncology and bone marrow transplant services is also offered. Away rotations in hematology/oncology and bone marrow transplantation ID are also available at the Cleveland Clinic and MD Anderson. International training sites include the Philippines and Mozambique. Rotations at these sites are available for focusing on tropical medicine/infectious diseases.

Teaching Activities

**Rima Abdel-Massih MD**
- Member, Internal Medicine Residency Application Interviewing Committee, UPMC, 2010-present
- Member, ID Educational Initiative Workgroup, American Society of Transplantation, 2011-present
- Associate Director of Education, Division of Infectious Diseases, Department of Medicine, University of Pittsburgh, 2011-present
- Lecturer, Selective in Clinical Pharmacology, University of Pittsburgh School of Medicine, Fourth-year medical students, 2011-present
- Lecturer, Medical Microbiology, University of Pittsburgh School of Medicine, First-year medical students, lecture on Antiviral drugs (non-HIV), 2012-present
- Director, Transplant Infectious Diseases Education, Division of Infectious Diseases, Department of Medicine, University of Pittsburgh, 2012-present
- Program Director, Infectious Diseases Fellowship Program, Division of Infectious Diseases, Department of Medicine, University of Pittsburgh, 2016-present
- Member, Academic Committee, Division of Infectious Diseases, Department of Medicine, University of Pittsburgh, 2013-present
- Facilitator, Problem-Based Learning Sessions, Medical Microbiology course, University of Pittsburgh School of Medicine, 2016-present

**Zandrea Ambrose PhD**
- Lecturer, Viral Pathogenesis (MSMVM 2004), University of Pittsburgh School of Medicine, 2008-present
- Facilitator, Medical Microbiology Problem-Based Learning (MED5114), University of Pittsburgh School of Medicine, 2008-present
- Lecturer, Molecular Virology (MSVM2410/IDM2002), University of Pittsburgh School of Medicine, 2010-present
- Member, Dissertation Committee (Kevin Raehz, Kevin Melody, Zhou Zhong, Ryan Stack, Jennifer Zerbato, Long Kwan, Matthew Lam), University of Pittsburgh Graduate School of Public Health, 2015-2016
- Mentor, Three Graduate Students (Douglas Fischer, Kevin Melody, Zhou Zhong), University of Pittsburgh Graduate School of Public Health, 2015-2016

**Karin Byers MD MS**
- Lecturer, Culture Report Scenarios, Acute Care Nurse Practitioner Program, UPMC, 2012-present
- Lecturer, Antibiotic Management Scenarios, Acute Care Nurse Practitioner Program, UPMC, 2012-present
- Lecturer, Endocarditis, Internal Medicine Resident Lecture Series, University of Pittsburgh School of Medicine, 2015-2016
- Lecturer, ID Core Lecture Series, Post-Surgical CNE Infections, University of Pittsburgh School of Medicine, 2015-2016
- Lecturer, Neuro Critical Care Lecture Series, CNS Infections, University of Pittsburgh Medical Center, 2015-2016
- Lecturer, Plastic Surgery Grand Rounds, Antibiotics in the Surgical Trauma Patient, University of Pittsburgh Medical Center, 2015-2016
- Lecturer, Prosthetic Valves and Infections: The Infectious Diseases Physician’s Perspective, Heart and Vascular Institute Board Review Course, University of Pittsburgh Medical Center, 2015-2016
Cornelius (Neil) Clancy MD
- Member, Internal Medicine Residency Application Interviewing Committee, UPMC, 2007-present
- Member, Infectious Diseases Fellowship Interviewing Committee, UPMC, 2007-present
- Member, Academic Committee, Division of Infectious Diseases, Department of Medicine, University of Pittsburgh, 2007-present
- Lecturer, Fungal Infections; Rational Use of Antibiotics, Infectious Diseases Clinical Rotation Core Curriculum, 2008-present

Yohei Doi MD PhD
- Facilitator, Medical Microbiology Course, MS-1 students, Problem-Based Learning Sessions, University of Pittsburgh School of Medicine, 2008-present
- Preceptor, Physical Examination Course, MS-1 students, University of Pittsburgh School of Medicine, 2009-present
- Lecturer, Medical Microbiology Course, MS-1 students, University of Pittsburgh School of Medicine, 2015-2016

Carolyn Fernandes MD
- Facilitator, ILS Med Clinical Pharmacology, MS-4 students, University of Pittsburgh School of Medicine, 2015-2016
- Facilitator, Intro to Physical Exam, MS-1 students, University of Pittsburgh School of Medicine, 2015-2016

Alison Galdys MD
- Mentor, Scholarly Project for Zeyu Xu, third-year medical student, University of Pittsburgh School of Medicine, 2015-2016
- Lecturer, Medical Microbiology, Healthcare-Associated Infections, MS-1 students, University of Pittsburgh, 2015-2016
- Facilitator, Problem-Based Learning Elective in Medical Microbiology, MS-1 medical students, University of Pittsburgh, 2015-2016

Lee Harrison MD
- Mentor, Two Postdoctoral students in Epidemiology (Arlete Miloque Mahumane, Mustapha Mustapha), 2015-2016

Ken Ho MD MPH
- Instructor, HIV-related issues, Medical Students and Residents, Pittsburgh AIDS Center for Treatment, UPMC, 2007-present
- Lecturer, Update in HIV Research, HIV/AIDS Educational Forum, University of Pittsburgh, 2013-present
- Lecturer, Syphilis, UPMC Shadyside Family Medicine Residency Program, 2015
- Co-Course Director, Orientation, MS-1 students, University of Pittsburgh School of Medicine, 2015-2016

Eun Jeong Kwak MD
- Facilitator, Clinical Ward Rounds, Rounding Service, Transplant and General ID Fellows, Residents and Medical Students, University of Pittsburgh Medical Center, 2003-present
- Facilitator, Outpatient Clinics, Rounding Service, Transplant and General ID Fellows, University of Pittsburgh Medical Center, 2005-present
- Lecturer, ID Fellow Core Teaching, Treatment of Non-Tuberculous Mycobacteria, University of Pittsburgh Medical Center, 2011-present
- Lecturer, ID Resident Lecture Series, Approach to Neutropenic Fever and Non-Tuberculous Mycobacterium, University of Pittsburgh Medical Center, 2012-present
• Preceptor, Advanced Physical Examination Course, MS-2 students, University of Pittsburgh School of Medicine, 2012-2016
• Small Group Leader, Advanced Physical Examination 2 (MED5233), four sessions for MS-2 students, University of Pittsburgh School of Medicine, 2012-2016
• Lecturer, Continuing Education Sessions, University of Pittsburgh Medical Center, 2012-2016

Bernard J Macatangay MD
• Facilitator, Medical Parasitology and Viral Infections in Travelers, Internal Medicine residents and medical students, Internal Medicine Global Health Track, University of Pittsburgh School of Medicine, 2009-present
• Lecturer, Medical Parasitology and Viral Infections in Travelers, Lectures on Medical Parasitology and Viral Infections in Travelers, Internal Medicine residents and medical students, University of Pittsburgh School of Medicine, 2009-present
• Facilitator, Parasitology lab sessions, Internal Medicine residents and medical students, University of Pittsburgh School of Medicine, 2009-present
• Lecturer, HIV Immunology, Immunology in Health and Disease, MS-1 students, University of Pittsburgh School of Medicine, 2010-present
• Facilitator, Introduction to Being a Physician, group sessions, MS-1 students, University of Pittsburgh School of Medicine, 2010-present
• Lecturer, HIV/AIDS and Sexually Transmitted Infections, Medical Microbiology, MS-1 students, University of Pittsburgh School of Medicine, 2010-present
• Facilitator, Problem-Based Learning Session, Medical Microbiology, MS-1 students, University of Pittsburgh School of Medicine, 2011-present
• Lecturer, Infectious Diseases Fellowship Core Lectures in Parasitology and Tropical Medicine, First- and Second-Year Fellows, UPMC, 2011-present
• Lecturer, Prevention, Treatment, Control of Global Infectious Diseases, IDM2038, Masters of Public Health students, University of Pittsburgh Graduate School of Public Health, 2013-present
• Dean’s Applicant Interviewer, University of Pittsburgh School of Medicine, (MS-1 students), 2014-present

Sarah McBeth MD
• Facilitator, Problem-Based Learning Session, Intro to Being a Physician, MS-1 students, University of Pittsburgh School of Medicine, 2015-2016
• Facilitator, Problem-Based Learning Session, Population Health, MS-2 students, University of Pittsburgh School of Medicine, 2015-2016

Deborah McMahon MD
• Lecturer, Pharmacotherapy of AIDS, Integrated Life Sciences Selective in Clinical Pharmacology, 4th year medical students, University of Pittsburgh School of Medicine, 2015-present
• Lecturer, Prevention, Treatment and Control of Global Infectious Diseases, HIV Management, Treatment and Comorbidities Course, graduate students, University of Pittsburgh Graduate School of Public Health, 2011-present

John W Mellors MD
• Mentor, two pre-doctoral associates (John Bui, Anthony Cillo) and a postdoctoral associate (Francis Hong), 2015-2016
• Dissertation Committee Member, three pre-doctoral associates (Jennifer Zerbato, Anthony Cillo, Kevin Melody), 2015-2016
Minh Hong Nguyen MD
- Lecturer, Mould Infections, residents and fellows, Infectious Diseases Core Curriculum, 2010-present
- Lecturer, Infectious Complications among Patients Undergoing Stem Cell Transplantation, residents and fellows, Infectious Diseases Core Curriculum, 2010-present
- Mentor, two postdoctoral fellows (Ghady Haidar, Kevin Dee), 2015-2016

Sharon Riddler MD
- Facilitator, Problem-Based Learning Sessions, Investigation & Discovery, second-year medical students, University of Pittsburgh School of Medicine, 2015-2016
- Facilitator, Problem-Based Learning Session, Intro to Being a Physician, first-year medical students, University of Pittsburgh School of Medicine, 2015-2016
- Facilitator, Problem-Based Learning Sessions, Evidence-Based Medicine Fundamentals, first-year medical students, University of Pittsburgh School of Medicine, 2015-2016

Neel Shah, MD
- Facilitator, Infectious Diseases Problem-Based Learning sessions, medical students, 2015-present
- Presenter, ID Fellowship Teaching Conference, 2015-present
- Presenter, ID Year in Review, Presbyterian Hospital and UPMC Shadyside, 2016-present
- Presenter, Meet the Experts Conference, UPMC Northwest Campus, 2017
- Mentor, Infectious Diseases Fellow (Rameez Phulpoto), Journal Club presentation, 2017
- Mentor, Infectious Diseases Fellow (Mostafa Alfishawy), Epidemiological Review of Joint Aspiraiton and Septic Arthritis, 2017
- Mentor, medical resident (Jacqueline Sink), manuscript preparation, submission and publication to The American Journal of Medicine, Case Report for UPMC, 2017

Kathleen Sheridan DO
- Small Group Leader, Summer Reading Assignment, Introduction to Being a Physician (MED5124), University of Pittsburgh School of Medicine, 2014-present
- Small Group Leader, Down Syndrome, Introduction to Being a Physician (MED5124), University of Pittsburgh School of Medicine, 2014-present
- Small Group Leader, Cystic Fibrosis, Introduction to Being a Physician (MED5124), University of Pittsburgh School of Medicine, 2014-present
- Small Group Leader, Diabetes, Introduction to Being a Physician (MED5124), University of Pittsburgh School of Medicine, 2014-present
- Small Group Leader, Public Health Problem-Based Learning Session, Introduction to Being a Physician (MED5124), University of Pittsburgh School of Medicine, 2014-present
- Small Group Leader, HIV/AIDS, Case Discussion, Introduction to Being a Physician (MED5124), University of Pittsburgh School of Medicine, 2014-present
- Course Co-Director, Introduction to Being a Physician (MED5124), University of Pittsburgh School of Medicine, 2014-present
- Small Group Leader, Public Health Problem-Based Learning Session, Case Wrap-Up, Introduction to Being a Physician, University of Pittsburgh School of Medicine, 2014-present
- Mentor, MS III (Philip Charles Wagner) Scholarly Project, Vancomycin Dosing on an Internal Medicine Unit, University of Pittsburgh School of Medicine, 2016-2017
- Mentor, Postdoctoral Associate (Mana Rao), Research Project, Gram Positive Rod Endocarditis, 2016
Ryan K Shields PharmD MS
- Facilitator, Clinical Pharmacology (MED5710) Problem-Based Learning Session, Rationale Use of Antimicrobial Agents, medical students, University of Pittsburgh School of Medicine, 2009-present
- Lecturer, Infectious Diseases Lecture Series: Antibiotics 1, residents and fellows, University of Pittsburgh School of Medicine, 2009-present
- Lecturer, Infectious Diseases Lecture Series: Antibiotics 2, residents and fellows, University of Pittsburgh School of Medicine, 2009-present
- Lecturer, Antibacterials I-III, Medical Microbiology (MED5116), medical students, University of Pittsburgh School of Medicine, 2010-present
- Facilitator, Medical Microbiology (MED5116), Problem-Based Learning Session, University of Pittsburgh School of Medicine, 2014-present
- Facilitator, Critical Review Course, Review of Medical Microbiology Course, second-year medical students, University of Pittsburgh School of Medicine, 2014-present
- Facilitator, Microbiology Overview (PHARM 5817), Problem-Based Learning Session, second- and third-year pharmacy students, University of Pittsburgh School of Pharmacy, 2015-present
- Recipient, Junior Faculty Translational Research Award, University of Pittsburgh, 2016

Fernanda P Silveira MD MS
- Lecturer, Methods and Logic in Medicine-Pt. 1, MS-1 students, University of Pittsburgh School of Medicine, 2007-present
- Lecturer, Fungal Infections and Antifungal Drugs, Medical Microbiology, MS-1 students, University of Pittsburgh School of Medicine, 2008-present
- Lecturer, Selective in Clinical Pharmacology, MS-4 students, University of Pittsburgh School of Medicine, 2013-present
- Problem-Based Learning Course Director, Medical Microbiology, MS-1 students, University of Pittsburgh School of Medicine, 2013-present
- Dean’s Applicant Interviewer, University of Pittsburgh School of Medicine, 2014-present

Nicolas Sluis-Cremer PhD
- Lecturer, Antiviral Drugs, Molecular Pharmacology (MSMPHL3360), University of Pittsburgh Interdisciplinary Biomedical Graduate Program, 2004-present
- Member, Dissertation Committee, Kevin Melody, Department of Infectious Diseases and Microbiology (Mentor: Zandrea Ambrose), University of Pittsburgh Graduate School of Public Health, University of Pittsburgh, 2013-present
- Dean’s Applicant Interviewer, University of Pittsburgh School of Medicine, MD/PhD students, 2014-present

Peter J Veldkamp MD
- Lecturer, Tuberculosis, Resident Core Curriculum, UPMC Presbyterian, 2004-present
- Lecturer, Rational Antibiotic Use, Resident Core Curriculum, UPMC Presbyterian and VA Hospital, Pittsburgh, 2004-present
- Lecturer, Immunodeficiencies, monthly lecture for all residents and students, University of Pittsburgh School of Medicine, 2004-present
- Lecturer, Travel Medicine, Fellow Core Curriculum, UPMC Presbyterian, 2004-present
- Lecturer, Emerging Infections, Microbiology Curriculum MS-1, University of Pittsburgh School of Medicine, 2005-present
- ID Board Review Fellow Core Curriculum, UPMC Presbyterian, 2005-present
- Lecturer, HIV Cases and Update, Resident Teaching Series, VA Pittsburgh Health System, 2006-present
• Lecturer, HIV Cases and Update, Resident Teaching Rounds, UPMC Shadyside, 2006-present
• Lecturer, HIV Cases and Update, Resident Teaching Rounds, UPMC Presbyterian, 2006-present
• Lecturer, Travel Medicine, Resident Teaching Series, UPMC Presbyterian, 2006-present
• Lecturer, Travel Medicine, Resident Teaching Series, VA Pittsburgh Health System, 2006-present
• Lecturer, Travel Medicine, Resident Teaching Series, UPMC Shadyside, 2006-present
• Lecturer, Fever Work Up, Resident Teaching Series, UPMC Presbyterian, 2006-present
• Lecturer, Fever Work Up, Resident Teaching Series, VA Pittsburgh Health System, 2006-present
• Lecturer, Fever Work Up, Resident Teaching Series, UPMC Shadyside, 2006-present
• Lecturer, Introduction Infectious Diseases, Microbiology Curriculum MS-1, University of Pittsburgh School of Medicine, 2007-present
• Facilitator, Infectious Diseases Conference and Topic Review, Microbiology Curriculum MS-1, University of Pittsburgh School of Medicine, 2007-present
• Lecturer, Pneumonia, Pulmonary Curriculum MS-2, University of Pittsburgh School of Medicine, 2007-present
• Lecturer, Pneumonia in Immunocompromised Hosts, Pulmonary Curriculum MS-2, University of Pittsburgh School of Medicine, 2007-present
• Lecturer, Urinary Tract Infections, Renal Curriculum MS-2, University of Pittsburgh School of Medicine, 2007-present
• Lecturer, Antibiotics I, Pharmacotherapy MS-4, University of Pittsburgh School of Medicine, 2007-present
• Lecturer, Antibiotics II, Pharmacotherapy MS-4, University of Pittsburgh School of Medicine, 2007-present
• Facilitator, Methods and Logic in Medicine (MLM-2), Curriculum MS-2, University of Pittsburgh School of Medicine, 2007-present
• Lecturer, Pre-Travel Advice ID Fellow Core Curriculum, UPMC Presbyterian, 2007-present
• Lecturer, Cutaneous Manifestations of Infectious Diseases, ID Fellow Core Curriculum, UPMC Presbyterian, 2007-present
• Medical Microbiology Board Review MS-2, University of Pittsburgh School of Medicine, 2008-present
• Course Director, Medical Microbiology MS-1, University of Pittsburgh School of Medicine, 2008-present
• Lecturer, Travel Medicine, Medical Microbiology Curriculum MS-1, University of Pittsburgh School of Medicine, 2008-present
• Lecturer, Common Things Are Common, Medical Microbiology MS-1, University of Pittsburgh School of Medicine, 2008-present
• Lecturer, Practical Aspects of Antibiotic Therapy, Medical Microbiology Curriculum MS-1, University of Pittsburgh School of Medicine, 2008-present
• Lecturer, Nosocomial Infections, Medical Microbiology Curriculum MS-1, University of Pittsburgh School of Medicine, 2008-present
• Lecturer, Parasitology, Medical Microbiology Curriculum MS-1, University of Pittsburgh School of Medicine, 2008-present
• Lecturer, Tuberculosis, Resident Teaching Series, UPMC Presbyterian, 2008-present
• Lecturer, Tuberculosis, Resident Teaching Series, VA Pittsburgh Health System, 2008-present
• Lecturer, Tuberculosis, Resident Teaching Series, UPMC Shadyside, 2008-present
• Lecturer, Encephalitis and Meningitis, Neurology Residency Program, UPMC Presbyterian, 2008-present
• Lecturer, CNS Infections in HIV patients, Neurology Residency Program, UPMC Presbyterian, 2008-present
• Academy of Master Educators, University of Pittsburgh School of Medicine, 2009-present
• Facilitator, Introduction to Being a Physician, MS-I, University of Pittsburgh School of Medicine, 2009-present
• Lecturer, Travel Medicine, Global Health Medicine Residency Track, UPMC Presbyterian, 2009-present
• Lecturer, Viral Hemorrhagic Fevers, ID Fellow Core Curriculum, UPMC Presbyterian, 2009-present
- Lecturer, Parasitic Infections I, ID Fellow Core Curriculum, UPMC Presbyterian, 2009-present
- Lecturer, Parasitic Infections II, ID Fellow Core Curriculum, UPMC Presbyterian, 2009-present
- Lecturer, Antibiotics in Resource-Limited Settings, Tropical Medicine Course, UPMC Presbyterian, 2011-present
- Lecturer, Meningitis, Tropical Medicine Course, UPMC Presbyterian, 2011-present
- Lecturer, Cases in Tropical Medicine, Tropical Medicine Course, UPMC Presbyterian, 2011-present
- Lecturer, Fever in the Returning Traveler, Tropical Medicine Course, UPMC Presbyterian, 2011-present
- Lecturer, Travel Medicine and Prevention, Tropical Medicine Course, UPMC Presbyterian, 2011-present
- Lecturer, TB or not TB, Global Health Medicine Track, UPMC Presbyterian, 2012-present
- Lecturer, Skin Manifestations of Infectious Diseases, Medicine Residency Program, UPMC Presbyterian, 2012-present
- Lecturer, Skin Manifestations of Infectious Diseases, Medicine Residency Program, VA Pittsburgh Health System, 2012-present
- Lecturer, Skin Manifestations of Infectious Diseases, Medicine Residency Program, UPMC Shadyside, 2012-present
- Lecturer, Travel Medicine Advice, Ambulatory Care Lecture for Medicine Residency, UPMC Presbyterian, 2013-present
- Lecturer, Fever in the Returning Traveler, Ambulatory Care Lecture for Medicine Residency, UPMC Presbyterian, 2013-present
- Recipient, 2016 ID Fellows Excellence in Teaching Award, University of Pittsburgh Medical Center, 2016
- Outstanding Subspecialty Teaching Award, Department of Medicine, 2017

Paschalis Vergidis MD
- Lecturer, Rational Use of Antibiotics, Selective in Clinical Pharmacology, medical students, University of Pittsburgh School of Medicine, 2014-2016
- Facilitator, Problem-Based Learning Sessions, Medical Microbiology, first-year medical students, University of Pittsburgh School of Medicine, 2015-2016
- Facilitator, Problem-Based Learning Sessions, Evidence-Based Medicine-Applied, first-year medical students, University of Pittsburgh School of Medicine, 2015-2016
- Facilitator, Problem-Based Learning Session, Advanced Physical Exam, second-year medical students, University of Pittsburgh School of Medicine, 2015-2016

Emanuel Vergis MD MS MPH
- Fellowship Program Director, Division of Infectious Diseases, UPMC, 1999-2016
- Lecturer, Infectious Diseases Inpatient Student Selective, MS-4 students, University of Pittsburgh School of Medicine, 1999-2016
- Lecturer, Infectious Diseases, House staff, UPMC, 1999-2016
- Preceptor, Infectious Diseases, House staff, UPMC, 1999-2016
- Instructor, Focused HIV/AIDS Training, community-based physicians visiting the HIV/AIDS clinic as part of mini-externship through the Pennsylvania Mid-Atlantic AIDS ETC program, 1999-2016
- Lecturer, History of Medicine Course, MS-4 students, University of Pittsburgh School of Medicine, 2000-2016
- Facilitator, Introduction to Being a Physician, MS-1 students, University of Pittsburgh School of Medicine, 2000-2016
- Facilitator, Diversity Awareness Workshop, MS-1 students, University of Pittsburgh School of Medicine, 2000-2016

Department of Medicine  www.dom.pitt.edu/id
• Lecturer, Biomedicine: Past Present and Future, Summer Premedical Academic Enrichment Program, University of Pittsburgh Undergraduate Honors College Program, 2002-2016
• Lecturer, HIV/AIDS, Summer Premedical Academic Enrichment Program, University of Pittsburgh, 2004-2016
• Facilitator, Medical Microbiology Problem-Based Learning Sessions, MS-1 students, University of Pittsburgh School of Medicine, 2005-2016
• Preceptor, Combined Ambulatory Medicine Clerkship, MS-2 students, University of Pittsburgh School of Medicine, 2005-2016
• Lecturer, Infectious Diseases, high school students, University of Pittsburgh Medical Explorers Program, 2005-2016
• Clinical Preceptor, physician assistant students, Master of Physician Assistant Studies Program, Chatham University, 2007-2016

Mohamed H Yassin MD PhD
• Lecturer, Neuro Infectious Diseases, Internal Medicine residents, UPMC Mercy, 2015-present
• Lecturer, Infections in Travelers, Internal Medicine residents, UPMC Mercy, 2015-present
• Lecturer, Infections in Special Population – Ventilator-Associated Pneumonia, Internal Medicine residents, UPMC Mercy, 2015-present
• Lecturer, Isolation Precautions, Decolonization and Hand Hygiene, Internal Medicine residents, UPMC Mercy, 2015-present
• Facilitator, Simulated Patient Session, Medical Interviewing, first-year medical students, University of Pittsburgh School of Medicine, 2015-2016
Fellowship Program

<table>
<thead>
<tr>
<th>Current Fellow</th>
<th>Medical School</th>
<th>Residency</th>
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<tbody>
<tr>
<td>Alfishawy</td>
<td>Mostafa, Cairo University School of Medicine</td>
<td>Queens Hospital Center /Icahn School of Medicine at Mount Sinai</td>
</tr>
<tr>
<td>Iovleva</td>
<td>Alina, Wayne State University School of Medicine</td>
<td>Case Western Reserve University</td>
</tr>
<tr>
<td>Phulpoto</td>
<td>Rameez, Liaquat University of Medical and Health Sciences</td>
<td>Lankenau Medical Center</td>
</tr>
<tr>
<td>Rao</td>
<td>Mana, Rajarshi Chhatrapati Shahu Maharaj Government Medical College Kolhapu</td>
<td>Monmouth Medical Center</td>
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<tr>
<td>Samanta</td>
<td>Palash, Kolkata Medical College &amp; Hospital</td>
<td>Metropolitan Hospital Center</td>
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Transplantation Infectious Diseases

<table>
<thead>
<tr>
<th>Departing Fellow</th>
<th>Current Position</th>
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<tbody>
<tr>
<td>Rao</td>
<td>Mana, Essen Medical Associates, Bronx, NY</td>
</tr>
<tr>
<td>Samanta</td>
<td>Palash, Transplantation Infectious Diseases Fellow, UPMC</td>
</tr>
<tr>
<td>Shively</td>
<td>Nathan, Allegheny Health Network, Pittsburgh, PA</td>
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Fellow Publications


**Fellow Presentations**

**Haidar, G.** National Institute of Allergy and Infectious Diseases (NIAID) and the Infectious Diseases Society of America (IDSA) Research Careers Meeting, 2016

**Samanta P.** Clancy CJ, Rivosecci R, Shields RK, Nguyen MH. Effectiveness and Tolerability of Isavuconazole Prophylaxis in Lung Transplant Recipients, American Society for Microbiology 2017, June 1-5, 2017, New Orleans, LA

**Shively NR.** Buehrle DJ, Clancy CJ, and Decker BK. Oral presentation, Inappropriate Antibiotic Prescribing Is Common within a Veterans Affairs Primary Care System, The Society for Healthcare Epidemiology of America Spring 2017 Conference, March 30, 2017, St. Louis, MO


**Fellow Abstracts and Posters**


**Haidar, G.** National Institute of Allergy and Infectious Diseases (NIAID) and the Infectious Diseases Society of America (IDSA) Infectious Diseases Research Careers Meeting 2017, June 8-10, 2017, Bethesda, MD

**Haidar, G.** Oral presentation, Tolerance (TOL) to Ceftazidime/Avibactam (C/A), Plazomicin (PLZ) and Colistin (COL) Among Klebsiella Pneumoniae Carbapenemase-Producing K. Pneumoniae (KPC-Kp), Interscience Conference of Antimicrobial Agents and Chemotherapy (ICAAC), June 16-20, 2016, Boston, MA

**Haidar, G.** Poster presentation, Association Between Presence of Aminoglycoside Modifying Enzymes and in Vitro Activity of Gentamicin, Tobramycin, Amikacin and Plazomicin Against KPC and ESBL-Producing Enterobacter Spp, Interscience Conference of Antimicrobial Agents and Chemotherapy (ICAAC), June 16-20, 2016, Boston, MA

**Haidar, G.** Poster presentation, Ceftolozane-tazobactam (C/T) Is Effective Against Most Multidrug-Resistant (MDR) P. Aeruginosa (PA) Infections, but Resistance May Emerge on Therapy, Interscience Conference of Antimicrobial Agents and Chemotherapy (ICAAC), June 16-20, 2016, Boston, MA

**Haidar, G.** Poster presentation, Clinical Outcomes of Patients with Carbapenem-Resistant Enterobacteriaceae (CRE) Infections Treated with Ceftazidime-avibactam (C/A), Interscience Conference of Antimicrobial Agents and Chemotherapy (ICAAC), June 16-20, 2016, Boston, MA

**Samanta P.** Clancy CJ, Cheng S, Nguyen MH. Oral presentation, Copper Homeostasis and *Candida albicans* Gene Expression during Intra-Abdominal Candidiasis, ASM Microbe 2017, American Society for Microbiology (ASM), June 1-5, 2017, New Orleans, LA

**Samanta P.** Clancy CJ, Cheng S, Nierman WC, Nguyen MH. Transcriptional Profiling During Intra-Abdominal Candidiasis Reveals Site-Specific Host-Pathogen Interactions, American Society for Microbiology (ASM) 2017, June 1-5, 2017, New Orleans, LA

**Fellow Honors/Awards**

**Haidar, G.** First Place, Department of Medicine Annual Fellows’ Teaching Competition, University of Pittsburgh Medical Center, 2016

**Haidar, G.** Infectious Diseases Travel Award 2016, American Society of Microbiology

**Samanta, P.** Awarded ASM Infectious Diseases travel grant to attend and present oral paper and posters during American Society of Microbiology (ASM) Microbe 2017, June 1-5, 2017, New Orleans, LA

**Samanta, P.** Awarded travel grant by Infectious Diseases Society of America to attend and present a poster during Infectious Diseases (ID) Week 2016, Oct. 24-29, 2016, New Orleans, LA

**Samanta, P.** Selected to attend 6th annual NIAID/IDSA ID Research Career Meeting, National Institute of Allergy and Infectious Diseases (NIAID) and the Infectious Diseases Society of America (IDSA), June 8-10, 2017, Bethesda, MD

**Shively, N.** Received the Young Investigator Award from the VA Pittsburgh Health System for his project, Inappropriate Antibiotic Prescribing Is Common within a Veterans Affairs Primary Care System, Department of Medicine’s Research Day, University of Pittsburgh, May 2, 2017, Pittsburgh, PA
CLINICAL CARE

UPMC Health System

All six of the Division’s services continued to maintain volume in their inpatient clinical activity during FY 2017: General ID, Transplant ID, Surgical ID, HIV-AIDS, Magee-Women’s Hospital of UPMC ID Service, and UPMC Mercy Hospital ID Service (summarized in Table 1). One full-time faculty was recruited to support the General ID Teaching Service and the General ID Telemedicine service. In the 3rd quarter of FY 2017, two Advanced Practice Providers (APPs) were hired to support the inpatient and outpatient General ID services.

Overall inpatient volume in FY 2017 remained comparable to the prior year. The number of inpatient consults rose 8% while subsequent visits were down (5%), resulting in a net total reduction in volume of (2%) in FY 2017 from FY 2016 (Table 1). These changes are attributable to the departure of two physicians for personal reasons. Recruitment of replacements is a priority.

The total number of outpatient billable visits/procedures decreased (6%) in FY 2017 from FY 2016 (Table 2). The number of procedures completed in the ADC decreased (24%) due to the resignation of the medical director in FY 2016. A new medical director was hired in FY 2017 and ADC services resumed in December 2016. Overall, ID specialty visits (General ID, HIV/AIDS, and TID) experienced a decrease of (12%) in new/consult visits in FY 2017 compared with a year earlier. Return visits were also down by 4% from the prior fiscal year. Contributing to this decrease was the HIV/AIDS specialty/primary care clinic, which realized a (6%) or (257) reduction in overall visits, although 161 new patients with HIV/AIDS entered care this year. General ID and OPAT realized an overall increase of 9% or 195 in total visit volume.

FY 2017 Clinical Care Improvements

Telemedicine

- In FY 2017, the Division continued to build its telemedicine service under the direction of Rima Abdel-Massih, MD, Director of ID Telemedicine; Karin Byers, MD, Clinical Director; and infectious diseases specialists Carolyn Fernandes, MD, Christian Perez, MD, Neel Shah, MD, Kathleen Sheridan, DO, and J. Alex Viehman MD. Currently there is one telemedicine ID service that offers both inpatient and outpatient services at multiple UPMC locations and at a non-UPMC site. The Tele-ID service has been steadily growing at all sites (See telemedicine graphs below).
- Outpatient ID telemedicine consults are provided at UPMC Northwest and UPMC Bedford. ID inpatient consult telemedicine services at UPMC Northwest continued to grow in volume with an average of 27 visits per months. (See telemedicine graphs below).
• The ID telemedicine consult service continued to provide telephonic advice to the physicians at the Penn Highlands Hospital System. In November 2016, the inpatient ID consult service implemented e-consults and live video consultations.

• Also in November 2016, the ID Division expanded telephonic general ID curbside consultations service at UPMC Horizon.

• TID telemedicine inpatient consults and outpatient services at UPMC Hamot began in the fall of 2015.
Fecal Microbiota Transplantation

- A new outpatient service began in FY 2015 to treat recurrent *Clostridium difficile* (C. diff) infections with fecal microbiota transplantation (FMT). Tatiana Bogdanovich, MD, is the program’s medical director, and she works in collaboration with physicians in gastroenterology (GI). A directed-donor outpatient FMT program has been operating through the GI and ID divisions since December 2014, completing 19 outpatient FMT procedures through June 2017. In July 2017, a volunteer stool bank was established with more than 40 treatment doses prepared and stored for the treatment of patients with recurrent *Clostridium difficile*. Additionally, a new protocol for administration of FMT via freeze-dried capsules was developed so that FMTs are now offered via naso-duodenal tube (NDT), enteroscopy/colonoscopy, and via the intake of room-temperature freeze-dried capsules. A total of 15 patients were treated utilizing the volunteer stool bank in FY17, and there was an 86% success rate. FMT recipients and donors are being evaluated in a dedicated weekly C. diff/FMT clinic that is a part of the CCID. In addition to providing clinical service, we established a repository of pre- and post-FMT stool samples and clinical registry of both recipients and donors for basic and translational research purposes.

Outpatient Parenteral Antibiotic Therapy (OPAT)

- The OPAT program, which began in December 2013, is designed to monitor patients who are discharged from the hospital on intravenous antibiotics. The program goal is to prevent 30-day readmission rates and adverse events. Kathleen Sheridan, DO, is the program’s medical director, and under her direction, the readmission rate for these patients has decreased from 32% to 15%. Patients are monitored by the OPAT team, including an ID-trained pharmacist, a pharmacy coordinator, two nurse coordinators, and two physician extenders. As the volume of outpatients monitored each month has increased, the readmission rate remains around 14%. Patients who are evaluated in the outpatient clinic after hospital discharge have the lowest readmission rates. Approximately 1/3 of patients monitored are UPMC Health Plan patients. Based upon HP financial analytics, this program prevents one $20,000 hospital admission per month and saves $417 per discharge.
### CLINICAL SITES

#### INFECTIOUS DISEASES – ALL LOCATIONS

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<thead>
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<th>Key</th>
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<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Center for Care of Infectious Diseases</td>
<td>Falk Medical Building, 3601 Fifth Avenue, 7th Floor, Pittsburgh, PA 15213</td>
</tr>
<tr>
<td>B</td>
<td>UPMC Infectious Diseases - Magee-Women's Hospital UPMC</td>
<td>Magee-Womens Hospital 300 Halket Street Pittsburgh PA 15213</td>
</tr>
<tr>
<td>C</td>
<td>UPMC Infectious Diseases, UPMC Mercy</td>
<td>UPMC Mercy, 1400 Locust Street Pittsburgh PA 15219</td>
</tr>
</tbody>
</table>
**CLINICAL QUALITY IMPROVEMENT INITIATIVES**

**HIV/AIDS**

The Quality Management (QM) Committee oversees quality activities for the HIV-AIDS Program’s primary care clinic (PACT) and the outpatient General Infectious Diseases Clinic. The QM Committee is an interdisciplinary team that meets at least 10 times a year, with specific project teams that meet more frequently. The QM Committee is co-chaired by the HIV-AIDS Program medical director (Deborah McMahon, MD) and program manager (Michael Ridinger, BSN, MBA) and guided by a full-time QM coordinator (Linda Despines, RN, BA). Other ID physicians attend on a scheduled basis. Quality indicators are measured and reviewed on a regular basis at QM Committee meetings and HIV provider meetings. The program reports on key HIV-related indicators to the Health Resources Services Administration’s (HRSA) HIV-AIDS Bureau on a regular basis for benchmarking purposes.

When opportunities for improvement are identified in any aspect of the program, such as medical care, fiscal, or administrative practices, a Continuous Quality Improvement (CQI) initiative is developed. Appropriately constituted teams are assembled, often including providers and staff, and a team leader is identified. ID fellows are integrated within the QM Committee structure by working with program leadership and their mentors to develop their own QM projects in the second year of fellowship. The QM Coordinator educates fellows regarding CQI methods. The fellows develop projects, collect data, and present findings at QM Committee meetings.

Three ID projects were submitted to the 2016 Quality and Safety Fair, and are described below.

**Title:** Applying New Evidence into Practice: Effective Implementation of a Short Course of Antibiotics for Secondary Peritonitis  
**Team:** Nipun Atri, MD, Scott Gunn, MD, Alison Galdys, MD, Bonnie Falcione, PharmD, Ashleigh Hogue, PharmD, and Linda Despines, RN

- **Problem/ Opportunity:** Every year, about 900,000 cases of secondary peritonitis/ intra-abdominal infections (IAI) require hospital admission across the United States. The cornerstones of management are surgical control, resuscitation and antibiotics. Recent evidence supports a short course of antibiotics (< 4 days) compared to the more conventional 7-10 days of therapy, and this policy was recently implemented in our Trauma ICU. Data also suggests, however, that nearly 50% of patients do not receive care per latest scientific evidence.

- **Steps, Strategies and Implementation Plan:**
  - A multidisciplinary team including physicians, pharmacists and trainees from Department of Critical Care Medicine and Division of Infectious Diseases was established.
  - Target population in the Trauma ICU was identified using strict inclusion and exclusion criteria. Relevant information was obtained from PowerChart by manual chart review.
  - Baseline adherence rate to new policy of shorter course of antibiotics was found to be 45% (total n = 22).
  - Reasons identified for non-adherence included continuation of antibiotics after transfer out of ICU, initial order for a prolonged course, signs of unresolved sepsis, concomitant infections.
  - A multifaceted intervention was developed and implemented. It focused on academic detailing of all providers, involving the ICU pharmacist to ensure appropriateness of electronic orders, and modifying the ICU rounding checklist.
  - Post-intervention data collection showed an improvement in adherence rate to new policy from 45% to 87% (n = 15).

- **Lessons learned and barriers encountered:** Frequent relaying of performance measures and continual academic detailing of all providers is necessary for institution of a new policy. Having a multidisciplinary team with a strong focus on communication is pivotal for success. Certain barriers that remained unaddressed in
this study include a 60-day default duration of antibiotics in PowerChart and lack of formal need to recheck orders when patients transfer out of ICU.

- **Outcomes and opportunities for spread:** Adherence rate to Trauma ICU’s new policy of short course of antibiotics for secondary peritonitis was improved from 45% to 87%. **Targeted goal of 75% met.** This study should lay the groundwork for smoother and successful implementation of similar policies, at least in smaller units like ICUs and other specialized wards.

**Title:** Evaluation of Isavuconazole Prophylaxis in Lung Transplant Recipients  
**Team:** Samanta Palash, MD, Ryan Rovesecchi, PharmD, M. Hong Nguyen, MD, and Linda Despines, RN

- **Problem/Opportunity:**
  - Fungal infection is a major cause of morbidity and mortality among organ transplant recipients, especially within 100 days of transplant. Lung transplant recipients are the most vulnerable. We recently encountered three fatal cases of zygomycosis within a three-month period among organ transplant recipients. While epidemiologic work-up is being investigated, all recent organ transplant recipients are placed on isavuconazole prophylaxis. Isavuconazole is a new triazole agent that was approved by the Food and Drug Administration in 2015. It has activity against Zygomycetes, and has been shown to be as effective as voriconazole against invasive aspergillosis.
  - Voriconazole is currently used as an antifungal prophylaxis in our lung transplant program, but it lacks Zygomycetes activity.
  - The efficacy and tolerability of isavuconazole prophylaxis among lung transplant recipients are not known.
  - Interaction with calcineurin inhibitors is not known. Calcineurin inhibitors are an important immunosuppression drug to prevent organ rejection. Our lung transplant team, based on its experience with interaction between voriconazole and tacrolimus, automatically reduced the tacrolimus dosage by half when administered with isavuconazole.

- **Steps, strategies, and implementation plan:**
  - Performed a retrospective chart review of all recent lung transplant patients receiving isavuconazole prophylaxis
  - Calculated 1) rate of invasive fungal infections from lung transplant recipients while on isavuconazole prophylaxis; 2) calculated time to therapeutic tacrolimus concentrations from the time of transplant
  - Arranged for a meeting with lung transplant care providers and pharmacists, and shared our findings and recommendations
  - Analyzed time to tacrolimus therapeutic levels post-intervention for about four weeks

- **Lessons learned and barriers encountered:**
  - Isavuconazole is effective to prevent invasive fungal infections in lung transplant recipients.
  - Dose of calcineurin inhibitors should not be routinely adjusted when given concomitantly with isavuconazole.
  - Good communication is a key in identifying obstacles and overcoming them.

- **Outcomes and opportunities for spread:**
  - Median time to achieve therapeutic level for tacrolimus in lung transplant recipients was reduced from 12 days to five days.

**Title:** Outreach and Interventions: Reengaging Patients in HIV and Primary Care  
**Team:** Samantha Faulds, MS, Lauren Baumann, MSW, Bethany Blackburn, MBA, Liza Caringi, Linda Despines, RN, Cameron Magister, MSW, and Tamara Robinson, BS

- **Problem/Opportunity:** Pittsburgh AIDS Center for Treatment (PACT) is a federally-funded program that is evaluated on several quality indicators, including patient retention. New systematic processes were implemented to routinize outreach efforts for individuals who have not had a medical appointment in the past eight months
• **Steps in Planning and Implementation:** The project team designed a methodology to evaluate patients out of care and help them return to care. The intervention comprised three parts: A report was generated from CAREWare database using the HIV/AIDS Bureau (HAB) Gaps in Medical Care Visits indicator. PACT’s three medical case managers reviewed patient charts to assess if outreach was necessary. The medical case managers initiated phone calls to those in need of outreach interventions.

• **Results and Opportunities for Spread:** The percentage of PACT patients meeting the indicator remained stable. The percentage of youth patients (ages 13-24) meeting the indicator improved by 5%. The accuracy of the database-generated reports improved by 48%.

• **Lessons Learned and Barriers:** Tracking patient encounters utilizing CAREWare reduces manual chart review to identify patients lost to care, but data entry must be current. All staff should consistently update contact information in the electronic health record. Database-generated reports should be reviewed before initiation of actions steps.

This project received 1st place recognition in the Quality Category.

**Transplant Infectious Diseases (TID) and Antibiotic Management Program (AMP)**

Over the past year, the TID and the AMP services have engaged in several quality improvement projects:

• Evaluating the efficacy and adverse events of isavuconazole prophylaxis among solid organ transplant recipients. The team recommended this newly FDA approved agent (isavuconazole) for antifungal prophylaxis among organ transplant patients in response to a series of mucormycosis cases that developed between May-September 2015 (three cases), and again in April-May 2016 (two cases). This intervention was successful, as no further cases of nosocomial mucormycosis have been observed since June 2016. In addition, it was well-tolerated, with <10% discontinuation rate. The source of our series of mucormycosis is unclear (likely multifactorial), but contaminated linen might have played a role. TID is collaborating with Infection Prevention and Pharmacy to administer gamma-irradiated linen for our transplant recipients.

• TID was funded by UPMC to perform genetic and multicenter epidemiologic analysis of mould clusters.

• Expanding donor pool for organ transplant candidates. TID team collaborated with lung transplant program to help increase the potential donor pool, specifically regarding Public Health Service (PHS) increased-risk donors—the organs from these donors were being turned down mostly due to discomfort on the part of the surgical teams and the patients. Thorough literature review and informal survey of other programs showed these organs to be relatively safe for use. TID team helped quantify the potential disease transmission risks so that the surgeons could have a frank informed-consent process with the transplant candidates ahead of the time. Organs from PHS increased-risk donors are now being utilized with increased frequency and with good outcome. Starting June 2017, the TID team made further attempts to increase organ donor pools by accepting donor with HCV serology positive and/or nucleic acid positive for patients with difficult HLA-matched organs.

• The AMP team’s XDR Pathogen Laboratory continues to make a positive impact on the outcome of patients with carbapenem-resistant Enterobacteriaceae (CRE) bacteremia (reduction in mortality, length of hospitalization and hospitalization cost). Over this past year, a new agent, ceftazidime-avibactam, is available for treatment of CRE. The AMP and the XDR pathogen lab have incorporated this agent in the treatment guideline of CRE. Overall, treatment responses are similar to the older regimens, but renal toxicity is decreased.

• UPMC supports and funds an AMP Outreach program to curtail the use of inappropriate antibiotics.
**Infection Prevention Program**

The UPMC Infection Control (IC) program continues to be recognized as one of the nation’s best. The program has focused on bundling efforts to reduce health-care associated infections (HAIs). Examples include multi-drug resistant organism transmission interruption and subsequent HAI reduction of pathogens, such as methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE). Other HAI reduction bundles have targeted *Clostridium difficile* (CD), and device-related HAIs (i.e., central-line associated blood-stream infections (CLABs), catheter-associated urinary tract infection (CA-UTIs), and ventilator-associated pneumonias (VAP’s). HAI rate reductions achieved by type are below:

<table>
<thead>
<tr>
<th>HAI Type</th>
<th>Initiative onset</th>
<th>Base Rate</th>
<th>2016 Rate</th>
<th>% HAI Rate Change in 2016 as compared to rate at onset of initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA</td>
<td>2001</td>
<td>.88</td>
<td>.36</td>
<td>59%</td>
</tr>
<tr>
<td>VRE</td>
<td>2000</td>
<td>.57</td>
<td>.34</td>
<td>40%</td>
</tr>
<tr>
<td>CD</td>
<td>2000</td>
<td>11.7</td>
<td>7.5</td>
<td>36%</td>
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<tr>
<td>CLABs</td>
<td>2002</td>
<td>5.2</td>
<td>1.22</td>
<td>77%</td>
</tr>
<tr>
<td>CA UTI</td>
<td>2002</td>
<td>7.4</td>
<td>1.85</td>
<td>75%</td>
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<tr>
<td>ICU VAE</td>
<td>2014</td>
<td>14.30</td>
<td>6.46</td>
<td>55%</td>
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<tr>
<td>Additional Initiatives</td>
<td></td>
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<tr>
<td>MDR ACAT</td>
<td>2010</td>
<td>1.82</td>
<td>0.11</td>
<td>94%</td>
</tr>
<tr>
<td>Hand Hygiene</td>
<td>2008</td>
<td>53%</td>
<td>99.8%</td>
<td>88%</td>
</tr>
</tbody>
</table>

*No baseline data is available for VAP as the definition change occurred in 2014

UPMC’s IC program uses the highest scientific standards, insightful methodology and appropriate statistical analysis to monitor and maintain reductions in HAIs. The program has not only been successful at reducing UPMC’s HAI rates, it has influenced practices at many other health organizations across the country.

**MRSA/VRE**

![Multi-Drug Resistant HAI Rates 2000-2016](Chart)
CDI

**CDI Traditional, Expanded and NHSN Rate**

*Per 10,000 patient days*

- **Traditional**
- **Expanded**
- **NHSN**
- **Severe CDI**

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**ICU CLABS, CAUTIs, VAPs, VAEs**

**Breakdown of ICU Device Related Infection Types by Years**

- **CLABs**
- **VAPs**
- **CAUTIs**
- **VAEs**

*Legend:*
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
MDR ACAT

MDR ACAT Rate of New Patient Isolates Per 1,000 patient days

HAND HYGIENE

Hand Hygiene Compliance
VA Pittsburgh Healthcare System (VAPHS)

ID services provided by our faculty at the VA Pittsburgh Healthcare System (VAPHS), University Drive, include general and solid organ transplant inpatient consultations (>250 consults per month), and outpatient General ID and HIV-AIDS clinics (>35 patients per week). The volume of inpatient consults has doubled in the past two years. General ID consultations are also provided at the H. J. Heinz Progressive Care Center (~12 consults per month). In addition to consultations on cases requested by specific services, the ID service provides real-time surveillance and guidance on all positive blood cultures and cases of pneumonia. The ID division administers a home IV antibiotic program that services veterans in a four-state catchment area, and an Antimicrobial Stewardship Program. The Infection Prevention Program is administered by the ID division and is directed by Dr. Brooke Decker.

Dr. Decker and her Infection Prevention team have reduced central line bloodstream infection rates and have continued to decrease the number of catheter-associated urinary tract infections. They have also maintained comprehensive water management and pathogen remediation protocols. Dr. Decker and her Infection Prevention team received two posters of distinction awards at the 2017 Society for Hospital Epidemiology of America’s (SHEA) annual meeting. Four of the team’s posters were accepted for presentation at the 9th International Conference on Legionella in Rome, Italy.
FACULTY

Current Infectious Diseases Faculty

Full-Time Faculty

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<td>Abdel Massih</td>
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<td>Ambroise</td>
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<td>Badrane</td>
<td>Hassan</td>
<td>PhD</td>
<td>Research Assistant Professor of Medicine</td>
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<tr>
<td>Byers</td>
<td>Karin</td>
<td>E. MD</td>
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</tr>
<tr>
<td>Cheng</td>
<td>Shao</td>
<td>J. MD, PhD</td>
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<td>Doi</td>
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<td>Parikh</td>
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<td>Silveira</td>
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<td>Veldkamp</td>
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<td>Vergis</td>
<td>Emanuel</td>
<td>N. MD</td>
<td>Associate Professor of Medicine</td>
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Affiliated Faculty with UPP Appointments

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<tr>
<td>Bogdanovich</td>
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<td>MD</td>
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<tr>
<td>Bokhari</td>
<td>Malak</td>
<td>B. MD</td>
<td>Visiting Clinical Associate Professor of Medicine</td>
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<tr>
<td>Fernandes</td>
<td>Carolyn</td>
<td>R. MD</td>
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<td>McBeth</td>
<td>Sarah</td>
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<tr>
<td>Perez</td>
<td>Christian</td>
<td>O. MD</td>
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<td>Shah</td>
<td>Neel</td>
<td>B. MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Sheridan</td>
<td>Kathleen</td>
<td>R. DO</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Trevejo-Nunez</td>
<td>Giralda</td>
<td>J. MD</td>
<td>Clinical Instructor in Medicine</td>
</tr>
<tr>
<td>Viehman</td>
<td>John Alexander</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Yassin</td>
<td>Mohamed</td>
<td>H. MD</td>
<td>Clinical Associate Professor of Medicine</td>
</tr>
</tbody>
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### Affiliated Faculty without UPP Appointments

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>MI</th>
<th>Degree</th>
<th>Primary Title</th>
<th>Division</th>
<th>Previous Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhimraj</td>
<td>Adarsh</td>
<td>MD</td>
<td>Adjunct Instructor in Medicine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decker</td>
<td>Brooke</td>
<td>K</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hong</td>
<td>Jae</td>
<td>H</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McEllistrem</td>
<td>Mary</td>
<td>C</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td></td>
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</tr>
<tr>
<td>Pontzer</td>
<td>Raymond</td>
<td>E</td>
<td>MD</td>
<td>Clinical Associate Professor of Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weber</td>
<td>David</td>
<td>R</td>
<td>MD</td>
<td>Clinical Professor of Medicine</td>
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</tr>
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### New Faculty Hires

<table>
<thead>
<tr>
<th>Last Name</th>
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<th>Degree</th>
<th>Primary Title</th>
<th>Division</th>
<th>Previous Position</th>
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<tbody>
<tr>
<td>Bokhari</td>
<td>Malak</td>
<td>B</td>
<td>MD</td>
<td>Visiting Clinical Associate Professor of Medicine</td>
<td>Infectious Diseases</td>
<td>Physician, VA Pittsburgh Healthcare Service</td>
</tr>
<tr>
<td>Cyktor</td>
<td>Joshua</td>
<td>C</td>
<td>PhD</td>
<td>Research Instructor in Medicine</td>
<td>Infectious Diseases</td>
<td>Director, Virology Support Lab, U of Pittsburgh</td>
</tr>
<tr>
<td>Jacobs</td>
<td>Jana</td>
<td>L</td>
<td>PhD</td>
<td>Research Instructor in Medicine</td>
<td>Infectious Diseases</td>
<td>Senior Laboratory Analyst, U of Pittsburgh</td>
</tr>
<tr>
<td>Perez</td>
<td>Christian</td>
<td>O</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Infectious Diseases</td>
<td>Infectious Diseases Fellow, Vanderbilt U, TN</td>
</tr>
<tr>
<td>Ramanan</td>
<td>Poormima</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Infectious Diseases</td>
<td>Assistant Professor of Medicine, Mayo Clinic, MN</td>
<td></td>
</tr>
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### Research Associates

<table>
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<tr>
<th>Last Name</th>
<th>First Name</th>
<th>MI</th>
<th>Degree</th>
<th>Primary Title</th>
<th>Division</th>
<th>Previous Position</th>
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</thead>
<tbody>
<tr>
<td>Shutt</td>
<td>Kathleen</td>
<td>A</td>
<td>MS</td>
<td>Research Associate</td>
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</tr>
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</table>
# POST DOCS

## Current Post Docs in FY 2016-2017

<table>
<thead>
<tr>
<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree</th>
<th>Current Title</th>
<th>Summary of activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ito</td>
<td>Ryota</td>
<td>MD, PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Ito worked with Dr. Yohei Doi on mechanisms of fosfomycin resistance in Gram-negative pathogens and development of fosfomycin-potentiating agents.</td>
</tr>
<tr>
<td>McCormick</td>
<td>Kevin</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. McCormick is conducting research in Dr. Parikh’s lab to develop a dried blood spot-based next-generation sequencing assay to assess the risk of HIV drug resistance in individuals who seroconverted while taking pre-exposure prophylaxis for HIV prevention in sub-Saharan Africa.</td>
</tr>
<tr>
<td>Mustapha</td>
<td>Mustapha</td>
<td>MD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Mustapha works in Dr. Harrison’s and Dr. Doi’s laboratories, researching the whole genome sequence analysis to understand 1) the transmission of bacteria in the hospital, and 2) the mechanisms of antimicrobial resistance among Gram negative bacteria.</td>
</tr>
</tbody>
</table>

## Terminated Post Docs in FY 2016-2017

<table>
<thead>
<tr>
<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree</th>
<th>Current Title</th>
<th>Summary of activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cillo</td>
<td>Anthony</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Cillo worked in Dr. Mellors lab on evaluating relationships between the total inducible and infectious virus in both total and resting CD4 cell populations from patients on suppressive antiretroviral therapy</td>
</tr>
<tr>
<td>Garcia</td>
<td>Christian</td>
<td>MD</td>
<td>PhD Student (Epidemiology)</td>
<td>Dr. Garcia conducted research with Dr. Harrison to assess the impact of pneumococcal polysaccharide in elderly Chilean adults</td>
</tr>
<tr>
<td>Hong</td>
<td>Feiyu</td>
<td>MD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Hong was based in Dr. Mellors Lab, and his research focus was on the decay of persistent HIV reservoirs on antiretroviral therapy. His resignation was effective Jan. 8, 2016.</td>
</tr>
<tr>
<td>Mahumane</td>
<td>Arlete Miloque</td>
<td>MD</td>
<td>Researcher, Center for Operations Research, Beira, Mozambique</td>
<td>Dr. Mahumane is a Mozambican physician who was studying for a PhD degree with support from Dr. Harrison’s AIDS training grant.</td>
</tr>
</tbody>
</table>
**PUBLICATIONS**

**High-Impact Publications**

Major research accomplishments in these areas are underscored by the following high-impact publications:


  HIV-1 is difficult to treat because the virus can evolve to become drug-resistant within the body, and we have an incomplete understanding of where drug-resistant viruses originate and how they spread within a person.

  In this study, four macaques were infected with RT-SHIV, a simian immunodeficiency virus with an HIV-1 reverse transcriptase coding region, which can be targeted with standard HIV drugs. We sampled virus from the macaques before, during and after their viral population became resistant to administered drugs and determined the genetic viral sequences in several parts of the body: blood, lymph nodes, gut, and vagina. We found that drug resistance emerged across compartments nearly simultaneously, and drug resistance evolved multiple independent times within each macaque. Although migration of RT-SHIV between compartments is fast, compartments do not have the same distribution of viral genotypes. This is important because although studies typically sample virus from the blood to study how HIV-1 evolution in humans, our study suggests that it is not fully representative of other parts of the body, particularly the gut.


  Stable latent reservoirs of HIV persist despite suppressive antiretroviral therapy (ART) and cause rebound viremia following interruption of ART. New HIV cure strategies aim to deplete the latent reservoir by reversing HIV latency and promoting the death of cells containing inducible proviruses. Multiple latency reversing agents have been discovered, with the most effective compounds also causing T-cell activation. We investigated the ex vivo effects of cell activation on HIV-infected cells from individuals on stable suppressive ART. Latency reversal through robust cell activation led to diverse outcomes of infected cells. Although many infected cells appeared to be eliminated following T-cell activation, a subset of HIV-infected cells persisted and could expand, including those that can produce infectious virus. These findings highlight the need for new therapies that kill HIV-infected cells before they can proliferate.


  HIV-infected individuals who are receiving antiretroviral therapy continue to have low but persistent amounts of virus in their blood as well as high levels of immune activation. Elevated immune activation has been linked to medical complications, like heart disease. Whether activation is being driven by or driving HIV persistence is not known. To answer this question, we measured levels of HIV, inflammation, and immune activation in 101 HIV-infected individuals before and during long-term antiretroviral therapy. We found that pre-treatment levels of HIV correlated with on-treatment measures of HIV persistence. HIV levels correlated with inflammation and activation before starting therapy but not during long-term treatment, suggesting that virus persistence is not driving or driven by immune activation or inflammation. Higher levels of activation and
inflammation before therapy were associated with higher levels during treatment, indicating that immune events that occurred before treatment initiation had long-lasting effects despite sustained control of the virus. These findings should stimulate studies of genetic or viral factors that affect levels of virus, activation and inflammation prior to treatment. The findings also should inform the design of strategies to reduce HIV persistence and dampen harmful immune activation and inflammation in people who are on long-term treatment.


Ceftazidime-avibactam is a novel β-lactam/β-lactamase inhibitor combination that was recently approved by the U.S. Food and Drug Administration for the treatment of complicated intra-abdominal and complicated urinary tract infections. The agent demonstrates in vitro activity against carbapenem-resistant Enterobacteriaceae (CRE) that produce *Klebsiella pneumoniae* carbapenemase (KPC), but not metallo-β-lactamases such as New Delhi MBL (NDM), Verona integron-encoded MBL (VIM), or imipenemase (IMP). Ceftazidime-avibactam may offer a significant advance over previously developed antimicrobials with in vitro activity against CRE, such as colistin, gentamicin, and tigecycline, which are limited by concerns over efficacy and/or toxicity. Our objective in this study was to describe our initial clinical experience with ceftazidime-avibactam against CRE infections.


Intravenous colistin is difficult to use because plasma concentrations for antibacterial effect overlap those causing nephrotoxicity, and there is large inter-patient variability in pharmacokinetics. The aim was to develop dosing algorithms for achievement of a clinically desirable average steady-state plasma colistin concentration (C_{ss,avg}) of 2mg/L. The project has generated clinician-friendly dosing algorithms and pointed to circumstances where intravenous monotherapy may be inadequate.

**Peer-Reviewed Publications: 2015, 2016, 2017**


Matteelli A, Miro JM, Oka S, Petoumenos K, Puls RL, Riddler SA, Sax PE, Sierra-Madero J, Torti C, Lundgren JD.
Non-Nucleoside Reverse Transcriptase Inhibitor-Versus Ritonavir-Boosted Protease Inhibitor-Based Regimens for

Boudreaux-Kelly M, Wilson M, Bokhari M. Statistical Methods of Risk-Adjusted Statistical Process Control Charts to
1;150(3):271-2.

Denning DW, Soman K, Clancy CJ, Nguyen MH, Sugrue MW, Alexander BD, Wingard JR. Improved Detection of
Invasive Pulmonary Aspergillosis Arising during Leukemia Treatment Using a Panel of Host Response Proteins and

Bremmer DN, Garavaglia JM, Shields RK. Spontaneous Fungal Peritonitis: A Devastating Complication of Cirrhosis.

Evaluation of the In Vitro Activity of Ceftazidime-Avibactam and Ceftolozane-Tazobactam against Meropenem-

Buehrle DJ, Shields RK, Clarke LG, Potoski BA, Clancy CJ, Nguyen MH. Carbapenem-Resistant Pseudomonas
2016 Dec 27; 61(1).

Buehrle DJ, Shields RK, Shah N, Shoff C, Sheridan K. Risk Factors Associated with Outpatient Parenteral Antibiotic

Bueno MF, Francisco GR, de Oliveira Garcia D, Doi Y. Complete Sequences of Multidrug Resistance Plasmids Bearing

Activation of CD4+ T-Cells from Donors on Suppressive ART Can Lead to Sustained Production of Infectious HIV-1
from a Subset of Infected Cells. PLOS Pathog. 2017 Feb 22;13(2):e1006230.

Bui JK, Mellors JW. Reversal of T-cell Exhaustion as A Strategy to Improve Immune Control of HIV-1. AIDS. 2015
Sep 24;29(15):1911-5.

Bui JK, Mellors JW, Cillo AR. HIV-1 Virion Production from Single Inducible Proviruses Following T-Cell Activation ex

JF, Mellors JW. Proviruses with Identical Sequences Comprise a Large Fraction of the Replication-Competent HIV

Cariello PF, Kwak EJ, Abdel-Massih RC, Silveira FP. Safety and Tolerability of Clofazimine as Salvage Therapy for


Gronvall GK, Rozo M. Synopsis of Biological Safety and Security Arrangements. UPMC Center for Health Security. 2015.


Hong FF, Mellors JW. Impact of Antiretroviral Therapy on HIV-1 Persistence: The Case for Early Initiation. AIDS Rev. 2015 May 6;17(2).


Inglesby T, Relman D. How Likely Is It that Biological Agents Will Be Used Deliberately to Cause Widespread Harm? EMBO Rep. 2015;e201541674.


Infectious Diseases

FY 2016-2017


UPMC is widely recognized as a perennial leader in the treatment of respiratory disease. This year, the *U.S. News & World Report* ranked the UPMC Health Network at #5 in the country for the treatment of respiratory diseases (improved from #11 in 2015 and #7 in 2016). Our subspecialty programs in asthma, cystic fibrosis, pulmonary fibrosis, sleep medicine, and pulmonary hypertension are regional and national leaders in patient care and research. For patients with advanced lung disease, our collaboration with transplant surgery provides opportunities for improvements in quality of life and survival offered by life-saving lung transplantation. In 2016, the UPMC program performed its 2,000th lung transplant (including combined heart-lung transplants) since the program’s inception in 1982. In addition, the program continues to lead the field in transplantation by offering transplants to high-risk patients, as up to 30% of our patients have been declined for transplant at other transplant centers prior to being successfully transplanted at UPMC.

We experienced turnover in our physicians in the past fiscal year, and we are currently actively recruiting. Last year, the Division had a successful recruitment year. Below are some of the notable additions to our faculty:

- Ian Barbash, MD – T32 Fellow, joined as Clinical Instructor
- Stephen Clute, MD – from Geisinger Health System, joined as Clinical Assistant Professor
- Marc Gauthier, MD – T32 Fellow, joined as Clinical Instructor
- Burton Lee, MD – from Georgetown University/MedStar Washington, joined as Visiting Professor of Medicine
- Chetan Naik, MD – former Pulmonary, Critical Care and Transplant Fellow, joined as Clinical Assistant Professor
- Quyen Nguyen, MD – T32 Fellow, joined as Clinical Instructor
- Jason Rose, MD – T32 Fellow, joined as Clinical Instructor
- Roy Semaan, MD – from Johns Hopkins Hospital/NIH Clinical Center, joined as Assistant Professor Medicine
- Xingan Wang, MD, PhD - from Washington University, joined as Assistant Professor of Medicine
- Liyong Zhang, PhD –from University of Pittsburgh, joined as Research Instructor in Medicine

Our Division had 118 academic faculty members at the end of FY 2017. Our plan for FY18 is to continue to expand our clinical operation. This will be achieved through the growth of inpatient services, which is expected to occur as a result of several initiatives and factors: a new consult service at UPMC Mercy and pulmonary/critical care services at UPMC Jameson and Horizon, the continued growth of the Interventional Pulmonary program through an expanded pulmonary consult service at UPMC Presbyterian and Montefiore, and the further strengthening of our sleep, allergy and asthma programs through targeted recruitment of both clinical experts and specialty-specific physician scientists. We will also grow our outpatient presence through the Same Day Clinic Access Initiative to provide patients with on-demand appointment scheduling.

We are also very excited to announce that the Division has taken a key role in the UPMC Immune Transplant and Therapy Center (ITTC). John McDyer, MD, in partnership with the Division of Blood and Marrow Transplantation and Cellular Therapies, received $7,254,305 in funding over five years to develop new therapeutic strategies to overcome chronic lung allograft dysfunction to increase long-term survival of lung transplant recipients. Alison Morris, MD, received $5,220,000 in funding over five years to generate large numbers of microbiome samples and data linked to genomic data and the electronic medical record to create a data repository to help researchers understand the roles of microbiome and genome in personalized medicine.
RESEARCH

The Division of Pulmonary, Allergy, and Critical Care Medicine is focused on the development of nine core programs of research excellence. The Division has shown a sustained and unparalleled record of peer-reviewed extramural support during the recent seven-year interval as indicated in the Pulmonary Research Expenditures graph.

Key grants awarded in the Division in the past year include the following.

- Beibei (Bill) Chen, PhD, was awarded with an NIH R01 grant entitled “HECT-Domain E3 Ligases and Acute Lung Injury”, with an annual direct cost of $343,670, from July 1, 2016, through June 30, 2020.
- Timothy Corcoran, PhD, was awarded with an NIH U01 grant entitled “Building Multilevel Models of Therapeutic Response in the Lungs”, with an annual direct cost of $159,150, from Sept, 1, 2016, through June 30, 2020.
- Michael Donahoe, MD, was awarded with a Bayer Corporate grant entitled “Data Management Support for Research Projects”, with an annual direct cost of $115,352, from Dec. 1, 2016, through Nov. 30, 2018.
- Marc Gauthier, MD, was awarded an NIH F32 grant entitled “Interference with GR Function by Cytokines Upregulated in Severe Asthma”, with an annual direct cost of $66,354, from Aug. 1, 2017, through July 31, 2018.
- Kathleen Lindell, RN, PhD, was awarded an NIH K23 grant entitled “Integrating Palliative Care for Patients with Idiopathic Pulmonary Fibrosis and their Caregivers”, with an annual direct cost of $140,921, from Sept. 26, 2016, through July 31, 2019.
- James Londino, PhD, was awarded an American Heart Association grant entitled “IFNGR1 Post-Translation Modification by Ubiquitination and Phosphorylation Alters IFN Gamma Signaling”, with an annual direct cost of $50,350, from Jan. 1, 2017, through Dec. 31, 2018.
- Rama Mallampalli, MD was awarded an NIH R01 grant entitled “Stabilizing Mitochondria in Sepsis”, with an annual direct cost $302,711, from July 1, 2017, through June 30, 2021.
- Rama Mallampalli, MD was awarded the renewal of an NIH T32 grant entitled “Translational Training Program in Pulmonary Biology and Medicine”, with an annual direct cost of $638,752, from Aug. 1, 2017, through July 31, 2018.
- John McDyer, MD, received an Onyx Pharmaceuticals grant entitled “Combination Therapy with the Proteasome Inhibitor Carfilzomib for the Antibody-Mediated Rejection Diagnosis in Lung Transplantation Trial (PICARD-Lung)”, with an annual direct cost of $166,538, from May 9, 2016, through April 30, 2019.
- John McDyer, MD, was awarded a Cystic Fibrosis Foundation grant entitled “Molecular and Clinical Endotypes in Chronic Lung Allograft Dysfunction”, with an annual direct cost of $128,072, from April 1, 2017 through March 31, 2018.
John McDyer, MD was awarded an NIH U01 grant entitled “Cadaveric Donor Lung and Bone Marrow Transplantation in Immunodeficiency Diseases”, with an annual direct cost of $208,439, from July 6, 2016, through June 30, 2021.

Matthew Morrell, MD, received a Cystic Fibrosis Foundation Therapeutics grant entitled “Lung Transplant Consortium”, with an annual direct cost of $125,000, from July 1, 2017, through Dec. 31, 2019.

Seyed Nouraie, MD, PhD, received a subcontract on an NIH P50 grant from Howard University entitled “Center for Hemoglobin Research in Minorities (CHaRM)”, with an annual direct cost of $18,352, from July 1, 2016, through June 30, 2017.


Anuradha Ray, PhD, was awarded an equipment supplement to her NIH R01 grant entitled “Mechanisms of Antigen-Induced Tolerance in the Lung”, with an annual direct cost of $79,300, from March 1, 2016, through Feb. 28, 2017.

Raju Reddy, MD, received an NIH R01 grant entitled “PPAR-delta as a Novel Therapeutic Target in Asthma”, with an annual direct cost of $255,845, from June 1, 2016, through May 31, 2018.

Raju Reddy, MD, was awarded a UPMC Enterprises grant entitled “Novel Nrf2 Activators for Lung Disease”, with an annual direct cost of $200,000, from January 1, 2017, through December 31, 2018.

Keven Robinson, MD, was awarded an NIH K08 grant entitled “The Role of IL-33 During Influenza and Staphylococcus Aureus Co-Infection”, with an annual direct cost of $145,736.


Jason Rose, MD, received a Parker B Francis Foundation grant entitled “Developing an Antidotal Therapy for Carbon Monoxide Poisoning”, with an annual indirect cost of $50,000, from July 1, 2017, through June 30, 2018.

Frank Sciurba, MD, was awarded a subcontract on a University of Colorado Department of Defense Grant entitled “Four New Ideas to Protect Special Forces from the Stress of High Altitude”, with an annual direct cost of $92,055, from July 1, 2016, through June 30, 2017.

Frank Sciurba, MD was awarded an NIH U01 grant entitled “Systems Level Casual Discovery in Heterogeneous TOPMed Data”, with an annual direct cost of $90,226, from April 18, 2017, through March 31, 2020.


Tomeka Suber, MD, Ph was awarded an NIH F32 grant entitled “Regulation of GSK3B Degradation and its Role in Acute Lung Injury”, with an annual direct cost of $67,410, from April 1, 201 through March 31, 2018.

Sally Wenzel, MD, was awarded an NIH R21 grant entitled “The Effects of Nitrate/Nitrite and Conjugated Linoleic Acid Supplementation on the Obese Asthmatic Pathology”, with an annual direct cost of $45,657, from June 15, 2016, through May 31, 2018.

Sally Wenzel, MD was awarded an NIH R01 grant entitled “Anti-Inflammatory Lipid Mediators in Asthma”, with an annual direct cost of $158,426, from Aug. 4, 2016, through June 30, 2020.
New Research Initiatives / Ongoing and Planned Collaborations

New initiatives include the following:

Timothy Corcoran, PhD, and Janet Lee, MD, were appointed Co-Directors of the Pulmonary Translational Research Core (PTRC).
Michael Myerburg, MD, and Joseph Pilewski, MD, have fostered a research collaboration with Stella Lee, MD, from Otorhinolaryngology and Jennifer Bomberger, PhD, from Microbiology and Molecular Genetics to expand research efforts on sinus disease in Cystic Fibrosis, with a focus on the microbiome.

Acute Lung Injury Center of Excellence

The Acute Lung Injury/Adult Respiratory Distress Syndrome Research Program investigates the fundamental mechanisms in lung injury and repair. The program utilizes advanced tools in molecular, biochemical, and clinical investigation to work toward basic and translational discoveries that can lead to novel treatments for patients with severe acute lung injury. Program faculty have fostered extensive collaborations with the Departments of Surgery, Anesthesiology, Pathology, and Environmental Health. The primary program faculty include: Rama Mallampalli, MD, Janet S. Lee, MD, Bryan McVerry, MD, Yutong Zhao, MD, PhD, Prabir Ray, PhD, Bill Chen, PhD, and Michael Donahoe, MD. The program is partially supported by eleven R01 grants from the NHLBI. In addition, the center is supported by an NHLBI P01 and Cadet 2 awards, and a VA Merit Award, under the direction of Dr. Mallampalli.

Adult Cystic Fibrosis Program

The Adult Cystic Fibrosis and Host Defense Research Program seeks to provide improved treatments and ultimately, a cure for Cystic Fibrosis. The program is directed by Joseph Pilewski, MD, with involved PACCM faculty including Michael Myerburg, MD, Keven Robinson, MD, and Timothy Corcoran, PhD. In addition to directing the Adult Cystic Fibrosis Center, Dr. Pilewski serves as the director for the NIH and Cystic Fibrosis Foundation-funded cell and tissue culture core and translational studies component of the Cystic Fibrosis Research Center, which is led by Drs. Ray Frizzell, PhD, Jay Kolls, MD, Simon Watkins, PhD, and Joseph Pilewski, MD. These cores provide procedures for identifying functional outcomes, monitored in terms of lung function, ion transport, or gene expression for investigators involved with CF research across the University of Pittsburgh. The program actively participates in investigator-initiated and industry-sponsored clinical trials of new CF therapies as a member of the CF Therapeutics Development Network.

Asthma Institute

The Asthma and Allergic Inflammation Program focuses on investigating the fundamental biologic mechanisms in asthma and allergic inflammation. Sally Wenzel, MD, spearheads both clinical and bench research projects in the area of asthma and allergic inflammatory disorders of the lung. Additional faculty in this program include Andrej Petrov, MD, Prabir Ray, PhD, Anuradha Ray, PhD, and Xiuixia Zhou, PhD. The Institute is supported by a program project (P01) grant from the NIH.

The program combines advanced principles in basic bench investigation with a comprehensive translational research program. Clinical research efforts focus on better definition of severe asthma phenotypes to better understand disease pathogenesis, and to improve treatment of severe asthma patients. Bench research projects focus on the molecular mechanisms of inflammation in allergy and asthma and mechanisms that induce tolerance to antigens, as well as approaches to severe asthma using cellular biology and genetics tools.
**COPD and Emphysema Research Center**
The COPD and Emphysema Research Center (ERC) investigates fundamental biologic concepts in advanced chronic obstructive lung disease, particularly emphysema. The program employs advanced tools in molecular, biochemical, physiologic, and radiographic assessment for research investigations. The primary program faculty includes Frank Sciurba as Director, working in association with Janet Lee, MD, Michael Donahoe, MD, Jessica Field, MD, Divay Chandra, MD, Toru Nyunoya, MD, Alyssa Gregory, PhD, and Steven D. Shapiro, MD. The ERC has been a national leader in the field of lung reduction surgery, pulmonary rehabilitation, and transtracheal oxygen therapy, and relies on successful basic science collaborations with the departments of clinical pharmacology and biochemistry, and with other local and international collaborators. The center maintains an active registry for patient participation in clinical research trials of novel treatments for patients with advanced COPD. The Emphysema program is a member of the NHLBI Lung Tissue Research Consortium and the COPD Clinical Research Network. Additionally, it is supported by the NIH Network Management Core (NEMO) for the Pulmonary Trials Cooperative (PTC) (U01) grant.

**Pulmonary Transplantation and Advanced Lung Disease Program**
The Pulmonary Transplantation and Advanced Lung Disease Program is dedicated to developing a greater understanding of the basic biology of lung transplantation. This multidisciplinary program incorporates surgical, immunologic, and medical expertise in the care and research of patients with end-stage lung disease who undergo lung transplantation. The growth of this program has been remarkable, with more than 1,000 lung or heart-lung transplants over the last 10 years, and more than 650 patients being actively followed for post-lung-transplant care in the outpatient comprehensive lung program. Translational research programs focus on clinical trials of novel immunosuppressive regimens, including carfilzomib (PI: John McDyer, MD), quality of life following lung transplantation, and treatment strategies for high-risk recipient populations. Over the last year, a longitudinal biorepository of clinical data and patient samples was created to facilitate discovery of novel biomarkers of allograft dysfunction and tolerance. The program faculty, under the leadership of Matthew Morrell, MD, includes John McDyer, MD, Christopher Ensor, PharmD, Bruce Johnson, MD, Timothy Corcoran, PhD, Joseph Pilewski, MD, Silpa Kilaru, MD, Elizabeth Lendermon, MD, and Matthew Pipeling, MD.

**Simmons Center for Interstitial Lung Disease**
The Dorothy P. and Richard P. Simmons Center for Interstitial Lung Disease establishes the University as a premier center for the investigation and clinical care of patients with idiopathic pulmonary fibrosis. The Simmons Center is a comprehensive multidisciplinary program incorporating research scientists, clinicians, nurse specialists, and rehabilitation medicine staff. Division faculty involved with the center include Kevin Gibson, MD, Daniel Kass, MD (Director), Mauricio Rojas, MD, Jared Chiarchiaro, MD, Kathleen Lindell, Ph.D., Luis Ortiz, MD, and Kristen Veraldi MD, PhD. Current research efforts include basic investigations focused on the mechanisms of the lung fibrosis, injury and repair, genomics and proteomics of lung fibrosis, and the role of genetics in determining the fibrotic phenotype. The center’s research programs are structured to facilitate the rapid translation from bench investigation to clinical medicine, with scientists maintaining an active role in patient sample collection, studies of biomarkers of disease progression, and the development of new therapeutic drug targets. Center faculty are funded by the NIH, and enjoy a strong collaborative relationship with investigators in the Departments of Pathology and Surgery, and with multiple investigators all around the world.
UPMC Sleep Medicine Center

The Sleep Medicine Center is a multidisciplinary program incorporating respiratory medicine, psychiatry, otolaryngology, and bariatric surgery specialists. Center research focuses on the pathophysiology of sleep-disordered breathing in patients with advanced cardiomyopathy, as well as clinical research in the medical therapy of obstructive sleep apnea and hypoventilation syndromes. The center utilizes advanced tools in molecular, physiologic, and clinical investigation. Extensive additional collaborative interactions exist with the Heart and Vascular Institute, the Department of Otolaryngology, and the Graduate School of Public Health. The Sleep Medicine Center is under the direction of Sanjay R. Patel, MD, and program faculty include Dr. Patel, Patrick Strollo, MD, Phillip Lamberty, MD, Christopher O'Donnell, PhD, Charles Atwood, MD, Rachel Givelber, MD, and David Kristo, MD.

Pulmonary Vascular Disease Center

This program was developed under the leadership of Mike Mathier, MD, and Mark Gladwin, MD. The aim is to develop a high-volume referral clinic, right-heart catheterization diagnostic program, and multidisciplinary research programs. In addition to human translational and clinical research studies, the center performs basic studies of right-ventricular dysfunction, including the genetic modifiers influencing the severity of pulmonary hypertension and right-heart failure; nitric oxide and reactive oxygen species signaling; and right-ventricular–pulmonary artery coupling. A translational vascular unit as part of the CTSI is now being led by Marc Simon, MD, MS. The Pulmonary Vascular Disease Center is the home to a NIH P01 grant titled “Vascular Subphenotypes of Lung Disease” awarded to Mark Gladwin, MD. A broad base of basic, small, and large animal and human clinical trials will be conducted to examine the significance, cause, and treatment of pulmonary vascular disease as a unique phenotype in patients with COPD, ILD, and HIV. The Pulmonary Vascular Disease Center has extensive links to the Vascular Medicine Institute (VMI) also under the direction of Dr. Gladwin. Jeffrey Isenberg, MD, MPH and Elena Goncharova, PhD, both of the VMI, focus their research on vascular disease.

Pulmonary Hypertension

The Pulmonary Hypertension Research Center was developed to provide clinical research and basic research that advances clinical care and treatment of patients with cardiopulmonary disease. Pulmonary arterial hypertension (PAH) is a complex disease characterized by inappropriate cellular hypertrophy and proliferation of the pulmonary vasculature that results in increased vascular resistance, elevated pulmonary artery pressure, and eventually right-heart dysfunction. It is often unrecognized in its early stages because of its nonspecific presenting symptoms, which include dyspnea, fatigue, and chest discomfort. The disease may be idiopathic, familial, or associated with underlying rheumatologic, cardiac, hepatic, or pulmonary disease. While the diagnostic evaluation of affected patients is complex, numerous proven therapies are now available. PAH affects a range of patient populations with a variety of disease states: idiopathic pulmonary arterial hypertension, COPD, interstitial lung disease, heart failure/diastolic dysfunction, valvular disease, hemoglobinopathies, connective tissue disease, liver disease, and HIV infection to name a few.

Led by Mark Gladwin, MD, and Michael A. Mathier, MD, the Pulmonary Hypertension Research Center is one of the largest programs in the country, offering patients full access to state-of-the-art diagnostics, therapeutics, and opportunities to participate in clinical research.

Our cardiologists and pulmonologists are investigating several promising new therapies for patients with PAH. These therapies include the oral prostanoid treprostinil, the selective endothelin antagonists, and combinations of available agents. Under the leadership of Dennis M. McNamara MD (Cardiology faculty), researchers are also investigating the relationship between genetic variations and clinical outcomes in patients with cardiopulmonary disease. Understanding this relationship may help individualize treatments for these patients in the future. The program is also researching new technologies to evaluate right heart function and new strategies to identify risk factors that portend a poor outcome in patients with pulmonary hypertension.
**Pulmonary Translational Research Core (PTRC)**

The mission of the PTRC is to foster excellence in research from the lab bench to patient bedside to clinical practice and to advance patient care and health outcomes in the field of pulmonary medicine. The PTRC aims to provide resources, services, operations, and training to support and promote the planning and implementation of translational and clinical research in the Division of Pulmonary, Allergy, and Critical Care Medicine (PACCM). The Core offers a broad range of consultations and key regulatory support at all stages of the research project life cycle from grant writing, developing a protocol, through recruiting participants to closing the research project and analyzing the results. This Core is Co-directed by Dr. Janet Lee and Dr. Timothy Corcoran. The Core houses several research coordinators, regulatory personnel, and data analysts.

**PACCM Small Molecule Therapeutics Center**

The PACCM Center for Small Molecule Therapeutics (SMTC) was established in 2015 to increase the scientific understanding and collaborative efforts on developing small molecules that target various pulmonary diseases including ARDS, Asthma, IPF, COPD, and transplant rejection. Its mission is to provide expertise in protein modeling, target validation, small molecule screening, “hits” identification and optimization, in vitro ADME and referrals for additional medicinal or synthetic chemists to the appropriate facilities within PACCM and the Department of Medicine. The center continues to provide an excellent platform for faculty collaboration, which hopefully can lead to novel treatments for patients with pulmonary disease.
Faculty Research Interests

Charles Atwood MD FCCP FAASM
Dr. Atwood’s research interests center on sleep apnea management with a focus on novel ways to diagnose and provide long-term care for patients with sleep apnea. In particular, he is investigating the role of home sleep apnea testing as a way of diagnosing the condition. Working closely with Dr. Pat Strollo, Dr. Atwood has also worked with the pacemaker industry (Guidant/Boston Scientific) on studies examining various aspects of pacemaker technology as a possible diagnostic or treatment device in sleep apnea. He is currently collaborating with Dr. John Hotchkiss and others in the Department of Critical Care Medicine on studies looking at new methods of identifying physiological patterns in sleep apnea that may allow for better clinical phenotyping of sleep apnea patients.

In addition, Dr. Atwood is interested in researching long-term oxygen therapy and clinical trials in COPD. He collaborates with the Division’s Emphysema Research Center (ERC) on clinical trials and, through the ERC, he is part of the NIH’s COPD clinical research network.

Dr. Atwood works with Dr. Roxann Gross of the UPMC Eye and Ear Institute in studying various aspects of the regulation of swallowing and breathing. This work has led to a better understanding of some basic physiological mechanisms with possible practical relevance that may lead to better therapy for dysphagia.

He has also begun a program at the VA Pittsburgh Healthcare System for the rapid evaluation of lung nodules that are referred to the Pulmonary Division.

Sharon Camhi MD
Dr. Camhi is involved in Divisional research at the VA Pittsburgh Healthcare System (VAPHS). She is the Site PI on a VA Cooperative Studies Program trial investigating the use of steroids in veterans with severe pneumonia. She is also a co-investigator on several other studies within the Pulmonary Division at the VAPHS. On a regional level, Dr. Camhi is leading the initiative to bring Telemedicine Pulmonary services to remote VA facilities lacking Pulmonary physicians. Nationally, she is involved in a project to enhance palliative care in critical care units in Veterans Hospitals across the country.

Divay Chandra MD MSc
Dr. Chandra’s research focuses on three aspects of COPD:

- How does a disease of the lung (COPD) produce varied systemic comorbidities, such as atherosclerosis and kidney dysfunction? This research uses a translational approach, and focuses on the study of inflammatory and autoimmunity processes as novel mechanisms for systemic vascular injury in COPD.
- Are there as yet undefined systemic manifestations of COPD and how can these be identified? This work includes the first description of a novel emphysema kidney injury phenotype.
- Finally, how can phenomic data on patients with COPD be analyzed and interpreted using advanced computational methods to understand disease heterogeneity?

Beibei Chen PhD
Dr. Chen’s primary research interest involves the study of the molecular mechanisms that control inflammation and cell proliferation via protein ubiquitination. He has identified and characterized more than 10 novel ubiquitin E3 ligases over the last four years. These works have been published in top-tier journals, including Nature Immunology, Nature Medicine, Cell Reports, Science Translational Medicine, and the Journal of Experimental Medicine. Dr. Chen’s second area of research focus is small molecule drug design. Over the past two years, he has submitted 10 provisional patents related to novel anti-inflammatory/cancer compounds. In addition, he has successfully designed and synthesized a novel series of first-in-class small molecule FBXO3 protein inhibitors. One of his lead compounds, BC-1261, has passed preclinical PK/toxicity studies and was discussed at an FDA pre-IND meeting in May 2015. This compound is on track to be tested in a Phase I trial, beginning in August 2017. Recently, he has also designed a novel series of
potent, selective PDE4, HECTD2, StamBP, Fbxo7, Fbxo48, FIEL1, DCN1 inhibitors that exhibit excellent activities in vivo. His long-term goal is to develop a new class of therapeutics that combat cancer and inflammatory diseases by focusing on novel mechanisms.

Jared Chiarchiaro MD
Dr. Chiarchiaro's current research interests are medical education and curriculum development. For example, he has developed a new, active teaching format for the pulmonary and critical care fellows' core curriculum and is evaluating the implementation and efficacy of this curriculum.

He is also heavily involved in clinical research through his pulmonary clinic at the Simmons Center for Interstitial Lung Disease. Dr. Chiarchiaro is a co-investigator in several clinical trials evaluating novel therapeutics for idiopathic pulmonary fibrosis. He is also working to create and analyze the largest known case-series of hard metal pneumoconiosis.

In addition to his role in the Simmons Center clinical trials, Dr. Chiarchiaro is co-investigator for the PETAL network's ROSE trial, which is evaluating early neuromuscular blockade for acute respiratory distress syndrome.

He remains active in several quality improvement initiatives within the hospital. For example, he helped create and evaluate the protocol for prone positioning in the Medical Intensive Care Unit.

Timothy Corcoran PhD
Dr. Corcoran's primary research interests include aerosol drug delivery and aerosol-based nuclear imaging of the lung. He has been extensively involved in the development of inhaled medications for lung transplant recipients and cystic fibrosis patients and the development of special techniques for improving inhaled drug delivery, such as the use of low-density gases and surfactants to improve drug distribution in the lungs. Dr. Corcoran had developed imaging techniques for quantifying pulmonary physiology, including measurements of mucociliary clearance and liquid absorption in the airways. These techniques have been tested in a series of clinical studies involving adult and pediatric patients and will be used to screen new medications for treating lung diseases such as cystic fibrosis. Dr. Corcoran is currently the Principal Investigator of two NIH RO1 grants. He has previously directed research funded by the U.S. Army and the Cystic Fibrosis Foundation.

Merritt Fajt MD
Dr. Fajt's research over the last several years has focused on the pathobiologic mechanisms of severe asthma and the role of mast cells. While mast cells have been reported in the epithelium, both in the GI tract and in the airway, very little is known regarding the epithelial (and even luminal) mast cells, their phenotype and function in asthma and severe asthma. Dr. Fajt's research interest involves determining the location, phenotype and function of airway mast cells in severe asthma, as compared to milder asthma and normal control subjects. She conducts studies from a range of sources, including endobronchial biopsy, epithelial cells, bronchoalveolar lavage fluid, sputum, and blood samples. Preliminary data strongly suggest that mast cells in severe asthma, rather than being absent, are actually of an altered functional phenotype and directed towards a luminal location. Her studies will continue to focus on the differences in mast cell phenotypes and their modification by epithelial or luminal factors as it relates to the inflammatory and repair processes of asthma. An understanding of the pathobiology of mast cells in severe asthma could lead to new clinical biomarkers and therapeutic targets. Dr. Fajt has presented her data at several national conferences. She was a second author on a paper recently accepted to the American Journal of Critical Care Medicine regarding the role of mast cells in severe asthma.

Jessica Bon Field MS MS
Dr. Field’s academic and research interests center on the investigation of musculoskeletal comorbidities in chronic obstructive pulmonary disease. Her research has concentrated on the role that inflammation and autoimmunity play in COPD-related bone loss. She has shown that radiographic emphysema independently predicts low bone mineral
density in smokers and has identified novel autoimmune responses in smokers that are linked to emphysema-related bone loss.

Meghan Fitzpatrick MD
Dr. Fitzpatrick researches the relationships between chronic HIV infection and HIV co-infections with COPD, which develops in an accelerated fashion among persons chronically infected with HIV.

Kevin Gibson MD
Dr. Gibson investigates clinical pathogenesis interstitial lung diseases, including idiopathic pulmonary fibrosis, Sarcoidosis, autoimmune lung disease, and occupational lung disease. He conducts studies that include early and late phase clinical trials of novel therapeutics in interstitial lung disease, the discovery of biomarkers of disease activity and progression, and clinical translational studies of disease pathogenesis. Dr. Gibson has published a number of translational studies to identify unique biomarkers of disease activity in idiopathic pulmonary fibrosis and other interstitial lung diseases, studies of novel interventions in acute IPF exacerbations, as well as studies of gene expression profiling in IPF lungs. He has discovered a number of peripheral blood biomarkers that have been useful predicting disease progression in idiopathic pulmonary fibrosis. Dr. Gibson has participated in multinational studies of the genetics of IPF and Sarcoidosis.

Rachel Givelber MD
Dr. Givelber’s academic focus is in clinical education at the medical student, resident and fellow level. She teaches critical appraisal of the medical literature, and techniques to apply research studies to the care of individual patients. She is currently an Assistant Professor of Medicine, and serves as the associate director of the pulmonary fellowship, and the director of the Evidence-Based Residency Curriculum for the internal medicine residency program.

Mark Gladwin MD
Since 1998, Dr. Gladwin’s research activities have led to numerous scientific discoveries, which have resulted in more than 210 published peer-reviewed manuscripts. These investigations form the backbone of Dr. Gladwin’s current work in the Department of Medicine:

- The discovery that the nitrite anion is a circulating storage pool for NO bioactivity (Gladwin, et al. PNAS 2000) that regulates hypoxic vasodilation (Cosby Nature Medicine 2003) and the cellular resilience to low oxygen and ischemia (Duranski JCI 2005).

Elena Goncharova PhD
Dr. Goncharova’s research interests have focused on the molecular and cellular mechanisms regulating metabolism, proliferation, motility and survival of smooth muscle cells as it relates to the pathogenesis of pulmonary arterial hypertension (PAH) and pulmonary lymphangioleiomyomatosis (LAM). Her current work specifically focuses on the roles of mammalian target of rapamycin (mTOR) and HIPPO signaling networks as a master-regulators of VSM remodeling in PAH. Dr. Goncharova’s lab uses human-derived tissues and cells, genetically modified mice and rodent animal models of PH to dissect new signaling events driving PAH pathogenesis, identify and test new molecular targets. Dr. Goncharova’s lab also runs VMI Cell Processing Core (isolates, characterizes and biobanks pulmonary vascular cells from subjects with PAH and donor lungs) and Animal Hypoxic Core (provides the platform and technical support for hypoxia-based modeling of PH in rodents).
Alyssa Gregory PhD
Dr. Gregory’s laboratory studies the contribution of neutrophils to the development to cigarette smoke-induced diseases (COPD/emphysema, lung cancer), with an emphasis on understanding the complex roles of neutrophil-derived serine proteinases. The lab was the first to describe the ability of a secreted proteinase, neutrophil elastase (NE), to gain entry into lung structural cells and to cleave an array of intracellular substrates. This finding unveils an additional level of regulation beyond the classical matrix-degrading functions of this and other proteinases. Additionally, Dr. Gregory studies the changes in innate immunity that occur with advanced age, which may play causative or contributory roles in pulmonary diseases which exhibit late-life onset. The lab is actively investigating stress granulopoiesis and changes to the bone marrow compartment that occur during chronic lung diseases and also with advanced age.

Shikha Gupta MD
Dr. Gupta’s research interests include prevalence of pulmonary veno-occlusive disease in patients with pulmonary hypertension associated with scleroderma, association of PFT variables and pulmonary hypertension in patients with COPD, identify predictors for out-of-proportion pulmonary hypertension in COPD, and relationship between pulmonary hypertension and coronary artery disease.

Jeffrey Isenberg MD MPH
Dr. Isenberg’s research interests have centered on the need to enhance tissue blood flow, perfusion and wound healing, and stem from his background as a reconstructive microsurgeon. As a clinician, the focus of his work was the development and application of novel autologous composite tissue units for closure of complex wounds. In addition to anatomical research in tissue vascular anatomy, he studied the ability of complex tissue reconstructive units to withstand stress injuries. This enabled him to improve the clinical range of these surgical approaches. However, limitations with clinical results achievable via surgical interventions alone motivated him to focus purely on research. He now studies the molecular aspect of blood flow and perfusion, and has recently discovered a novel inhibitory pathway that blocks physiologic nitric oxide (NO) signaling.

Jun Ho Jang PhD
Dr. Jang’s research is focused on the discovery of small molecules and biomarker that regulate Chronic Obstructive Pulmonary Disease (COPD) via protein ubiquitination. Working within Dr. Toru Nyunoya and Dr. Mallampalli’s laboratory for COPD, specifically, his work involves: 1) Analysis of the ubiquitin proteasome system (UPS) that mediates selective protein degradation cause by Cigarette Smoke Extract (CSE) in human epithelial cell. 2) Biomarker discovery of Chronic Obstructive Pulmonary Disease (COPD) from human lung samples. 3) Isolation and purification of small molecules such as antioxidants and anti-inflammatory properties to suppress/inhibit senescence and cell death due to damage to DNA that can arise from external sources, such as exposure to cigarette smoking or environmental toxins using LC-MS/MS.

Constance Jennings MD
Dr. Jennings has participated in clinical research and collaborated with basic research throughout her career. Her current interests include patient outcomes in COPD and emphysema. She also has a longstanding interest in the medical humanities related to the impact of the quality of caregiver relationships and the medical environment on the illness experience.

Bruce Johnson MD
Dr. Johnson is primarily a lung transplant clinician with clinical research interests in lung transplant therapies. He participated in the first ever randomized controlled trial in lung transplant. It was the first and only randomized, placebo controlled trial ever shown to improve survival after lung transplant and was the first ever to report a case series of recurrence of pre-transplant disease in the allograft.

Tamir Kanias PhD
Dr. Kanias focuses his research on several facets of red blood cell physiology and pathology, including the red blood cell storage lesion; the molecular and genetic determinates of hemolysis; donor genetic variability including gender in
stored red blood cells; the role of sex hormones, particularly androgens, in modulating hemolysis during storage and after transfusion; characterization of canonical transient receptor potential (TRPC) cation channels and voltage-gated calcium channels in human and mouse red cells; development of new therapeutics for red cell storage and transfusion using steroid- and non-steroid TRP blockers.

**Maria Kapetanaki PhD**
Dr. Kapetanaki is a molecular biologist with a long-standing interest in the regulation of gene expression in human diseases affecting normal lung function. Her research focuses on identifying the molecular pathways underlying pulmonary hypertension, which is a common complication in the sickle cell patient population. Her current projects include the study of the regulatory mechanism of heme-induced Placenta growth Factor (PIGF) and the role of heme-induced genes in hematopoietic cells. More specifically, she investigates the role of oxidant response pathways, especially the Nrf-2 transcription factor and its upstream regulators. She employs cell culture and murine models where she applies techniques as gene silencing, gene editing and drug treatment to describe the steps of heme activation.

**Daniel Kass MD**
The focus of Dr. Kass' lab is Idiopathic Pulmonary Fibrosis (IPF), a progressive scarring of the alveolar parenchyma that ultimately leads to respiratory failure and death. Pathologically, this disease is characterized by the unremitting accumulation of fibroblasts. These are the cells responsible for the deposition of extracellular matrix in pulmonary fibrosis.

Dr. Kass' research has focused on two critical areas of fibroblast biology. The first is the differentiation of fibroblasts to the highly contractile and synthetic myofibroblast. This fundamental feature of fibrosis leads to the deposition of matrix and the contraction of the gas exchange units in the lung that characterizes IPF. Dr. Kass and his lab have discovered that the receptor for the hormone relaxin, RXFP1, is decreased in IPF. The loss of this receptor has several implications for patients: first, IPF patients with the lowest expression of RXFP1 have the most compromised pulmonary function. Second, these patients may be relatively insensitive to the anti-fibrotic effects of relaxin-based therapies. Relaxin has been shown to reverse many of the pathologic events associated with myofibroblast differentiation.

Dr. Kass has also focused on the role of fibroblasts as regulators of the degree and extent of inflammation in the lung. To this end, he has focused on the role of twist1, a transcription factor with enriched expression in IPF. Deranged expression of twist1, a well-known inhibitor of NF-kappaB signaling, can lead to dramatic changes in the local inflammatory infiltrate in animal models of pulmonary fibrosis.

**Carl Koch MD**
Since beginning his postdoctoral fellowship at the University of Pittsburgh, Dr. Koch has continued his research on the role of nitric oxide and its metabolites in pulmonary and vascular physiology. He is also interested in the role of the microbiome in nitric oxide metabolism as it pertains to the development of pulmonary hypertension and cardiovascular disease.

**David Kristo MD**
Dr. Kristo's work on the Silent Upper Airways Resistance Syndrome (SUARS) stands as one of the most comprehensive assessments of the incidence of SUARS within a patient population, and it helps explain sleepiness in the absence of obvious sleep disorders. His early work employed the routine use of esophageal manometry, a gold standard but labor intensive and seldom-used diagnostic technique.

Dr. Kristo was also the first author of a paper validating the use of telemedicine to transport sleep-study data by Internet, expanding the access to sleep studies in remote areas with interpretation by trained physicians elsewhere. Internet transfer of sleep studies is now a routine part of daily sleep medicine clinical work within the field. Dr. Kristo also co-authored efforts to assess home monitoring of patients on continuous positive airway pressure (CPAP), which proved that patients could be successfully followed on CPAP from remote locations with a home
monitoring system. This finding is even relevant in metropolitan areas for those with transportation problems and difficulty in accessing the medical system in person.

**Yen-Chun Lai PhD**
Dr. Lai's research has focused primarily on exploring new pathogenesis and developing alternative therapies for effective treatment of cardiopulmonary diseases, with a particular emphasis on metabolic syndrome, pulmonary hypertension, and heart failure with preserved ejection fraction (PH-HFpEF). Most recently, many of her efforts have been focused on unraveling the role of SIRT3 in skeletal muscle and its mediation of endocrine signaling pathways in PH-HFpEF.

**Janet Lee MD**
Dr. Lee's laboratory studies the biology of critical illness and host determinants of lung injury. The research focuses upon the innate arm of immunity, specifically examining how phagocytes such as macrophages and neutrophils recognize and respond to exogenous pathogen associated molecular patterns (PAMPs) or endogenous alarmins. The lab's researchers are interested in probing host-pathogen interactions to examine mechanisms of host protection following pathogen-triggered injury from products of extracellular gram negative pathogens, such as Pseudomonas aeruginosa and Klebsiella pneumoniae. They are also interested in the factors that shape repair and resolution following injury, specifically factors derived from hematopoietic cells such as platelets and red blood cells that can influence the course of inflammation. Dr. Lee's lab uses a repertoire of relevant murine models of injury, molecular genetic approaches, in vitro biochemical assays, and human bio-samples to examine innate host defenses of the lung.

**Elizabeth Lendermon MD**
Dr. Lendermon's research focuses on understanding T cell mechanisms of lung transplant rejection and acceptance. She is particularly interested in understanding the importance of T cell T-bet expression in tolerance, defining the role of IL-17 in chronic rejection, and in better elucidating the effects of immunosuppression on cellular and molecular pathways that characterize the immune response to the transplanted lung.

**Kathleen Lindell PhD RN**
Dr. Lindell's research is directed at improving the quality of life for patients with advanced lung disease, specifically Idiopathic Pulmonary Fibrosis (IPF), and their family caregivers. The research focus developed as a result of Dr. Lindell's experience working to improve support available to patients with IPF and their caregivers, ensuring that patients and caregivers have the most recent disease information available, and advocating to increase awareness of this disease. Her research has provided seminal findings regarding the need for earlier provision of palliative care and earlier initiation of discussions regarding EOL planning for patients with IPF.

**Yuan Liu PhD**
The ubiquitin proteasome system (UPS) is a complex, hierarchical, and regulated cellular system that dominates selective protein degradation to modulate the abundance and activity of proteins in the cell. The majority of proteins is controlled by the UPS through the ATP-dependent enzymatic cascade, including the ubiquitin activating enzyme (E1), the ubiquitin conjugating enzyme (E2), and the ubiquitin ligase (E3). Dr. Liu has a long-standing research interest in UPS especially ubiquitin ligase E3s. Her earlier work during PhD study and postdoctoral training focused on the regulatory mechanisms of protein ubiquitylation and degradation. At ALI center, Dr. Liu's study has expanded to ubiquitylation in mitochondrial biology, mainly in acute lung injury model. Her very recent discovery includes ubiquitin E3 ligase subunits Fbxl18 and Fbxl7 target anti-apoptotic protein survivin to modulate mitochondrial homeostasis. The Fbxl18-Fbxl7-survivin axis provides unique regulatory pathway that ubiquitin E3 modulates mitochondrial function and apoptosis, serving as therapeutic target for cancer treatment. The other field of Dr. Liu's research interest is small molecule drug development in lung disease. Collaborating with Drs. Rama Mallampalli and Bill Chen, she has developed a series of small molecule inhibitors targeting ubiquitin E3 ligases, aiming to protect mitochondrial function during acute lung inflammation and injury. Currently, they have demonstrated the potent mitochondria-protective
activity of these compounds in cellular level and rodent ALI model and these works led to one provisional patent on an inhibitor of ubiquitin E3 ligase neddylation and the other provisional patent application for F-box protein inhibitor.

**Rama Mallampalli MD**
Dr. Mallampalli’s research focuses on pulmonary molecular and cell biology as it relates to acute lung injury (ALI) and the mechanisms of sepsis. He is an internationally recognized investigator in the area of lipid metabolism and ubiquitin-mediated proteolysis as it relates to inflammation and injury. His research program discovered a unique model for the molecular behavior of ubiquitin E3 ligase subunits that control inflammation. Dr. Mallampalli’s laboratory designed, synthesized, and tested the first-in-class genus of ubiquitin E3 ligase (F box) inhibitors that modulate proteolysis thereby inhibiting inflammation in preclinical models of ALI and multi-organ failure. He currently leads an NIH Program Project grant in ALI and a Centers for Advanced Diagnostics and Experimental Therapeutics in Lung Diseases Stage II (CADETII) award to develop drug therapies for inflammatory lung illness.

**John McDyer MD**
Cytomegalovirus (CMV) infection remains the most common infection in lung transplant recipients (LTRs) and a major cause of morbidity and mortality. Dr. McDyer’s research investigates T-bet, the T cell transcriptional factor, to determine if it is necessary for protective CMV-specific immunity during acute and chronic CMV infection. To test this, he uses both the murine CMV (MCMV) pulmonary infection model and the LTR cohort to study the role of T-bet in pulmonary and systemic CMV host defense and the development of protective T cell memory.

**Bryan McVerry MD**
Dr. McVerry’s research focuses on basic and translational investigation of the biological mechanisms underlying the development and consequences of sepsis and acute lung injury. His research efforts are designed to span the continuum from the bench to the bedside.

**Barbara Methé PhD**
Dr. Methé’s research focuses on microbial ecology and the relationship of the microbiome to lung disease.

**Ana Mora MD**
Dr. Mora’s research is focused in the understanding of the pathogenesis of idiopathic Pulmonary Fibrosis (IPF), a fatal and progressive lung disease, characterized by progressive scarring of the lung. IPF prevalence dramatically increases with age, and aging is a known risk factor for IPF. However, there is limited understanding in the mechanisms involved in the increased vulnerability of the aging lung to develop lung fibrosis. Mitochondrial dysfunction is a hallmark of aging, but the role of mitochondria in IPF pathobiology is unknown. Dr. Mora’s lab recently discovered that AECII from human IPF lung have accumulation of dysmorphic and dysfunctional mitochondria associated with very low expression of the crucial protective protein involved in mitochondrial homeostasis, PTEN-induced putative kinase 1 (PINK1). Low expression of PINK1 leads to increased susceptibility to cell apoptosis and fibrosis. However, no information is available how PINK1 expression is regulated and how loss of PINK1 activates pro-fibrotic responses. Dr. Mora’s research brings forth a unique molecular model linking mitochondrial dysfunction and fibrosis that sets the stage for identifying novel links of aging and fibrosis and therapeutic targets for IPF. The lab’s studies use a combination of novel animal models with genetically altered mice and human subjects. Dr. Mora’s published findings identified alterations in mitochondrial homeostasis in the aging type alveolar epithelial cell (AECII) as a critical component of the pathogenesis of IPF. Currently, her research is extending to other diseases characterized by abnormal tissue repair and exaggerated remodeling, including pulmonary hypertension (PH).
Matthew Morrell MD
Dr. Morrell’s research interests include novel therapies for bronchiolitis obliterans syndrome (BOS), which is the primary limiting factor in survival following lung transplantation. He has published the largest series to date of lung transplant patients treated with extracorporeal photopheresis (ECP) for BOS. His research is currently being utilized to gain approval from the U.S. Food and Drug Administration to use ECP for BOS therapy. Dr. Morrell’s other research interests include acute antibody mediated rejection, a controversial phenomena in lung transplantation, the effectiveness of therapies in reducing the incidence of primary graft dysfunction in the immediate post-operative period, and the improvement of allograft dysfunction.

Alison Morris MD MS
Dr. Morris’ research interests include HIV-associated lung disease as well as the role of the microbiome in disease. Her group works with large cohort epidemiologic studies of HIV and other diseases as well as in translational studies where physiologic and molecular techniques are applied to patient populations. As part of her role in the Center for Medicine and the Microbiome, she works with collaborators in diverse areas studying the microbiome.

Dr. Morris’s research interests focus on several overlapping areas, including the role of the microbiome in HIV-associated lung disease; understanding and manipulating the respiratory and gut microbiota in the ICU; the role of nitrate-reducing bacteria in pulmonary hypertension; HIV-associated emphysema and pulmonary hypertension; and the role of Pneumocystis and other fungi in COPD and HIV.

Michael Myerburg MD
Dr. Myerburg’s primary research interest is to determine the mechanisms and pathological conditions associated with hydration of the airway lumen. To this end, he has extensive experience with several techniques to measure the airway surface liquid (ASL) volume, ciliary beat frequency, and airway epithelial ion transport. He has developed novel high-throughput techniques to measure ASL volume and ASL pH.

Dr Myerburg's lab is currently studying the effects of Th2 type cytokines on ASL volume, airway innate immunity, the role of several transport proteins on ASL hydration, and post-translational modifications to the epithelial sodium channel (ENaC). These projects are funded by the NIH and the Cystic Fibrosis Foundation.

Seyed Mehdi Nouraie MD PhD
Dr. Nouraie's outstanding skills as a biostatistician helped facilitate the development of several key studies in the area of sickle cell disease including projects on transition to adult care, predictors of pulmonary hypertension in sickle cell disease, and application of big administrative data in sickle cell disease outcome studies through data management and analysis.

His research on the design and analysis of clinical studies in the area of GI benign and malignant disease, sickle cell, and cardiovascular disorders has resulted in over 100 peer reviewed publications.

Currently he is interested in assessing the pulmonary complication of obesity and metabolic syndrome.

Toru Nyunoya MD
Dr. Nyunoya's research interests include the potential role of DNA repair in the development of Chronic Obstructive Pulmonary Disease (COPD) and novel modulators for smoking-induced COPD. He has an interest in identifying a natural product to protect against cigarette smoke-induced DNA damage and cytotoxicity.

Christopher O'Donnell PhD
Dr. O'Donnell's interests are in the pathophysiology of hypoxia and sleep apnea and its relationship to metabolic and cardiovascular dysfunction. His laboratory utilizes murine models of obesity and hypoxia using a variety of chronically instrumented inbred and transgenic mouse strains. In respiratory studies, he has established in the genetically obese ob/ob mouse that leptin deficiency leads to respiratory depression, and that leptin replacement can correct respiratory depression independent of weight, food intake or metabolism. In metabolic studies, he has demonstrated that lean mice can exhibit insulin resistance and hyperlipidemia during exposure to intermittent hypoxia (simulating...
sleep apnea) as well as leading to a compensatory increase in pancreatic beta cell replication. More recently he has shown that long-term exposure to sustained hypoxia (simulating altitude) can lead to compensatory increases in insulin sensitivity. In cardiovascular studies, Dr. O’Donnell and colleagues have studied the impact of heart failure on disruption of sleep architecture, and examined how the upregulation of cardiac leptin signaling plays a crucial role in reducing morbidity and mortality in response to myocardial ischemia. Finally, in collaboration with Dr. Bryan McVerry, Dr. O’Donnell is studying the mechanisms underlying the development of hyperglycemia in critical illness.

Timothy Oriss PhD
During his doctoral thesis work, Dr. Oriss studied the role of Epstein-Barr virus in post-transplant lymphoproliferative disorders. This sparked his interest in immunology, which he then pursued during two post-doctoral fellowships. During the first, he studied cytokine crossregulation between murine T helper type 1 and T helper type 2 cells. And during the second, he studied human T cell responses to autoantigens stimulated by dendritic cells in the setting of the autoimmune disease, systemic sclerosis, also commonly known as scleroderma. More recently, Dr. Oriss has focused on many aspects of dendritic cell biology in lung disease, particularly asthma. He developed a murine model of experimental airway inflammation utilizing direct sensitization to allergen via the airways which has facilitated the study of DC-mediated priming events in the lung-draining lymph nodes. This basic methodology has been adapted for other experimental systems by a number of others in the laboratory. He received a Dalsemer Award from the American Lung Association in 2007 to study effects of agonists of PPAR-g on DC migration in vivo, and is a co-investigator on a number of grants involving DC biology. Dr. Oriss has collaborative efforts with the laboratory of Sally Wenzel MD to study the basic biology of severe asthma in humans. Dr. Oriss has a long-standing interest in flow cytometry and he is primarily responsible for the operation and maintenance of two flow cytometers. His expertise with flow cytometry has led to a number of collaborative efforts with investigators within, as well as outside of PACCM.

Sanjay Patel MD MS
Dr. Patel’s research interests focus on understanding the epidemiology of sleep disorders with particular emphasis on chronic partial sleep deprivation and obstructive sleep apnea and the potential effects of these disorders on metabolism. He has published extensively on the subject of obesity management and glucose metabolism with sleep apnea, as well as the association between curtailed sleep and long-term health effects. He has been one of the first to identify long sleep as a predictor of adverse health outcomes and is currently conducting a clinical trial evaluating the cardiovascular impact of treating sleep apnea in a diabetic population.

Other interests include identifying genetic risk factors for obstructive sleep apnea, understanding disparities in sleep disorders and their contribution towards cardiovascular health disparities, and identification of clinical and public health interventions to improve sleep in at-risk populations.

Andrej Petrov MD
Dr. Petrov’s research interests focus on conditions that mimic asthma, hypogammaglobulinemia in lung transplant patients, and allergic drug reactions.

Vocal Cord Dysfunction (VCD) is often misdiagnosed and mistreated as asthma, leading to increased asthma medication use and healthcare utilization. While laryngoscopy remains the gold standard for VCD diagnosis, it is often not readily available or practiced by many physicians who may encounter this disorder. Additionally, laryngoscopy may be normal if performed when a patient is asymptomatic. Dr. Petrov and co-inventors developed the Pittsburgh VCD Index, a simple, valid and easy to use tool for diagnosing VCD. This novel scoring system identified features of VCD that distinguish it from asthma. Symptoms of throat tightness and dysphonia, absence of wheezing, and the presence of odors as a symptom trigger were found to be key features of vocal cord dysfunction that distinguish it from asthma. Using the appropriate cut-off, the index had a sensitivity and specificity of 83% and 95% respectively, and its utility was confirmed in a population of patients with laryngoscopy-proven VCD. Pittsburgh VCD Index may decrease health care costs, unnecessary medication use and healthcare utilization by making a timely diagnosis of VCD in a patient mistreated for asthma.
Joseph Pilewski MD
Dr. Pilewski’s research interests mirror his clinical interest and expertise. He directs a research program in epithelial cell biology focused on ion transport and mucin structure and function in normal and Cystic Fibrosis airways, and leads translational research projects focused on development of new therapies for CF and other diseases of mucus obstruction, and identification of biomarkers of disease activity. He is a co-investigator on NIH and CF Foundation sponsored center grants focused on CF, and a co-investigator in the Cystic Fibrosis Foundation Therapeutics Development Network.

Matthew Pipeling MD
Dr. Pipeling’s research interests include the assessment of CMV-specific cell-mediated immunity to allow risk stratification of lung transplant recipients and potentially guide clinical management with regards to CMV viremia and disease; post-transplant lymphoproliferative disorder (PTLD)-assessment of risk factors, therapeutic options and efficacy, and relationship to EBV-specific immunity; and the Thrombotic Thrombocytopenic Purpura (TTP)-association with calcineurin inhibitor-based immunosuppression and allograft outcomes with the use of calcineurin inhibitor-free immunosuppression.

Iulia Popescu PhD
Dr. Popescu has a solid academic background in immunology, cancer, virology and transplantation, and a keen interest in research and clinical trials. Among her other research interests are immunology and translational science, new drug discovery and technology, the evaluation of potential new targets in proof of concept studies, the pre-clinical/clinical stage of drug development, and clinical biomarker research and development.

Ronald Poropatich MD
Dr. Poropatich is a co-Investigator on four DoD-funded research projects at the University of Pittsburgh.

- “Targeted Evaluation, Action, & Monitoring of Traumatic Brain Injury (TEAMTBI)”
  This clinical trial that brings together civilian and military TBI patients, advanced evaluation methods, and world class experts in a monitored, multiple interventional trial design to address the heterogeneity of TBI and identify evidence-based treatment protocols. The goal is to confirm efficacious targeted therapies for TBI and provide deployable protocols and technology for large-scale cost-effective diagnosis and management.

- “Advanced Longitudinal Diffusion Imaging for TBI Diagnosis of Military Personnel”
  This project will develop and advance MRI-based diffusion technology to quantify white matter loss in Traumatic Brain Injury (TBI) using MRI-based High Definition Fiber Tracking (HDFT) developed by this group. The project will implement, rigorously test, push through regulatory submission, and deploy this technology to DoD/VA hospitals.

- “Combination of Extracorporeal Life Support and Mesenchymal Stem Cell Therapy for Treatment of ARDS in Combat Casualties and Evacuation of Service Members with ARDS”.
  This research aims to determine the best way to treat acute lung injury with and without intra-bronchial mesenchymal stem cells administered with low flow extra-corporeal membrane oxygenation (ECMO).

- “Oral Nitrite Therapy to Improve Physical Performance at High Altitude and to Prevent High Altitude Pulmonary Edema and High Altitude Cerebral Edema.”
  The objective of this study is to see if an FDA-approved nitrite pill can be used to prevent HAPE/HACE in a low-oxygen environment.

Shulin Qin MD PhD
Dr. Qin’s research interests focus on HIV, microbiome, and emphysema.

Prabir Ray PhD
Dr. Ray is interested in immunoregulatory mechanisms of lung inflammation as they relate to disease inception and resolution. He pioneered the development of inducible cell-specific transgenic mice in the early years of his career at Yale University and demonstrated an important role of the growth factor KGF in protection from lung injury.
recently, his group identified a central role of the c-kit-PI3 kinase axis in promoting Th17 and Th2 differentiation and asthma using an experimental model. This work was chosen for the Year in Immunology 2010 publication of the New York Academy of Sciences.

His current research is focused on immune responses to pulmonary infections. His work has shown an important role of lung myeloid cells resembling MDSCs in resolution of lung inflammation during bacterial pneumonia. His group is also studying immune responses to infection by respiratory syncytial virus (RSV). RSV infection is common in infants and can cause severe bronchiolitis requiring hospitalization. Currently, there is no effective vaccine against RSV. Epidemiological studies have associated severe RSV-mediated illness with asthma development in later life and recent work from his lab suggests impairment of Treg function by RSV as one underlying mechanism. This study received significant attention nationally and internationally. Ongoing research in his lab is directed at understanding interactions between cells of the innate immune system and airway epithelial cells during RSV infection using both human samples and animal models, which may lead to new approaches to defend against RSV.

Anuradha Ray PhD
Dr. Ray’s overall research interest is to understand mechanisms of immune tolerance versus inflammation in the lung as they relate to pulmonary diseases, such as severe asthma and host-pathogen interactions. Early research from her lab led to the identification of NF-κB as a target for glucocorticoid-mediated repression of gene expression and the discovery of GATA-3 as a master regulator of Th2 cells, which promote allergic diseases including asthma. Her laboratory also identified a key role for Tregs expressing membrane-bound TGF-β with cross-talk with Notch in promoting immune tolerance in the airways.

The primary goal of Dr. Ray’s current research is to understand the immunological and molecular differences between severe and milder asthma and the mechanisms underlying poor response to corticosteroids in severe disease. A study published recently by her group has demonstrated an IFN-γ (Th1) immune bias in more than 50% of severe asthmatics. This study also utilized a newly developed animal model of severe asthma established in her lab, which can be used to test novel therapeutics for severe asthma. This bedside-bench study identified a detrimental role of IFN-γ in downregulating expression of the protease inhibitor, SLPI, in the airways of both humans and mice. In the context of immune tolerance, her recently published study has identified an important role of mitochondrial metabolism in lung dendritic cells in the maintenance of immune tolerance in the airways. Studies in her laboratory employ animal models of disease and human samples, which are analyzed using immunological, molecular, biochemical, physiological and imaging techniques.

Raju Reddy MD
Dr. Reddy’s research interests include orphan nuclear receptors, PPARs and orphan nuclear receptors in lung disease, PPAR ligand characterization, and pulmonary drug discovery.

Michael Risbano MD MA
Dr. Risbano is interested in the hemodynamic evaluation of subjects with pulmonary hypertension and the correlation of hemodynamic values with biomarkers for the early diagnosis of pulmonary hypertension. He is directly involved in the clinical and research exercise right heart catheterization efforts, in which we identify patients with various forms of exercise pulmonary hypertension.

Dr. Risbano has worked closely with Dr. Mark Gladwin in the study of endothelial function in response to the infusion of aged red cells. Most recently, he has published the study, Effects of Aged Stored Autologous Red Blood Cells on Human Endothelial Function, in the American Journal of Respiratory and Critical Care Medicine. This study demonstrated that intra-arterially infused red blood cells at the upper limits of storage impaired endothelial function, as measured by the reduced forearm blood flow responses to acetylcholine, an endothelium NO synthase-dependent vasodilator. He is also the PI for several investigator-initiated and Pharma-related clinical trials.
Keven Robinson MD
Dr. Robinson’s research interests include pulmonary host defense, immunology of acute respiratory infections, and immunology of chronic respiratory infections. Her current projects examine influenza and bacterial super-infection.

Mauricio Rojas MD
Being trained as a MD doing basic and translational research on immunology, Dr. Rojas has a complete perspective to understand the importance of translational medicine. His basic research is on the biology of lung injury and repair, especially in models of pulmonary fibrosis, acute lung injury and radiation. Dr. Rojas’ laboratory has produced pioneer work on the development of pre-clinical models for the use of bone marrow derived-MSC on acute and chronic injury. His novel area of research is the human ex vivo perfusion program, using human normal lungs and diseased lungs, studying the effect of novel therapies like stem cells, non-coding RNAs, small molecules as pre-clinical models for the implementation of new therapies for lung diseases. This protocol in combination of the collection of tissues samples from explanted lungs, has allowed his laboratory to build a program of organ/tissue collection from normal and disease lungs including scleroderma.

Leslie Scheunemann MD MPH
Dr. Scheunemann’s research focuses on developing interventions to improve how clinicians and families communicate about critically ill patients’ values and preferences during decision-making about life support. Her initial contribution was to demonstrate problems with how they communicate about patients’ values and preferences; she is currently developing research tools to assess the effectiveness of potential interventions.

Frank Sciurba MD FCCP
Dr. Sciurba’s long-term research interest includes volume-reduction strategies in patients with advanced emphysema and the use of exercise testing as a diagnostic and outcome tool in lung disease.

Additional research interests and topics of published work include the assessment of new concepts related to patterns of pulmonary and systemic inflammation associated with COPD, the impact of therapy on dynamic hyperinflation, the role of quantitative imaging in the assessment and reclassification of COPD, the design of the VENT endobronchial valve trial and role of valves in relieving native lung hyperinflation following lung transplantation, the retinoic acid FORTE trial, gender differences in COPD, assessment of methodology of pulmonary exercise testing and activity monitoring in COPD, and the important role of autoimmunity in the progression of COPD.

Faraaz Shah MD
Dr. Shah is an F32 postdoctoral scholar studying the impact of early nutritional support on the development of metabolic dysfunction and hyperglycemia in mouse models of sepsis, with a particular focus on the role of intestinal derived incretin hormones. He maintains an interest in the long-term cognitive impact of critical illness with an eye toward understanding the mechanisms underlying this complication for future translational studies.

Steven Shapiro MD
Dr. Shapiro’s laboratory focuses on the role of inflammatory cell derived proteinases in the progression of COPD/emphysema and lung cancer. He originally cloned and knocked-out macrophage elastase (MMP-12) to demonstrate that MMP-12 deficient mice are completely protected from the development of cigarette smoke-induced emphysema. Dr. Shapiro’s lab has continued to study the contribution of numerous inflammatory cell derived proteinases in emphysema and lung cancer progression using gene targeting in mice. More recently, his lab has begun to study the role of repair (or lack thereof) in the progression of emphysema by using lineage-tagging approaches to study putative stem cell populations residing within the lung.
Courtney Sparacino-Watkins PhD
Dr. Sparacino-Watkins’s dissertation work established that the Epsilonproteobacterial periplasmic nitrate reductase (Nap) system has a high affinity for nitrate and unique molecular differences (Sparacino- Watkins, et al. Chem. Soc. Rev. 2014). She used several methodologies, such as theoretical protein structure modeling, matrix-based phylogenetic analysis, mass spectrometry, recombinant protein purification, and enzyme kinetics. She developed methodology to design and isolate recombinant proteins with organic prosthetic groups, such as molybdopterin of molybdenum-dependent enzymes.

During her post-doctoral training, Dr. Sparacino-Watkins redirected her research to focus on translational and biomedical research. With Dr. Mark Gladwin, she utilized her background on bacterial nitrogen metabolism and molybdenum enzymes to study inorganic nitrogen (nitrate, nitrite, and nitric oxide) metabolism in humans. She identified a new aspect of the nitrate-nitrite-nitric oxide pathway by establishing that the human mARC-1 and mARC-2 molybdenum enzymes are able to reduce nitrite into NO (Sparacino-Watkins, et. al, JBC, 2014). Additionally, she has been instrumental in developing new experimental methods for quantitation of nitric oxide using the nitric oxide analyzer (NOA), a sensitive analytic method that utilizes gas-phase chemiluminesence and provides unmatched specificity for nitric oxide. She is also active in characterization of other human nitrite reductase enzymes.

Dr. Sparacino-Watkins continues her work on defining the molecular mechanisms behind the therapeutic effects of nitrite on pulmonary arterial hypertension. She is now working on defining the function of mARC enzyme catalyzed nitrite reduction to NO in vivo by studying the effect of mARC2 knockout in mice on the therapeutic effects of nitrite in pulmonary arterial hypertension.

Patrick Strollo MD FACP FCCP FAASM
Dr. Strollo’s projects have examined the utility of portable monitoring for the diagnosis of sleep apnea, the novel treatment of sleep apnea, and the impact of sleep apnea on cardiovascular risk.

Bin Sun MD
Nitric oxide(NO) is essential in regulating vasodilation. Dr. Mark Gladwin’s lab has discovered nitrite, as a NO reservoir, can be reduced to NO by hemoglobin. Molybdenum(Mo)-containing enzyme mitochondrial amidoxime reducing component 2(mARC2) has also been shown to chemically reduce nitrite to NO under hypoxic condition. Dr. Sun is focusing on establishing cell models by altering mARC2 expression in COS7 endothelial and smooth muscle cells to study the functions and mechanisms of mARC2 as nitrite reductase. The potential of the sGC enzyme itself as a nitrite reductase is also under investigation.

The potential role of sGC modulators Bay 41 and Bay 58 compounds in the treatment of sickle cells symptoms by increasing fetal hemoglobin gene expression has been discovered by Gladwin’s lab. The molecular mechanisms and pathways involved in sGC modulators induced fetal hemoglobin gene expression in human primary erythroid progenitor cells are being explored.

Prithu Sundd PhD
Dr. Sundd’s research interests include the mechanisms of leukocyte rolling and arrest during inflammation, the role of neutrophils in pulmonary vaso-occlusion during sickle cell disease Acute Chest Syndrome, and the identification of molecular mechanism of vaso-occlusion in SCD (SS) patient blood.

John Tedrow MD MEng
Dr. Tedrow’s research interests focus on the genomics of complex lung disease. He has been examining RNA expression initially in COPD and IPF using data generated through the Lung Genomics Research Consortium. More recently, he has been looking at genomic phenotypes in asthma using data from the Severe Asthma Research Project.
Jesus Tejero Bravo PhD
Dr. Tejero's research focuses on the reactions of nitrite and nitric oxide with heme proteins. The nitrite-heme reactions are of growing interest because of their role in nitric oxide signaling pathways and because they play a significant role in physiological and pathological situations. His current research is aimed at understanding and characterizing the chemical and kinetic features of the reactions of nitrite with hemoglobin, myoglobin, cytoglobin and neuroglobin.

Stevan Tofovic MD PhD FAHA FASN
Dr. Tofovic has had a sustained interest in the development and characterization of complex animal models of cardiovascular and renal disease, with primary focus on pulmonary hypertension, heart failure and diabetic nephropathy. Using these model systems, he studies the underlying pathophysiology of cardiovascular/renal diseases and evaluates new therapeutic modalities. Dr. Tofovic has developed and characterized the obese diabetic ZSF1 rat as a model of diabetic nephropathy and heart failure with preserved ejection fraction (HFPF) and has published most of the papers in this area.

Dr. Tofovic's lab is one of the few laboratories in the country studying the effects of gender and estradiol metabolism on the development and progression of pulmonary hypertension. He was first to suggest that estradiol metabolism may influence the development and progression of PH (2005). More recent studies are related to (1) the effects of sex and sex hormones and their metabolites on development of HFPF and (2) the role of adenosine metabolite and adenosine-adenosine demainase axis in PH with focus on hemolysis-induced hemolytic pulmonary vasculopathy.

Kristen Veraldi MD PhD
Dr. Veraldi's research interests center on the molecular underpinnings of fibrosing lung diseases, such as idiopathic pulmonary fibrosis (IPF) and connective tissue disease-related interstitial lung disease. She has a particular interest in the contribution of heat shock proteins to the development and progression of fibrosis.

Ling Wang MD PhD
Dr. Wang has two main areas of interest. The first focuses on the nitrite and NO signaling pathway in vascular and cardiopulmonary diseases, such as ALI, lung fibrosis, PAH and I/R injury. In particular, he is investigating the downstream signaling pathways regulated by nitrite and NO in cellular and animal models in order to identify new therapeutic targets and develop nitrite-based therapy. The second research focus centers on mutant human Ngb as an antidote for carbon monoxide poisoning. This research aims to develop a specific antidote using mutationally engineered human Ngb as a "CO trap," which removes CO from blood, tissue and cells.

Xingan Wang MD PhD
Dr. Wang's research interest is bridging the bench and the bedside in three areas of lung transplantation: donor shortage, ischemia-reperfusion injury, and transplant rejection. As a scientist with 11 years of experience in thoracic surgery, he has taken his surgical skills and medical care from the bedside back to bench, refining and establishing the mouse models of lung transplantation, intravital Two-photon imaging, and serial intravital imaging. Hyaluronan accumulation and pseudomonas infection were found to be related to clinical lung allograft rejection. The Wang lab’s studies revealed the mechanisms and explored potential prevention with animal models. Neutrophil extracellular traps (NETs) are recently reported to be involved in neutrophil-induced damage. One recent study done by Dr. Wang’s lab visualized neutrophil extracellular traps (NETs) and revealed their special roles in ischemia reperfusion injury and rejection in the lab’s mouse lung transplant model. Eliminating NETs with such drugs as DNase would worsen the lung injury and rejection. Dr. Wang’s study is expected to provide even greater understanding of the mechanism and will further explore potential therapeutic targets. Collaborating with the specialists in micro positron emission tomography (PET) and micro magnetic resonance imaging (MRI), the lab has explored new non-invasive diagnostic methods for acute rejection in mouse lung transplants. Finally, the Wang lab’s continuing research combines lung transplantation and Ex Vivo Lung Perfusion (EVLP) in mice. This would accelerate the translational study on EVLP and the non-heart-beating donor lung, alleviating the donor shortage.
Nathaniel Weathington MD PhD
Dr. Weathington’s diverse research interests include the regulation of cytokine receptors in the lung and the impact of that regulation on immunity. Closely related immunoreceptors (e.g. IL-17Ra and IL-17Rb) function as highly divergent drivers of tissue immunity (toward type 17 or type 2, respectively). Dr. Weathington’s lab analyzes RNA induction, transcription factor activation, and protein stability to study the induction and maintenance of these and other receptors in lung epithelia and alveolar macrophages across different stimuli paradigms.

Another area of interest regards the activity of the ubiquitin system and its regulation of normal and pathological biology. Working within Dr. Rama Mallampalli’s Center for Acute Lung Injury, the group has pioneered the preclinical development of small molecule anti-inflammatory agents that target critical mediators of protein stability regulating inflammatory pathways. These studies have advanced the understanding of inflammatory signaling and have led to development of first-in-class therapeutic agents that may someday be utilized to combat human inflammatory diseases. Researchers in the Weathington lab have developed a human whole lung perfusion system as a preclinical system to evaluate tissue responses to endotoxemic lung injury.

Sally Wenzel MD
Having a clinical interest in asthma, Dr. Wenzel has developed a strong translational program to study the pathobiology and mechanisms of the human disease. She is one of seven NHLBI-funded investigators in the Severe Asthma Research Program (SARP) network and she co-directs a PO1 on severe asthma with her collaborator, Dr. Anuradha Ray. Through SARP and her own efforts, Dr. Wenzel has accumulated a clinical database of over 500 subjects with asthma and healthy controls, most of whom have matching airway tissue, cells, and sputum/lavage. Her lab is one of few which is able to match an extensive clinical phenotype of a subject with responses at a cellular/molecular level. She is developing rich databases of gene expression in asthma. Her current bench-lab interests include the role of epithelial cells in controlling airway inflammatory responses, oxidative and nitrative stress, as well as their interactions with mast cells and Th1 immune responses. She currently heads the University of Pittsburgh Asthma Institute@UPMC, and holds the UPMC Chair in Translational Airway Biology.

David Wilson MD MPH
Dr. Wilson’s research interests include: lung cancer screening and chemoprevention, diagnosis, staging and treatment; COPD, especially as it relates to lung cancer; occupational lung diseases; general pulmonary medicine; and nutrition support. His primary focus currently is the development of predictive tools, beyond emphysema, for risk stratification for lung cancer screening. This work includes risk prediction formulas, surrogate tissue biomarkers, and imaging biomarkers.

Zeyu Xiong MD MS
The immunosuppressive effects of red cell transfusion has long been clinically recognized, but the underlying mechanisms for this effect remain elusive. Moreover, this effect may modify the outcomes of disease in critically ill patients with infection. Dr. Xiong’s lab is investigating the mechanism of immune suppression in a combined bacterial pneumonia-red cell transfusion study and examining the hypothesis that the red cell microparticles that accumulate within stored transfusates elicit an immunosuppressive phenotype through the suppression of NFκB gene activation.

Dr. Xiong’s lab has a great interest in the role of macrophages and neutrophils in innate immune response, especially in bacteria infections. Despite recent advances in understanding macrophage activation, little is known regarding how human alveolar macrophages in health calibrate its transcriptional response to canonical TLR4 activation. With RNA-seq technology, researchers in Dr. Xiong’s lab examined the full spectrum of LPS activation and determined whether the transcriptional profile of human alveolar macrophages is distinguished by a TIR-domain-containing adapter-inducing interferon-β (TRIF)-dominant type I interferon signature. Also determined was whether IRF-7 and USP-18 can influence downstream macrophage effector cytokine production such as IL-10. Dr. Xiong’s lab showed that IRF-7 siRNA knockdown enhanced LPS-induced IL-10 production in human monocyte-derived macrophages, and USP-18 overexpression attenuated LPS-induced production of IL-10 in RAW264.7 cells. Quantitative PCR confirmed
upregulation of USP18, USP41, IL10, and IRF7. These results suggest that IRF-7 and predicted downstream target USP18, both elements of a type I interferon gene signature identified by RNA-Seq, may serve to fine-tune early cytokine response by calibrating IL-10 production in human alveolar macrophages.

**Anna Zemke MD PhD**  
Pseudomonas aeruginosa forms highly antibiotic resistant biofilms in the airways of people with cystic fibrosis and other lung diseases. Nitrosative stress arrests bacterial respiration, thus researchers in Dr. Zemke’s lab is developing nebulized nitrite as an antimicrobial agent. In the laboratory, a bacterial epithelial co-culture model is used to study how nitrosative stress modulates bacterial respiration and to study the physiology of biofilm dispersal. The lab is conducting a Proof of Concept human subjects study, using nebulized nitrite within the Cystic Fibrosis Center at Pitt in collaboration with Dr. Joe Pilewski.

**Yingze Zhang PhD**  
Dr. Zhang’s research focuses on the molecular and genetic basis of pulmonary and vascular diseases, including COPD, ILD, sleep apnea and sickle cell and systemic complications associated with these diseases. She is also actively working on the discovery and validation of prognostic and diagnostic biomarkers related to lung and vascular diseases. In addition, her laboratory is actively investigating the functional significance of disease associated genetic variants and their roles in disease pathogenesis. Dr. Zhang also directs the translational core lab for the Division of Pulmonary, Allergy and Critical Care Medicine and the Biobank for Cardiology and Vascular Medicine Institute. She has been PI or co-I on multiple grants funded by NIH and other agencies. She has published over 100 peer-reviewed manuscripts.

**Liyong Zhang PhD**  
Dr. Zhang’s research interests focus on clarifying the molecular mechanisms underlying human diseases and identifying potential therapeutic targets as well as biomarkers. He studies adipose-derived stem cells (ASCs) and cancer stem cells (CSCs), looking at the isolation, characterization, and tri-differentiation of ASCs; paracrine secretion potency of adipose tissue components including SVFs, ASCs, fat particles, and adipocytes from breast cancer patients; assessment of the interaction between breast cancer cells and adipose tissue components in vitro and in vivo; and the identification of coactivator activator (CoAA) as CSC marker.

Also investigated in Dr. Zhang’s lab is inflammation and immune regulation by nitric oxide (NO) and the inducible NO synthase (iNOS). Specifically, he is looking at TLR3 tyrosine 759 phosphorylation enhancement of interferon-β synthesis through iNOS/PKR/Src axis in hepatocytes and Prohibitin 1 associates with iNOS to regulate TNFR1 shedding in hepatocytes.

The role of the ubiquitin-proteasome system (UPS) in genomic stability and tumorigenesis is also being investigated, including how the proteolysis of Rad17 by Cdh1/APC regulates checkpoint termination and recovery from genotoxic stress; the regulation of KLF4 turnover and the unexpected tissue-specific role of pVHL in tumorigenesis; and the involvement of casein kinase II in APC-mediated TGF-β signaling.

Finally, Dr. Zhang’s lab is researching molecular mechanism studies that reveal potential therapeutic targets for cancer, specifically the protein biomarker identification from ESCC serum and an ELISA kit (Cat # RD194034200R) commercialized by BioVendor-Laboratorní Medicína, A.S.; the function of stefin A in cancer cells and new tools for angiogenesis drug discovery commercialized by BioMol International; the identification of differentially expressed genes in ESCC and the novel role characterization of stomatin-like protein 2 (SLP-2); and the identification of differentially expressed miRNAs in pancreatic cancer, cervical cancer, prostate cancer, and head and neck cancer, and analysis of the role of miRNA candidates in pancreatic cancer.

**Jing Zhao MD PhD**  
Dr. Zhao’s research investigates histone acetyltransferase stability in acute lung injury. The ubiquitin-proteasome system is the major pathway of non-lysosomal intracellular protein degradation and controls pro- and anti-inflammatory responses by modulating immune regulatory signal protein turnover. Dr. Zhao is focusing on the role of de-
ubiquitination enzyme USP14 and E3 ubiquitin ligase subunit FBXL19 in the regulation of CBP stability, activity, and histone acetylation in lung injury and sepsis.

Another research interest of Dr. Zhao is to determine the role of de-ubiquitination enzymes in the regulation of pulmonary endothelial integrity. She has identified that a novel de-ubiquitination enzyme plays a critical role in maintaining pulmonary endothelial barrier function. She is using proteomics tools as well as molecular and cellular biological techniques to reveal the molecular mechanisms by which the de-ubiquitination enzyme regulates VE-cadherin localization and cytoskeletal rearrangement.

Jinming Zhao PhD
Dr. Zhao’s research has been focused on the pathogenesis of severe asthma as it relates to the role of the 15-Lipoxygenase-1 (15LO1) signaling pathway. 15-Lipoxygenase 1 is one of several key enzymes involved in arachidonic acid (AA) metabolism. Using primary human airway epithelial cells as a model, Dr. Zhao’s research suggests that 15LO1 increases with severity of asthma and regulates MUC5AC gene expression. He was the first to show that 15LO1 interacts with Raf-1/PEBP1 to regulate MAPK/ERK signal pathway and amplify IL-4Ra signaling in human airway epithelial cells. These data suggest that the 15LO1 pathway could play a critical role in regulating gene expression which contributes to asthma pathogenesis. Dr. Zhao is particularly interested in the mechanism of 15LO1 expression in chronic Th2 background, the downstream effects of 15LO1 pathway activation on inflammatory gene expression and the key biologic activity of the 15LO1 enzyme products.

Yutong Zhao MD PhD
The primary goal of Dr. Zhao’s laboratory research is to investigate the role of bio-active phospholipid receptors in the pathogenesis of sepsis and lung inflammatory diseases. His lab has discovered that lysophosphatidic acid (LPA) and its receptors play a critical role in regulating cytokine release and cytokine receptor expression, and the pro-inflammatory effects are mediated by GPCR and cross-talk with LPS co-receptor, CD14. His current project is to reveal the molecular regulation of LPA receptors by ubiquitination and de-ubiquitination.

A second research interest is to understand the role of de-ubiquitination enzymes in the regulation of the interleukin-1 receptor/Toll-like receptors (TLRs). Dr. Zhao’s lab has been investigating the IL-33 receptor ubiquitination, phosphorylation, and internalization. It has uncovered a new ubiquitin E3 ligase that regulates IL-33 receptor stability, and recently, the lab’s research showed that phosphorylation of IL-33 receptor by GSK3ß promotes IL-33 receptor internalization. Currently, Dr. Zhao is focusing on molecular regulation of IL-1R8 stability in lung injury and sepsis.

The researchers in Dr. Zhao’s lab are also interested in revealing the role of de-ubiquitination enzymes in TGFß signaling, tumorigenesis, and innate and adaptive immunity. His research shows that TGFRII and Smad2/3 stability are tightly controlled by USP11 and UCHL5—and he is focusing on the molecular regulation of key transcriptional factors stability by novel de-ubiquitination enzymes.

Xiuxia Zhou PhD
Dr. Zhou’s research has focused on the signaling pathways related to extracellular matrix turnover and the role and function of chemoattractant molecules in primary human lung fibroblasts. Specifically, her work involves looking at the cellular responses to IL-13 and TGF-ß in fibroblasts during lung inflammation and repair in asthma. Dr. Zhou’s studies focus on the TGF-ß and IL-4Ra signaling pathways on extracellular matrix metabolism, airway inflammation and remodeling in primary human fibroblasts obtained from normal and asthmatic subjects. Her research also investigates regional fibroblasts heterogeneity in asthma. Specifically, she has been interested in regulatory mechanisms that determine the differences between fibroblasts isolated from proximal and distal lung. Dr. Zhou has successfully transfected primary human lung fibroblasts with dominant negative constructs or siRNA, and would like to fully understand the mechanisms controlling their phenotypic differences using an epigenetic approach.
Chunbin Zou MD PhD

Dr. Zou’s laboratory focuses on epigenetics in the lung and the deregulation of epigenetic enzymes in pulmonary inflammation and infection. The goal of one ongoing study is to understand how histone O-palmitoylation acts as a new epigenetic mark to regulate gene transcription. A related study area is the understanding of the molecular mechanism(s) of deregulation of epigenetic related enzymes at protein level in pulmonary infection, pneumonia, acute lung injury and acute respiratory distress syndrome by utilizing the state-of-the-art molecular, cellular and biochemical approaches and techniques. The research’s long-term goal is to unveil the molecular behavior at protein level in pathophysiological settings and identifying epigenetics-oriented therapeutic strategy for multi-drug resistant infectious pulmonary
Faculty Research & Other Scholarly Activities

Charles Atwood MD
- Fellow, American College of Chest Physicians, 1992-present
- Core Member, Center for Health Equity Research and Promotion (CHERP), VA Pittsburgh Healthcare System, 2006-present
- Reviewer, CHEST, 1998-present
- Reviewer, Sleep, 2001-present
- Reviewer, American Journal of Respiratory and Critical Care Medicine, 2003-present
- Reviewer, Journal of General Internal Medicine, 2005-present
- Reviewer, Journal of Applied Physiology, 2005-present
- Reviewer, Journal of Clinical Sleep Medicine, 2006-present
- Reviewer, VISN 4 Competitive Pilot Study Program, 1998-present
- Reviewer, CNRC–IRB projects, 2002-present
- WPIC Internal Grants Reviewer, 2005-present
- Chair, Clinical Informatics Committee, VA Pittsburgh Healthcare System, 2002-present
- Research and Development Committee, VA Pittsburgh Healthcare System, 2007-present
- Advisory Committee, Neuroscience-Clinical Translational Science Institute (N-CTSI), 2006-present
- Editor in Chief, ACCP SEEK for Sleep Medicine, 2008-present
- Director, Multidisciplinary Sleep Medicine and Research Conference, 2004-present
- Adverse Events and Procedure Reporting Committee, 2007-present
- Chair, Veriphy implementation taskforce, 2010-present
- VISP 4 Telhealth Council, 2010-present
- Co-Chair, VAPHS Telehelath taskforce, 2010-present
- Admissions interviewing Committee, 2003-present
- Advisory Committee, Neuroscience-Clinical Translation Science Institute (N-CTSI), 2006-present
- University of Pittsburgh Press Advisory Committee, 2014-present

Ian Barbash MD
- AcademyHealth, 2015-present
- American Thoracic Society, 2013-present
- Society of Critical Care Medicine, 2012-present
- American College of Physicians, 2010-present

Sharon Camhi MD
- Patient and Family Support Committee, Society of Critical Care Medicine, 2008-present

Divay Chandra MD
- American Thoracic Society, 2008-present

Beibei (Bill) Chen PhD
- Editor, Journal of Allergy and Therapy, 2009-present
- Ad hoc Reviewer, American Journal of Respiratory Cell and Molecular Biology, 2010-present
- Ad hoc Reviewer, Journal of Medicinal Chemistry, 2010-present
- Ad hoc Reviewer, Journal of Biological Chemistry, 2010-present
- Ad hoc Reviewer, Molecular Cancer Therapeutics, 2012-present
- Ad hoc Reviewer, PLoS One, 2012-present
- Ad hoc Reviewer, Journal of Clinical Investigation, 2012-present
- Ad hoc Reviewer, Laboratory Investigation, 2012-present
- Ad hoc Grant Reviewer, AFM Telethon, 2012-present
- Ad hoc Grant Reviewer, University of Pittsburgh CMRF, 2015-present

Jared Chiarchiaro MD
- American Thoracic Society, 2013-present
- American College of Chest Physicians, 2011-present

Timothy Corcoran PhD
- Editorial Board, Journal of Applied Physiology 2010-present
- Imaging Group Chairman, International Society for Aerosols in Medicine, 2009-present
- American Association for the Advancement of Science, 2009-present

Michael Donahoe MD
- Grant Reviewer, VA Merit Review Consultant, 1999-present
- Reviewer, American Journal of Respiratory and Critical Care Medicine, 1999-present
- Reviewer, Chest, 1999-present
- Reviewer, Respiratory Medicine, 1999-present
- Fellow, American College of Chest Physicians, 1999-present

Merritt Fajt MD
- American Academy of Allergy, Asthma and Immunology, 2007-present
- Fellow, American Academy of Allergy, Asthma and Immunology, 2014-present
- Board Member (Vice President), Greater Pittsburgh Allergy, Asthma & Immunology Society, 2012-present
- American Thoracic Society, 2011-present

Jessica Bon Field MD
- American Thoracic Society, 2004-present
- American College of Chest Physicians, 2004-present
- American Society of Bone and Mineral Research, 2009-present
- Study Section Membership, VA Merit Review Panel [ENDB], ad hoc, 2015-present
- Study Section Membership, NIH Neurological, Aging, and Musculoskeletal Epidemiology, 2016
- Editorial Board, BMC Pulmonary, 2016-present
- DSMB Chair, SHOP (Adiposity and Airway Inflammation in HIV-Associated Airway Disease) Data and Safety Monitoring Board, 2016-present
- Journal Referee, American Journal of Respiratory and Critical Care Medicine; Archives of Internal Medicine; COPD: Journal of COPD; Respiratory Research, European Respiratory Journal; PloS One; BMC; Annals of the American Thoracic Society; 2015-present
- Working Member, Educational Review Working Group, COPD Foundation, 2013-present
- Program Committee, Clinical Problems Assembly, American Thoracic Society, 2016-present
Meghan Fitzpatrick MD
- American Thoracic Society, 2009-present
- American College of Chest Physicians, 2011-present

Marc Gauthier MD
- American College of Physicians, 2012-present
- American Thoracic Society, 2013-present
- American College of Chest Physicians, 2015-present
- Pennsylvania Medical Society, 2014-present
- Allegheny County Medical Society, 2014-present

Kevin Gibson MD
- Admissions Committee, University of Pittsburgh School of Medicine, 1991-present
- Credentials Committee, University of Pittsburgh Medical Center, 1997-present
- Small Business Innovative Research Scientific Review Panel, NIH, 2004-present

Rachel Givelber MD
- Pulmonary/Critical Care Fellowship Committee, Pulmonary Allergy and Critical Care Division, University of Pittsburgh, 2003-present
- Biostatistics and Epidemiology Task Force, National Board of Medical Examiners, 2011-present
- Fellow, American College of Chest Physicians, 1999-present
- Biostatistics and Epidemiology Committee, NBME, 2014-present

Mark T Gladwin MD
- American Society of Clinical Investigations (ASCI), 2006-present
- Elected Council Member, American Society of Clinical Investigations (ASCI), 2010-present
- Alpha Omega Alpha, 1995-present
- Fellow, American College of Physicians, 2008-present
- Society for Free Radical Biology and Medicine, 2002-present
- Editorial Board Member, Haematologica, 2008-present
- Editorial Board Member, Journal of Hematology, 2007-present
- Editorial Board Member, Free Radical Biology and Medicine, 2007-present
- Editorial Board Member, American Physiology Journal, Lung Cellular and Molecular Physiology, 2011-present

Alyssa Gregory PhD
- Senior Research Training Fellowship, American Lung Association, 2011-2013
- American Thoracic Society, 2013-present

Elena Goncharova PhD
- American Thoracic Society, 2007-present

Shikha Gupta MD
- American College of Chest Physicians, 2011-present
- American Thoracic Society, 2011-present

Jeffrey Isenberg MD
- Cancer Redox/Biology Working Group, National Cancer Institute, 2004-present
• American Society for Matrix Biology, 2006-present
• North American Vascular Biology Organization, 2007-present
• Science Award, 3rd International Role of Nitrite in Physiology, Pathophysiology and Therapeutics Meeting
• American Heart Association, 2009-present
• Co-Chair, AHA Vascular Wall Biology Committee, 2009-present
• Chair, AHA Vascular Wall Biology Committee, 2012-present
• Graduate Faculty, University of Pittsburgh, 2012-present
• AHA Fellows Research Day Task Force, 2013-present

Constance Jennings MD
• Board Member, CG Jung Educational Center, 2006-present

Bruce Johnson MD
• Pre-Transplant Candidate Selection Committee, 1995-present
• Post-Transplant Immunosuppression Management Committee, 1995-present
• Institutional Review Board Committee, 2005-present

Daniel Kass MD
• American Thoracic Society, 2002-present

Carl Koch MD
• American Thoracic Society, 2012-present
• Affiliate Member, American College of Chest Physicians, 2013-2015

John Kreit MD
• Course Director, Pulmonary Section-Body Fluid Homeostasis (MS-2), 2015-present
• Lecturer, Get Ready for Residency (MS-4), 2008-present
• American Thoracic Society, 1988-present
• American College of Chest Physicians, 1988-present
• Faculty Advisor, MS-1, MS-2, MS-23, 2002-present

David Kristo MD
• Fellow, American College of Physicians, 1996-present
• Fellow, American College of Chest Physicians, 1995-present
• Fellow, American Academy Sleep Medicine Society, 2001-present
• American Academy Sleep Medicine Society, 1997-present

Phillip Lamberty MD
• Fellow, American College of Chest Physicians, 2004-present
• American Thoracic Society, 2001-present
• American Academy of Sleep Medicine, 2011-present
• Society of Critical Care Medicine, 2012-present

Burton W. Lee MD
• Fellow, American College of Chest Physicians, 2003-present
• Fellow, American College of Physicians, 1996-present
• American Thoracic Society, 1996-present
• Christian Medical and Dental Society, 1986-present

Janet S Lee MD
• Respiratory Cell and Molecular Biology Assembly, American Thoracic Society, 2000-present
• Ad Hoc Reviewer, American Journal of Respiratory Critical Care Medicine, 2006-present
• Ad Hoc Reviewer, American Journal of Respiratory Cell and Molecular Biology, 2006-present
• American Heart Association Grant Reviewer, R1 & 2, Immunology and Virology Committee, 2009-present
• ATS Research Advisory Committee, 2010-present
• Advisory Board, ATS Research Quarterly Newsletter, 2011-present
• American Thoracic Society Membership Committee, 2013-present
• Vice Chair, American Thoracic Society Membership Committee, 2015-present
• Ad hoc Reviewer, Innate Immunity and Inflammation, NIH Standing Study Section, Pentagon City, Arlington, VA, 2015
• Standing Section Member, Innate Immunity and Inflammation, NIH Study Section, 2015-present

Elizabeth Lendermon MD
• International Society of Heart & Lung Transplantation, 2009-present
• American Thoracic Society, 2009-present

Kathleen Lindell RN PhD
• Pennsylvania Thoracic Society Planning Committee, 2003-present
• Inaugural Chair, American Thoracic Society Patient & Family Education Committee, 2010-present
• ATS Presidential Commission on Patient Involvement, 2011-present
• ATS Planning & Evaluation Committee, 2014-present
• Co-Chair, ATS Nursing Assembly Clinical Research Coordinator Working Group, 2014-present
• Invited Member, AJRCCM Editorial Board, 2012-present
• Section Editor, Respiratory Nursing Society, Core Curriculum, 1999-present
• Strategic Advisory Board, Coalition for Pulmonary Fibrosis, 2001-present
• First National Summit of the Nursing Leadership Task Force on Tobacco Control, AHRQ Headquarters, Washington, DC, 2004-present
• Medical Advisory Board, Pulmonary Fibrosis Foundation, 2010-present
• Respiratory Nursing Society, 1993-present
• Section Editor, Core Curriculum, Respiratory Nursing Society, 1999-present
• American Academy of Nursing, 2007-present
• Pulmonary Fibrosis Foundation, 2013-present
• Invited Member, Medical Advisory Board, Pulmonary Fibrosis Foundation, 2010-present
• Invited Member, Board of Directors, Pulmonary Fibrosis Foundation, 2014-present
• Chair, Patient Related Activities, Board of Directors, Pulmonary Fibrosis Foundation, 2015-present
• Respirare, Invited Member of Scientific Committee, 2013-present

Yuan Liu PhD
• Editorial Board Reviewer, Austin Journal of Vascular Medicine, 2014-present
• Ad hoc Reviewer, American Journal of Respiratory Cell and Molecular Biology, 2014-present
• Ad hoc Reviewer, The Journal of Anesthesia and Clinical Research, 2014-present
• Ad hoc Reviewer, The Journal of Allergy and Therapy, 2014-present
• Ad hoc Reviewer, The Journal of Biological Chemistry, 2014-present
• Ad hoc Reviewer, The Journal of Biological Chemistry, 2015-present
• Ad hoc Reviewer, The American Journal of Physiology, 2016-present
• Ad hoc Reviewer, Journal of Clinical Investigation, 2016-present

Rama Mallampalli MD
• Editorial Board, Journal of Biological Chemistry, 2006-present
• Editorial Advisory Panel, Biochemical Journal, 2007-present
• Editorial Board, Journal of Epithelial Biology & Pharmacology, 2008-present
• Editorial Board, International Archives of Biosciences, 2001-present
• Editorial Board, American Journal of Physiology (LCMP), 2009-present
• Editorial Board, Journal of Epithelial Biology & Pharmacology, 2008-present
• Editorial Board, International Archives of Biosciences, 2001-present
• Editorial Board, American Journal of Physiology (LCMP), 2009-present
• ALA/ATS National Research Grant Review Committee, Lung Study Section B, 2000-present

Nikolaus Maniatis MD
• Reviewer, American Journal of Physiology-Lung Cell- and Molecular Physiology, 2008-present

Jennifer McComb MD
• American College of Physicians, 2005-present
• Society for Critical Care Medicine, 2005-present
• Pennsylvania Medical Society, 2005-present
• American Thoracic Society, 2007-present
• American College of Chest Physicians, 2008-present

John F McDyer MD
• Editorial Board, Transplant Infectious Diseases, 2006-present
• American Association of Immunologists, 2003-present
• International society of Heart and Lung Transplantation, 2003-present
• American Thoracic Society, 2003-present

Bryan McVerry MD
• Reviewer, Microvascular Research, 2005-present
• Reviewer, American Journal of Respiratory Cell and Molecular Biology, 2006-present
• Reviewer, Journal of Applied Physiology, 2007-present
• Reviewer, American Journal of Physiology, Lung Cellular Molecular Physiology, 2007-present
• Reviewer, American Journal of Physiology, Renal Physiology, 2008-present
• Reviewer, Nature Reviews Drug Discovery, 2008-present
• Reviewer, American Journal of Respiratory and Critical Care Medicine, 2009-present
• International Award Committee, ATS Critical Care Assembly, 2003-present
• American Medical Association, 1997-present
• Society of Critical Care Medicine, 2001-present
• American Thoracic Society, 2002-present
• American College of Chest Physicians, 2003-present
• Allegheny County Medical Society, 2005-present
• Pennsylvania Medical Society, 2005-present
• American Physiological Society, 2010-present
• Association of Pulmonary and Critical Care Medicine Program Directors, 2014-present

Barbara Methe PhD
• DOE Office of Science Graduate Student Research Program, 2016

Ana Mora MD
• Society for Free Radical Biology and Medicine, 2013-present
• American Thoracic Society, 2002-present
• Planning Committee Member, RCMB Assembly, ATS, 2014-present
• Ad hoc Reviewer, NHLBI RFA Aging Lung, 2015-present
• Member Editorial Board, AJP Lung Cellular and Molecular Physiology, 2015-present

Matthew Morrell MD
• International Society of Heart and Lung Transplantation, 2007-present
• American Thoracic Society, 2014-present
• Pulmonary Transplant Fellowship Director, 2009-present

Alison Morris MD
• Reviewer, AIDS, 2004-present
• Reviewer, American Journal of Respiratory and Critical Care Medicine, 2008-present
• Reviewer, American Journal of Respiratory, Cell and Molecular Biology, 2007-present
• Reviewer, Chest, 2006-present
• Reviewer, Clinical Infectious Diseases, 2007-present
• Reviewer, Emerging Infectious Diseases, 2005-present
• Reviewer, Journal of the Acquired Immunodeficiency Syndrome, 2006-present
• Reviewer, Intensive Care Medicine, 2006-present
• Reviewer, Medical Science Monitor, 2005-present
• Reviewer, Thorax, 2009-present
• Long-range Planning Committee, MTPI Assembly, ATS, 2003-present
• Program Committee, MTPI Assembly, ATS, 2004-present
• Nominating Committee, MTPI Assembly, ATS, 2007-present
• American Thoracic Society, 1998–present
• American College of Chest Physicians, 1999–present
• Department of Medicine Research Day, Chair, 2016-present
• Director, Grant Writing Workshop, Department of Medicine, 2015-present
• Applicant Interviewer, International Scholars Program, Department of Medicine, 2015-present
Michael Myerburg MD
- The Salt and Water Club, 2008-present
- American Thoracic Society, 2004-present
- American College of Chest Physicians, 2006-present
- Ad-hoc Reviewer, The Journal of Biological Chemistry, 2008-present
- Ad-hoc Reviewer, The American Journal of Physiology, 2008-present
- Ad-hoc Reviewer, American Journal of Respiratory Cell and Molecular Biology, 2008-present

Quyen Nguyen MD
- American Medical Association, 2006-present
- Pennsylvania Medical Society, 2006-present
- American College of Physicians, 2011-present
- American Thoracic Society, 2013-present

Seyed Mehti Nouraie PhD
- American Association for Cancer Research, 2007 to present
- American Society of Hematology, 2010 to present
- Reviewer, Alimentary Pharmacology & Therapeutics Journal, 2009-Present
- Reviewer and Editorial Board, Digestive Disease and Sciences, 2013-Present
- Reviewer, Mediterranean Journal of Hematology and Infectious Diseases, 2012-Present
- Reviewer, The Lancet Infectious Diseases, 2014-present
- Reviewer, The Lancet Haematology, 2015-present
- Reviewer, Journal of Racial and Ethnic Health Disparities, 2015-present
- Reviewer, Turkish Journal of Gastroenterology, 2015-present
- Reviewer, EBioMedicine, 2015-present

Toru Nyunoya MD
- American Thoracic Society, 2001-present
- American Medical Association, 2001-present
- Ad hoc grant Reviewer, VASN 18 New Investigator Grant Program, 2014-present

Christopher O'Donnell PhD
- Programming Committee, Respiratory, Neurobiology, and Sleep Section, American Thoracic Society, 2003-present
- Chair, NIH Study Section (RIBT), 2008-present
- Associate Editor, Journal of Applied Physiology, 2005-present
- Associate Editor, Obesity, 2008-present

Timothy Oriss PhD
- American Association of Immunologists, 1996-Present
- American Thoracic Society, 2002-Present

Luis Ortiz MD
- Advisory Board on Asbestos, U.S. Environmental Protection Agency, 2008-present
Sanjay R. Patel MD
- Member American Thoracic Society, 2002-present
- Planning Committee Member (SRN Section), American Thoracic Society, 2010-present
- Executive Committee Member (SRN Section), American Thoracic Society, 2012-present
- Quality Improvement and Implementation Committee, American Thoracic Society, 2016-present
- Assembly Chair Elect (SRN Section), American Thoracic Society, 2016-present
- American Academy of Sleep Medicine (AASM), 2002-present
- Chair, Young Investigator Research Forum, AASM, 2013-2015
- Positive Airway Pressure Guideline Taskforce Member, AASM, 2013-present
- Sleep Research Society, 2008-present
- The Obesity Society, 2014-present
- Editorial Board, Deputy Editor, Sleep, 2012-present
- Editorial Board, Sleep Health, 2014-present
- Editorial Board, Chest, 2015-present
- Standing Member, NIH Study Section (MESH), 2012-2016
- Canadian Sleep and Circadian Network, International Scientific Advisory Committee Member, 2016-present

Andrej Petrov MD
- American Academy of Allergy, Asthma and Immunology, 2005-present
- American College of Allergy, Asthma and Immunology, 2005-present
- Super-Delegate, Mid-Atlantic Region, House of Delegates, American College of Allergy, Asthma and Immunology, 2015

Joseph Pilewski MD
- Lung Transplant Candidate Selection Committee, 1996-present
- Pulmonary Division Fellowship Committee, 1999-present
- Steering Committee, Cystic Fibrosis Research Development Center, 1999-present
- Grant Reviewer, University of Pittsburgh Competitive Medical Research Fund, 1998-present
- Steering Committee, Therapeutics Development Network, 2002-present
- Protocol Review Committee, Therapeutics Development Network, 2002-present
- Vice Chairman, Steering Committee, Therapeutics Development Network, 2008-present
- Board of Directors, Cystic Fibrosis Foundation, Western Pennsylvania Chapter, 2006-present

Matthew Pipeling MD
- International Society of Heart & Lung Transplantation, 2009-present

Iulia Popescu PhD
- American Society of Transplantation, 2006-present
- American Immunology Association, 2007-present
- European Association for Cancer Research, 1998-present
- Federation of European Biochemical Societies, 1990-present
- Romanian Society of Immunology, 1986-present

**Ronald Poropatich MD**
- Fellow, American College of Physicians, 1985-present
- Fellow, American College of Chest Physicians, 1994-present
- American Telemedicine Association, 1995-present
- Registered Microbiologist, 1978-present
- D.C. Thoracic Society, 1989-present
- Editorial Board, Associate Editor, Telemedicine Journal, 1996-present

**Anuradha Ray PhD**
- American Association of Immunologists, 1995-present
- American Association for the Advancement of Science, 1990-present
- American Thoracic Society, 1997-present
- New York Academy of Sciences, 1999-present
- Editorial Board, American J. Physiology, Lung Cellular and Molecular Physiology, 1999-present
- Editorial Board, American Journal of Respiratory, Cell and Molecular Biology, 2007-present
- Editorial Board, Mucosal Immunology, 2010-present
- Ad Hoc Member, multiple Study Sections for NIH Institutes NIAID, NHLBI, NINDS, 2003-present
- Invited Reviewer, NIH Innovator Grants, 2016-present
- External Reviewer, International Human Frontiers Science Program, 1996-present

**Prabir Ray PhD**
- American Association of Immunologists, 1995-present
- American Thoracic Society, 1999-present
- NIH/NHLBI PO1 Grant Review, 2015-present
- Editorial Board, American Journal of Respiratory Cell and Molecular Biology, 2007-present
- Reviewer, Journal of Clinical Investigation, 1993-present
- Reviewer, Journal of Biological Chemistry, 1993-present
- Reviewer, Journal of Immunology, 1993-present
- Reviewer, Circulation, 1993-present
- Reviewer, Science, 2008-present

**Raju Reddy MD**
- American Medical Association, 1995-present
- American Thoracic Society, 1998-present
- American Association of Allergy, Asthma, and Immunology, 2009-present
- FASEB, 2013-present
- Associate Editor, Gene Therapy and Molecular Biology, 2009-present
• Academic Editor, PLoS ONE, 2001-present
• Associate Editor, Journal of Pharmaceutical Sciences and Pharmacology, 2013-present
• Editorial Board, American Journal of Pathology, 2013-present
• Editorial Board, Journal of Lung, Pulmonary & Respiratory Research, 2014-present
• Ad Hoc Reviewer, multiple journals, (J Biol Chem; PLoS ONE; American Journal of Pathology; PPAR Research; American Journal of Physiology; Lung Cellular and Molecular Physiology; FASEB J; Experimental Lung Research;), 2015-present

Michael Risbano MD MS
• American College of Chest Physicians, 2006-present
• American Thoracic Society, 2006-present
• Pulmonary Hypertension Association, member of the PH Clinicians and Researchers, 2010-present

Belinda Rivera-Lebron MD MSCE
• American Thoracic Society, 2009-present
• Society of Critical Care Medicine, 2010-present
• American College of Chest Physicians, 2011-present
• International Society for Heart and Lung Transplant, 2012-present
• Pulmonary Hypertension Association, 2013-present

Keven Mara Robinson MD
• American Thoracic Society, 2010-present
• American Society for Microbiology, 2014-2015

Mauricio Rojas MD
• American Association for the Advancement of Science, 1997-present
• New York Academy of Sciences, 2002-present
• American Association of Immunologists, 2002-present
• American Thoracic Society, 2002-present
• International Society of Stem Cell Research, 2004-present
• Southern Society of Clinical Investigation, 2007-present
• The Science Advisory Board, 2004-present
• Grant Reviewer, NIH Special panel RFA-HL-16-003, Collaborative Projects to Accelerate Research in Organ Fibrosis (R01), 2016
• Grant Reviewer, Kentucky Science and Engineering Foundation, 2016
• Grant Reviewer, The Netherlands Organisation for Health Research and Development, 2016
• Grant Reviewer, The Lung Foundation Netherlands, 2016

Jason Rose MD
• Ad-hoc Reviewer, American Journal of Physiology, 2016-present
• Ad-hoc Reviewer, Annals of the American Thoracic Society, 2016-present
• Ad-hoc Reviewer, Journal of Applied Physiology, 2016-present
• Ad-hoc Reviewer, American Journal of Respiratory and Critical Care Medicine, 2016-present
• Ad-hoc Reviewer, PLOS One, 2015-present
• Ad-hoc Reviewer, Pediatrics International, 2016-present
• Alpha Omega Alpha, 2010-present
• American College of Chest Physicians, 2010-present
• American College of Physicians, 2010-present
• American Thoracic Society, 2013-present
• American Heart Association, 2016-present
• American Mensa, 2006-present
• Undersea and Hyperbaric Medical Society, 2014-present
• University of Michigan Alumni Association, 2010-present
• Wayne State University of Medicine School of Medicine Alumni Association, 2010-present
• Duke University Alumni Association, 2010-present
• American College of Medical Toxicology, 2017-present

Frank Sciurba MD
• Fellow, American College of Chest Physicians, 1992-present
• American Thoracic Society, 1987-present
• Pennsylvania Thoracic Society, 1987-present
• Editorial Board, Respiration, 2005-present
• Editorial Board, American Journal of Respiratory and Critical Care Medicine, 2010-present
• National Institutes of Health Steering Committee, for Lung Volume Reduction Clinical Trial Chair, Exercise Testing Sub-Committee, 1996-present
• Publications and Presentations Committee, National Emphysema Treatment Trial (NETT), 1999-present
• Steering Committee, COPD-Clinical Research Network, 2004-present
• Steering Committee, Lung Tissue Research Consortium (LTRC), 2004-present
• Steering Committee, Long-term Oxygen Treatment Trial (LOTT), 2007-present
• Steering Committee, Molecular Phenotyping (MP7) of Lung Disease, 2008-present
• Fellow, American College of Chest Physicians (ACCP), 1992-present
• Steering Committee Vice Chair, Function and Rehabilitation Network, ACCP Pulmonary Physiology, 2007-present

Roy Semaan MD
• American Association for Bronchology and Interventional Pulmonology, 2015-present
• American College of Chest Physicians, 2015-present
• American Thoracic Society, 2012-present
• Society of Critical Care medicine, 2012-present
• American College of Physicians, 2007-present
• American Medical Association, 2004-present

Faraaz Ali Shah MD
• American Thoracic Society, 2011-present
• Association of Physicians of Pakistani Descent of North America, 2011-present

Steven D Shapiro MD
• Fellow, American College of Chest Physicians, 1992-present
• Clinical Problems Program Committee, American Thoracic Society, 2003-present
• Scientific Committee, Transatlantic Airway Conference, 2005-present
• Ad Hoc Committee, National Heart Lung and Blood Advisory, 2007-present
• Clinical Grant Review Committee, Cystic Fibrosis Foundation, 2002-present
• Ad Hoc Grant Reviewer, American Heart Association, Atma Foundation—Belgium, Canada, CIHR, MRC, National, Alberta, and British Columbia, France, INSERM, Swiss National Grant, UK, Wellcome Trust, Lung Association, VA Merit Awards, European Union Genomics initiative, Canada Genomics initiative, ERS, 1998-present
Ronald Stiller MD
- Fellow, American College of Chest Physicians, 1990-present

Dianne Strollo MD
- American College of Chest Physicians, Fellow, 1995-present
- American Board of Radiology (Volunteer), 2005-present
- Maintenance of Certification (MOC) Section Head, 2011-present

Patrick Strollo MD
- Sleep Medicine Consultant, National Football League Cardiovascular Health Committee, 2005-present
- Castle Connolly's Best Doctors (Pulmonary), 2007-present
- Sleep Medicine Consultant, National Football League Cardiovascular Health Committee, 2005-present
- Fellow, American College of Chest Physicians, 1998-present
- Fellow, American Sleep Disorders Association, 1991-present

John Tedrow MD
- American Thoracic Society, 2006-present
- American College of Chest Physicians, 2013-present

Jesus Tejero PhD
- Spanish Society for Biochemistry and Molecular Biology, 2000-present
- Society for Free Radical Biology and Medicine, 2010-present

Kristen Veraldi MD PhD
- Fellow, American College of Chest Physicians, 2008-present
- Society of Critical Care Medicine, 2007-present
- American Thoracic Society, 2007-present
- Fellow, American College of Chest Physicians, 2008-present
- Ad-hoc Reviewer, The American Journal of Respiratory Cell and Molecular Biology, 2009-present
- Ad-hoc Reviewer, The Open Rheumatology Journal, 2009-present
- Ad-hoc Reviewer, PloS ONE, 2001-present

Nathaniel Weathington MD
- American Thoracic Society, 2006-present
- American Association of Immunologists, 2003-present
- ATS Assembly on Allergy, Inflammation and Immunology, 2010-present
Joel Weinberg MD
- Allegheny County Medical Society, 1981-present
- Pennsylvania Medical Society, 1981-present
- American Medical Association, 1981-present
- American College of Chest Physicians, 1983-present
- American Thoracic Society, 1983-present

Sally Wenzel MD
- American College of Chest Physicians, 1992-present
- American Thoracic Society, 1987-present
- American College of Asthma, Allergy & Immunology, 1992-present
- American Academy of Asthma, Allergy & Immunology, 1992-present
- European Respiratory Society, 1995-present
- Western Society for Clinical Investigation, 2001-present
- Collegium Internationale Allergologicum, 2004-present
- Reviewer, American Journal of Respiratory & Critical Care Medicine, 1988-present
- Reviewer, Chest, 1990-present
- Reviewer, Journal of Allergy & Clinical Immunology, 1990-present
- Reviewer, European Respiratory Journal, 1999-present
- Reviewer, International Archives of Allergy and Immunology, 1999-present
- Reviewer, Journal of Clinical Investigation, 2000-present
- Reviewer, New England Journal of Medicine, 2000-present
- Reviewer, Annals of Internal Medicine, 1995-present
- Reviewer, Journal of Immunology, 1997-present
- Reviewer, Clinical and Experimental Allergy, 2000-present
- Editorial Board, Clinical and Experimental Allergy, 2000-present
- Contributing Editor, Annals of Asthma, Allergy and Immunology, 1998-present
- Deputy Editor, American Journal Respiratory and Critical Care Medicine, 2004-present
- Long Range Planning Committee, American Thoracic Society, Section on Allergy, Immunology & Inflammation, 1995-present
- Reviewer, Veterans Administration Grants, 1992-present
- Global Initiative for Asthma (GINA) Scientific Counsel, 2003-present

David Wilson MD
- American College of Physicians, 1981-present
- Fellow, American College of Physicians, 1989
- American Thoracic Society, 1983-present
- American College of Chest Physicians, 1983-present (Fellow, 1988)
- American College of Environmental and Occupational Medicine, 1995-present
- Reviewer, American Journal of Respiratory and Critical Care Medicine, 2007-present
- Reviewer, Chest, 1989-present
- Physicians for Social Responsibility, 1980-present
Yingze Zhang PhD
- American Thoracic Society, 2015-present
- Steering Committee, NHLBI GRADS Study, 2012-present
- Executive Committee, NHLBI GRADS Study, 2012-present

Jing Zhao PhD
- American Thoracic Society, 2004-present
- Society of Toxicology, 2005-present
- American Heart Association, 2006-present

Yutong Zhao PhD
- American Federation for Medical Research Society, 2006-present
- American Thoracic Society, 2006-present
- Central Society of Clinical Research, 2006-present
- American Physiology Society, 2013-present
- American Society for Clinical Investigation, 2014-present
- Reviewer, Expert Opinion on Therapeutic Targets, 2007-present
- Reviewer, Cytokine, 2009-present
- Reviewer, Life Science, 2009-present
- Reviewer, Microvascular Research, 2008-present
- Reviewer, American Journal of Physiology, Heart and Circulatory Physiology, 2009-present
- Reviewer, American Journal of Physiology, Lung Cellular and Molecular Physiology, 2012-present
- Reviewer, PLOS One, 2012-present
- Reviewer, Europe Journal of Pharmacology, 2010-present
- Reviewer, Journal of Receptor, Ligand and Channel Research, 2010-present
- Reviewer, Current Medicinal Chemistry, 2011-present

Xiuxia Zhou PhD
- American Society for Biochemistry and Molecular Biology, 2003-present
- American Thoracic Society, 2008-present

Chunbin Zou PhD
- American Society for Biochemistry and Molecular Biology, 2004-present
- American Thoracic Society, 2012-present
- American Heart Association, 2012-present
## GRANTS AND CONTRACTS AWARDED

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<th>PUBLIC HEALTH SERVICE</th>
<th>THE IMPACT OF VARIATION IN THE ICU BED SUPPLY ON UTILIZATION OF INTENSIVE CARE SERVICES</th>
<th>DIRECT COSTS</th>
<th>INDIRECT COSTS</th>
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<th>PUBLIC HEALTH SERVICE</th>
<th>REGULATION OF INNATE IMMUNITY BY F-BOX PROTEINS FOR COPD</th>
<th>DIRECT COSTS</th>
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<td>Weathington, Nathan M.</td>
<td>Cellular Regulation of the IL-22 Receptor and Its Importance in Lung Immunity</td>
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<td>Wenzel, Sally E</td>
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<td>The Effects of Nitrate/Nitrite and Conjugated Linoleic Acid Supplementation on the Obese Asthmatic Pathology</td>
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<td>NEBULIZED NITRITE AS A NOVEL ANTIMICROBIAL THERAPY IN CYSTIC FIBROSIS</td>
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<td>VASCULAR SUBPHENOTYPES OF LUNG DISEASE (CORE D)</td>
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<td>REGULATION OF PROTEOLYSIS BY DEUBIQUITING ENZYME IN LUNG INFLAMMATORY DISEASE</td>
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<td>EPigenetic regulation in acute lung injury</td>
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<td>ACTIVATE-CF: EFFECTS OF A 6 MONTH PARTIALLY SUPERVISED CONDITIONING PROGRAM IN CF: AN INTERNATIONAL MULTI-CENTER RANDOMIZED CONTROLLED CYSTIC FIBROSIS FOUNDATION</td>
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<td>Gibson, Kevin F.</td>
<td>A Path Toward a Learning Health System for the Mid-Atlantic Region</td>
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<td>Kass, Daniel J.</td>
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<td>Mcdyer, John F.</td>
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<td>Patel, Sanjay A</td>
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<td>Genome-Wide Analyses of Epigenetic Landscape of CF Airways</td>
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<td>Inhaled Sodium Nitrate As a New Antibacterial Therapy For Cystic Fibrosis</td>
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<td>UPMC Enterprises</td>
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<td>Robinson, Keven</td>
<td>Role of IL-Beta in Influenza and Staphylococcus Aureus Co-Infection</td>
<td>Parker B. Francis Foundation</td>
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<td>Sciurba, Frank C</td>
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<td>Weathington, Nathan M.</td>
<td>Human Ex Vivo Ventilated Perfused Lung as a Platform for Preclinical Therapy with FBX03 Inhibitor BC1215 in Lung Injury</td>
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<td>ZHAO, JING</td>
<td>ROLE OF THE UBIQUITIN-PROTEASOME SYSTEM IN HISTONE ACETYLATION IN ACUTE LUNG INJURY</td>
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<td>DONAHOE, MICHAEL P.</td>
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<td>GIBSON, KEVIN</td>
<td>A RANDOMIZED, PHASE 2, OPEN-LABEL, MULTICENTER STUDY TO EVALUATE THE SAFETY, TOLERABILITY, AND ACTIVITY OF KD025 IN SUBJECTS WITH IDIOPATHIC PULMONARY FIBROSIS (IPF)</td>
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<td>GIBSON, KEVIN</td>
<td>A DOUBLE BLIND, RANDOMIZED, PLACEBO-CONTROLLED TRIAL EVALUATING THE EFFICACY AND SAFETY OF NINTEDANIB OVER 52 WEEKS IN PATIENTS WITH PROGRESSIVE FIBROSING INTERSTITIAL LUNG DISEASE (PF-ILD)</td>
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<td>Randomized, double-blind, placebo-controlled, multiple dose, dose-escalated study of STX-100 in patients with idiopathic pulmonary fibrosis (IPF)</td>
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<td>Mcdyer, John F.</td>
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<td>SLOPE OF 6MWD IMPROVEMENT AS A PREDICTOR OF CLINICAL OUTCOME IN PAH</td>
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<td>RIVERA-LEBRON, BELINDA</td>
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<td>AN EXPLORATORY, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF THE EFFECTS OF DUPILUMAB ON AIRWAY INFLAMMATION OF ADULTS WITH PERSISTENT ASTHMA</td>
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<td>A 52-WEEK, MULTICENTER, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY TO ASSESS THE EFFICACY AND SAFETY OF QAW039 WHEN ADDED TO EXISTING ASTHMA THERAPY IN PATIENTS WITH UNCONTROLLED SEVERE ASTHMA</td>
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<td>LUNG FUNCTION IMPROVEMENT AFTER BRONCHOSCOPIC LUNG VOLUME REDUCTION WITH PULMONX ENDOBRONCHIAL VALVES USED IN TREATMENT OF EMPHYSEMA (LIBERATE STUDY)</td>
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<td>A PROSPECTIVE, RANDOMIZED, CONTROLLED MULTICENTER CLINICAL STUDY TO EVALUATE THE SAFETY AND EFFECTIVENESS OF THE SPIRATION® VALVE SYSTEM (SVS) FOR THE SINGLE-LOBE TREATMENT OF SEVERE EMPHYSEMA (EMPROVE)</td>
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<td>A RANDOMISED, DOUBLE-BLIND, CHRONIC DOSING (56 WEEK) PLACEBO-CONTROLLED, PARALLEL GROUP, MULTICENTRE, PHASE III STUDY TO EVALUATE THE EFFICACY AND SAFETY OF 2 DOSES OF BENRALIZUMAB (MEDI-563) IN PATIENTS WITH MODERATE TO VERY SEVERE CHRONIC OBSTRUCTIVE P</td>
<td>ASTRazeneca</td>
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<td>A PHASE 2A, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, TWO PERIOD, CROSSOVER STUDY TO ASSESS THE EFFECT OF CK-2127107 ON PHYSICAL FUNCTION IN SUBJECTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE</td>
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<td>SLIVKA, ADAM</td>
<td>BOSTON SCIENTIFIC CORPORATION</td>
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<td>EFFECTS OF DUAL (ETA/ETB) VERSUS SINGLE (ETA) ENDOTHELIN RECEPTOR INHIBITION ON NAPHTHYLTHIOUREA (ANTU) - INDUCED VASCULAR LEAKAGE AND PULMONARY HYPERTENSION</td>
<td>TOFOVIC, STEVAN P.</td>
<td>ACTELION CLINICAL OPERATIONS</td>
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<td>WENZEL, SALLY</td>
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<td>A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY TO EVALUATE THE EFFICACY AND SAFETY OF DUPILUMAB IN PATIENTS WITH SEVERE STEROID DEPENDENT ASTHMA</td>
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<td>A PHASE IIA, RANDOMIZED, DOUBLE-BLIND, PLACEBO CONTROLLED, PARALLEL GROUP STUDY TO ASSESS THE SAFETY AND EFFICACY OF SUBCUTANEOUSLY ADMINISTERED BI 655066 AS ADD-ON THERAPY OVER 24 WEEKS IN PATIENTS WITH SEVERE PERSISTENT ASTHMA.</td>
<td>Boehringer Ingelheim</td>
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<td>A MULTICENTRE, RANDOMIZED, PARALLEL GROUP, PHASE 3 SAFETY EXTENSION STUDY TO EVALUATE THE SAFETY AND TOLERABILITY OF BENRALIZUMAB (MEDI-563) IN ASTHMATIC ADULTS AND ADOLESCENTS ON INHALED CORTICOSTEROID PLUS LONG-ACTING β2 AGONIST (BORA)</td>
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TEACHING

The Pulmonary, Allergy and Critical Care Medicine Division provides educational programs in lung disease and critical care medicine for trainees, physicians, and patients throughout the region. The Division directs the second-year medical student course with an integrated curriculum, focused on the pathophysiology of pulmonary disease, and supports 22 fellowship positions on a yearly basis, through 3 NHLBI training (T32) awards for the career development of young investigators. Other teaching activities include weekly, quarterly, and annual conferences, including Pulmonary Grand Rounds, the PACCM Collaborative Research Seminar, Journal Club, and Case Conferences, Sleep Medicine Lectures, Radiology Conferences, the Pittsburgh International Lung Conference, an annual Update in Pulmonary Medicine, and the Robert M. Rogers Lectureship.

The Fundamentals of Bench Research Course is an annual course that provides theoretical and practical training in the basics of bench research for clinical fellows and junior faculty. This program provides trainees with a structured—yet flexible and individualized—experience and the technical and academic skills necessary to become independent investigators in translational research. Training is centered on a dedicated research project mentored by two experienced faculty members from both ends of the translational research spectrum.

The Pittsburgh-Munich International Lung Conference returned to Pittsburgh in October 2016 and was held at the University Club, Oakland. This year’s conference, “Lung Immune Responses and Inflammation in Health and Disease”, was directed by Anuradha Ray, PhD, and Janet Lee, MD. There were 226 total participants representing 3 countries and 19 states. A pre-conference activity focused on a young investigator session, while the conference itself featured four main sessions, as well as an interactive session with journal editors from JCI and Science Immunology. Seventy-eight posters were featured during the conference. Keynote speaker, Dr. Laurie Glimcher (Weill Cornell Medical College) rounded out the conference during a banquet dinner after the poster session.

During this past year, the Simmons Center participated in the PA-IPF Registry Provider CME and Patient Advocacy Event in Valley Forge, PA to increase awareness of Idiopathic Pulmonary Fibrosis and Pulmonary Fibrosis. These were both well attended by health care providers and patients. The 12th Annual Golf Outing, which was held August 22, 2016, invites patients to golf for free, and if they're not golfers, to play bingo. The day concludes with a dinner. This event gives patients the opportunity to learn ways to live with a serious illness, be with other patients, and participate in activities in a safe environment. The entire medical team attends the event. The proceeds from this event help to fund the annual Gateway Clipper Cruise for patients and their caregivers, and the Simmons Center patient support group meetings.

The 15th annual Robert M. Rogers Memorial Lectureship was held on Friday, June 9, 2017. Guest speaker, Sharon Rounds, MD, Professor of Medicine, Pathology, and Laboratory Medicine at Brown Medical School, presented the lecture “Smoking and ARDS” for this annual event. The following individuals received 2017 PACCM awards: Danielle Uliano (financial administrator), Outstanding Service Award; Bryan McVerry, MD, Outstanding Research or Clinical Mentorship Award; Christopher Faber, MD, John W. Kreit Outstanding Educator Award; Nate Weathington, MD, PhD, Outstanding Young Investigator Award. The Robert M. Rogers Outstanding Scholarly Achievement Award was given to both Tomeka Suber, MD, and Jason Rose, MD, MBA. Toni Opalko and Kristin Kossuth each received the Lorenzetty Award, in recognition of a bedside inpatient or clinic nurse who provides excellent direct patient care.
Teaching Honors and Awards

Alison M Gimbel MD MS
- American Thoracic Society (ATS) Scientific Achievement Award, May 2017

Steven Shapiro MD
- ATS Distinguished Achievement Award, May 2017

Craig Riley MD
- Pulmonary Fellow, DOM Resident Teaching Award, 2017

Phillip Lamberty MD
- Designed, Implemented Pulmonary Ultrasound Course (for fellows, residents, faculty)

Fellowship Program

<table>
<thead>
<tr>
<th>Current Fellow</th>
<th>Medical School</th>
<th>Residency</th>
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<tbody>
<tr>
<td>Baker</td>
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<td>Yale University</td>
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<tr>
<td>Bain</td>
<td>Columbia University College of Physicians and Surgeons</td>
<td>Johns Hopkins Hospital</td>
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<td>Bednash</td>
<td>University of Pittsburgh</td>
<td>UPMC</td>
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<td>Camiolo</td>
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<tr>
<td>Dunlap</td>
<td>Wayne State</td>
<td>University of Maryland</td>
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<tr>
<td>Evankovich</td>
<td>University of Pittsburgh</td>
<td>UPMC</td>
</tr>
<tr>
<td>Kitsios</td>
<td>Aristotle University of Thessaloniki Faculty of Medicine Greece</td>
<td>Lahey Hospital &amp; Medical Center, Burlington, MA</td>
</tr>
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<td>Lennox</td>
<td>State University of New York Downstate Medical Center, College of Medicine</td>
<td>Beth Israel Deaconess Medical Center</td>
</tr>
<tr>
<td>Levine</td>
<td>University of Maryland School of Medicine</td>
<td>University of Maryland</td>
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<tr>
<td>Maximous</td>
<td>George Washington University School of Medicine and Health Sciences</td>
<td>Boston University</td>
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<td>Albany Medical College</td>
<td>Indiana University SOM</td>
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<td>Nolley</td>
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<td>Nuzzo</td>
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<td>Beth Israel Deaconess Medical Center</td>
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<td>O'Brien</td>
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<td>Cork University College, Ireland</td>
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<td>Riley</td>
<td>University of Pittsburgh</td>
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<td>Strock</td>
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<tr>
<td>Suber</td>
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<td>Johns Hopkins Hospital</td>
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<td>Valenzi</td>
<td>University of Alabama SOM</td>
<td>University of Chicago</td>
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<tr>
<td>Winters</td>
<td>Michigan State University College of Human Medicine</td>
<td>University of Michigan</td>
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<tr>
<td>Yoon</td>
<td>Catholic University of Korea College of Medicine</td>
<td>Westchester Medical College Center-New York Medical College</td>
</tr>
<tr>
<td>Zank</td>
<td>Loyola University Chicago Stritch School of Medicine</td>
<td>University of California, San Diego</td>
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**Sleep Fellows**

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<tr>
<th>Current Fellow</th>
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<tr>
<td>Herman Julia</td>
<td>Jefferson Medical College of Thomas Jefferson University</td>
<td>UPMC</td>
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<tr>
<td>Soreca Isabella</td>
<td>Universita degli Studi di Siena Facolta di Medicina e Chirurgia</td>
<td>Siena University Hospital Siena / University of Pittsburgh</td>
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**Departing Fellow**

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<tr>
<td>Boulos Elisabeth</td>
<td>Joining a pulmonary practice in Portland, Oregon</td>
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<td>Kitsios Georgios</td>
<td>Staying at UPMC as clinical instructor associate; Will be on the T32.</td>
</tr>
<tr>
<td>Lennox Alison</td>
<td>Staying at UPMC as clinical instructor associate; Will be on the T32.</td>
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<tr>
<td>Maximous Stephanie</td>
<td>Staying at UPMC as a clinical instructor</td>
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<tr>
<td>Suber Tomeka</td>
<td>Staying at UPMC as clinical instructor associate; Will be funded on her F32</td>
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<tr>
<td>Yoon Joo</td>
<td>Staying at UPMC as a clinical instructor</td>
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**Sleep Fellows**

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<tr>
<td>Barto Julia</td>
<td>Joining a pulmonary and critical care practice in Tennessee</td>
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<td>Soreca Isabella</td>
<td>Will work at the VA</td>
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**Fellow Publications**


**Fellow Presentations**


Winters, S. CMV Relapsers After Lung Transplantation – At Risk for Other Herpesvirus Disease, PTLD, or Malignancy?, Department of Medicine Research Day, University of Pittsburgh, Pittsburgh, PA, May 2017

Winters, S. Idiopathic Pulmonary Fibrosis and Telomere Length Effects on Cytomegaloviral Control in Lung Transplantation, Department of Medicine Research Day, University of Pittsburgh, Pittsburgh, PA, May 2017

Winters, S. CMV Relapsers After Lung Transplantation – At Risk for Other Herpesvirus Disease, PTLD, or Malignancy?, American Thoracic Society International Conference, Washington DC, May 2017


Yoon, JH. Forecasting Tachycardia in the Intensive Care Unit. European Society of Intensive Care Medicine, Milan, Italy, September 2016


**Fellow Honors and Awards**

**Evankovich, J.** Bench Fellow Research Award, Abstract Title: CpG DNA Promotes Lysosomal Degradation of the Receptor for Advanced Glycation End Products (RAGE) through F Box Protein FBXO10-mediated Ubiquitination

**Maximous, S.** Third Place Award Winner, Research Abstract, 17th Annual International Meeting on Simulation in Healthcare, Orlando, Florida

**Suber, T.** PACCM Division 2017 Robert M. Rogers Outstanding Scholarly Achievement Award

**Kitsios, G.** Translational Fellow Research Award, Abstract Title: Dysbiosis Associated with the Acute Respiratory Distress Syndrome: A Prospective Cohort Study in Adults

**Suber, T.** Burroughs Welcome Fund Postdoctoral Enrichment Program Award

**Levine, A.** received a letter of commendation for “Above and Beyond” care of a patient in the CT ICU.

**Fellows Awards at ATS**
- **Suber, T.** ATS Trainee Development Scholarship
- **Kitsios, G.** ATS Abstract Scholarship, Assembly on Critical Care
- **Evankovich, J.** ATS Abstract Scholarship, Assembly on Clinical Problems
- **Nolley, EP.** ATS Abstract Scholarship, Assembly on Clinical Problems

**Riley, C.** was elected by the residents to receive this year’s Fellow Teaching Award. He also won the Residency Teacher Award as a graduating PGY3 last year, elected by his peers.

**Sleep Medicine**


CLINICAL CARE

Comprehensive Lung Center (CLC)

The Comprehensive Lung Center (CLC) is a multidisciplinary diagnostic center that serves as a hub for expertise in pulmonary, allergy, and sleep medicine. Figure 1 shows the CLC’s volume trends over the last 4 years. The CLC serves as the clinical home to eight specialty centers: Adult Cystic Fibrosis, Asthma and Airway Inflammation, Diagnostic Pulmonary Medicine, Emphysema and COPD, Interstitial Lung Disease, Advanced Lung Disease and Lung Transplantation, Sleep Disordered Breathing, and Pulmonary Hypertension. The CLC is also home to the Asthma Institute, the Simmons Center for Interstitial Lung Disease, and the UPMC Sleep Medicine Center. During the end of the 2016-2017 academic year, the CLC implemented a Same Day Clinic Access Initiative. Through this program, a patient can call and request a same day appointment. The initiative’s ultimate goal is to increase access for the clinic and to ensure that patients can be seen by the proper provider, rather than visiting an Urgent Care or Emergency Department unnecessarily. As a result of this program, we observed a 32% increase in new-patient volume compared to the same period from the prior year. A comprehensive outpatient pulmonary medicine clinic at the Oakland VA hospital also provides a full range of pulmonary services for the veteran population and provides a major training ground for the PACCM fellowship program.

Other Outpatient Sites

The Division also sees outpatients at sites outside of the Oakland-based CLC. These sites include the McKeesport Painter Building clinic (General Pulmonary); and the Monroeville Comprehensive Lung Center Clinic (Sleep Medicine and General Pulmonary). Outpatient activity at these sites is shown in Figure 2. The significant decrease between FY15 and FY16 can be attributed to the mid-FY15 divestiture of the Greensburg Allergy practice; the slight decline from FY16 to FY17 can be attributed to the Monroeville location losing a sleep physician.
Inpatient Programs

The inpatient efforts of the PACCM Division are focused on four services at UPMC Presbyterian: the Advanced Lung Disease (ALD) Service (Stepdown and Select Specialty), the Pulmonary Transplant Service, the Medical ICU, and the Pulmonary Consultation Service. Over the past year, we have experienced a significant reduction in Transplant and hospitalist volume due to a decrease in the number of transplants performed and several key transplant surgeons departing for leadership roles at other academic centers. We also reduced our coverage at UPMC McKeesport in the past year from 52 to 36 weeks, and thus, volume at that location has decreased. Other inpatient visit volumes remained steady. Distinct consultation and Medical ICU services at the Oakland VA Medical Center provide a full range of pulmonary and critical care services for this location. Figures 3 through 8 show the trends for our inpatient services. The volume for UPMC Mercy is not shown since this program has limited inpatient exposure for allergy consults and has averaged less than 25 consults annually for the last 4 years. For FY18, we are creating a dedicated Pulmonary Consult service to be able to fully support the inpatient needs at UPMC Presbyterian.
Figure 5: Historical UPMC Pulmonary Transplant Volume

FY14 FY15 FY16 FY17

10,965 10,286 9,307 7,827

Figure 6: Historical Select Specialty Inpatient Volume

FY14 FY15 FY16 FY17

5,581 6,475 5,744 6,120

Figure 7: Historical UPMC East Inpatient Volume

FY14 FY15 FY16 FY17

5,506 5,589 4,905 5,119

Figure 8: Historical UPMC McKeesport Inpatient Volume

FY14 FY15 FY16 FY17

4,100 3,871 2,995 2,643
Laboratory Programs

The PACCM Division supports clinical laboratories for the evaluation of patients with lung disease, including a comprehensive pulmonary physiology laboratory (with exercise testing and inhalation challenge), two dedicated bronchoscopy rooms with fluoroscopy, and the sleep and control-of-breathing laboratory. The decrease in bronchoscopy volume is attributed to the decline in transplant volume. Figure 9 summarizes the PACCM laboratory volume activity this year.

In summary, FY17 has been a challenging year in PACCM with turnover of faculty, planned implementation of new clinical programs (e.g. interventional pulmonary [IP]), and the re-organization of clinical activities at perimeter sites (UPMC McKeesport), coupled with a modest decline in some procedural and outpatient visit volumes. Overall, however, it is anticipated that both inpatient and outpatient volume and procedures will be steady or increase as growth within the clinical operation continues to expand with IP and Mercy with a commensurate increase in faculty number.

Shadyside Operations

The Medical Thoracic Associates (MTA) group is a section within the PACCM program. MTA recently welcomed a new member to their group, Stephen Clute, MD. The group of 12 physicians, under the leadership of Jennifer McComb, MD, practices primarily at UPMC Shadyside, with an outpatient presence in Monroeville and Irwin. Rama Mallampalli, MD, Dr. McComb and Joel Weinberg, MD, continue to collaborate on the recruitment of pulmonologists for the Shadyside location, and have made progress in building a closer relationship between the two sites. The Division also has a presence at UPMC Shadyside through Dr. David Wilson’s practice. Dr. Wilson sees outpatients at the Hillman Cancer Center. A Pulmonary Hypertension outpatient clinic continues at the Shadyside MTA office. A summary of the Shadyside volume is included in Figure 10.

Telemedicine

In FY17, the Division continued to offer telemedicine services. We offer sleep medicine consult service with UPMC Northwest (David Kristo, MD, and Patrick Strollo MD) and general pulmonary service with UPMC Bedford (Christopher Faber, MD). In the past year, we implemented a Tele-ICU service between UPMC McKeensport and UPMC East, for night time coverage. The Division also partnered with Empower3, an innovative payor/provider physician group in Altoona, to offer pulmonary telemedicine appointments.
Divisional Physician Productivity Improvements

A focus of the last year has been improving physician knowledge and efficiency of the outpatient electronic medical record system, EPIC. A series of meetings led by an EPIC ‘super user’ were provided to clinical faculty to improve utilization and timely completion of clinic charts. In addition, physician leadership has partnered with nursing leadership to improve efficiency of the bronchoscopy laboratory, with particular attention to anesthesia utilization.
### Clinic Locations

#### Central

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<tr>
<th>Clinic Location</th>
<th>Address</th>
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<tr>
<td>Comprehensive Lung Clinic (CLC)</td>
<td>Falk Medical Building, 3601 Fifth Avenue, 4th Floor, Pittsburgh, PA 15213, USA</td>
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<tr>
<td>Comprehensive Lung Center (Lung Cancer Screening Clinic)</td>
<td>Falk Medical Building, 3601 Fifth Avenue, 4th Floor, Pittsburgh, PA 15213, USA</td>
</tr>
<tr>
<td>David O. Wilson, MD, Pulmonary Medicine Practice (Part of UPMC Division of PACCM)</td>
<td>Hillman Cancer Center, 5115 Centre Avenue, 2nd Floor, Pittsburgh, PA 15232, USA</td>
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<tr>
<td>Medical Thoracic Associates at Shadyside (Part of UPMC Division of PACCM)</td>
<td>Shadyside Medical Building, 5200 Centre Avenue, Suite 610, Pittsburgh, PA 15232, USA</td>
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<tr>
<td>UPMC Sleep Medicine Center at UPMC Montefiore</td>
<td>UPMC Montefiore Hospital, 3459 Fifth Avenue, S369, Pittsburgh, PA 15213, USA</td>
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#### East and South

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<tr>
<td>UPMC Comprehensive Lung Center at UPMC McKeesport (Part of UPMC Division of PACCM)</td>
<td>500 Hospital Way, Painter Building, Suite 5, McKeesport, PA 15132, USA</td>
</tr>
<tr>
<td>UPMC Comprehensive Lung Center at Monroeville Oxford Drive (Part of UPMC Division of PACCM)</td>
<td>UPMC Monroeville Oxford Drive, 400 Oxford Drive, Suite G-65, Monroeville, PA 15146, USA</td>
</tr>
<tr>
<td>Medical Thoracic Associates at UPMC Monroeville Oxford Drive (Part of UPMC Division of PACCM)</td>
<td>UPMC Monroeville Oxford Drive, 400 Oxford Drive, Suite G-65, Monroeville, PA 15146, USA</td>
</tr>
<tr>
<td>UPMC Sleep Medicine Center at UPMC Monroeville Oxford Drive</td>
<td>UPMC Monroeville Oxford Drive, 400 Oxford Drive, Suite G-65, Monroeville, PA 15146, USA</td>
</tr>
<tr>
<td>Medical Thoracic Associates in Irvin (Part of Division of PACCM)</td>
<td>3520 PA-130, Irvin, PA 15642, USA</td>
</tr>
<tr>
<td>Medical Thoracic Associates at West Mifflin (Part of Division of PACCM)</td>
<td>1907 Lebanon Church Road, West Mifflin, PA 15122, USA</td>
</tr>
<tr>
<td>UPMC Comprehensive Lung Center - South Hills</td>
<td>733 Washington Road, Suite 204, Mt Lebanon, PA 15228, USA</td>
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CLINICAL QUALITY IMPROVEMENT INITIATIVES

During FY17, the PACCM Division continued quality improvement initiatives in medical ICU and specialty programs. A selection of current projects is outlined below.

- The Respiratory Care Enhancement Program (RCEP) is a program to reduce ER visits and hospitalizations in patients with asthma and other respiratory diseases through dissemination of specialty respiratory care into primary care practices across the UPMC system. The RCEP has now been seeing patients for two years and has been broadly accepted into six primary care practices. Preliminary data have shown reductions in pharmacy costs and improvement in asthma control with early trends showing reductions in ER visits and hospitalizations.

- Projects in the Medical Intensive Care Unit include:
  - **Medical ICU Rounds Reorganization Project.** This ongoing project involves restructuring morning rounds to occur at the bedside, to engage the bedside nurse in decision making, and to address a quality checklist each day with a goal toward improving ICU acquired infections, device utilization, and house staff education.
  - **Evaluation of ketamine for adjunct sedation in mechanically ventilated patients.** This project involves surveying all patients in the UPMC Presbyterian ICUs with a goal to determine the effectiveness and safety of continuous infusion ketamine for adjunct sedation in critically ill patients who are receiving mechanical ventilation.
  - **Fentanyl-based sedation protocol for the MICU.** This project is designed to assess the feasibility and effectiveness of a bolus fentanyl-based sedation regimen for critically ill patients requiring mechanical ventilation.

- Exploratory evaluation of palliative care quality indicators in patients with chronic lung disease requiring an ICU admission. This is a joint project between the Simmons Center for Interstitial Lung Disease and the MICU. The goals are to evaluate the delivery of palliative care in IPF and COPD patients in the ICU by assessing for the presence of the eight select Palliative Care Quality Indicators (PCQI), and to explore the relationship between PCQI and select patient outcomes (ICU LOS, hospital LOS, days spent on mechanical ventilation, and hospital mortality) in COPD and IPF patients admitted to the ICU.

- The Simmons Center is working with Pathology to review utilization of the new IPF medications, pirfenidone and nintedanib. The team is reviewing their internal practice regarding prescription of pirfenidone and nintedanib, and are reviewing cases across the UPMC hospitals to ensure that these costly medications are prescribed appropriately.

- Central venous catheter insertion curriculum for MICU/CICU residents and medical students: Monthly course partnered with WISER and cardiology. Course consists of web based pre-course material, didactic session, hands on ultrasound training and simulation task trainers.

- **Improving pulmonary and critical care fellow orientation.** Continued four-day simulation-based course focusing on patient safety:
  - Airway management
  - Central venous catheter insertion
  - Pleural drainage
  - Critical care Ultrasonography
• Continuation of Pulmonary Embolism registry to allow comparative efficacy research. The goal of the Acute Pulmonary Embolus Team Patient Registry is described in terms of patient outcomes:
  o Describe the natural history of acute pulmonary embolus
  o Determine effectiveness of medical and surgical management in pulmonary embolus
  o Assess the safety of medical and surgical management in acute pulmonary embolus
  o Improve quality of care by standardizing care towards patients with acute pulmonary embolus

• The CF program and Comprehensive Lung Center implemented a change in clinic flow to improve patient satisfaction as well as infection control. Secondary to input from patients through the Cystic Fibrosis Foundation Patient Experience Survey, it became apparent that our patients were spending too much time in the waiting room. In addition, it was the perception of several individuals that they came within 6 feet of other people with CF, a violation of current CF infection control guidelines. Our aim was to change the clinic flow to decrease the time patients were spending in the waiting room by 30% over the next 12 months. The process began with an observed time study at baseline. We then changed the clinic flow to eliminate the patient returning to the waiting room following spirometry and, instead, going straight to the clinic room from the PFT lab. The process will be completed when we achieve shortened waiting room time for the patients, with resultant decreased potential exposure to other patients with CF. It should also shorten overall clinic visit time and increase both staff and patient satisfaction. The change will be measured using QDI patient survey outcome measures, verbal query of staff satisfaction after 6 and 12 months and a repeat of an observed time study.

• Additional QI efforts in the CF program focus on mental health screening. We aim to improve the care of our patients’ mental health by initiating annual screening for depression and anxiety per Cystic Fibrosis Foundation Guidelines. The program has successfully administered the PHQ-9 and GAD-7 to all active adult CF patients, and referral to support services as needed.

• Projects in the Sleep Center include:
  o American Academy of Sleep Medicine (AASM) Interscorer Reliability: This metric assesses all sleep scorers for accuracy in scoring an unknown sleep study record to ensure uniformity in how sleep studies are scored.
  o Sleep Study Lab Bed Utilization: Metric assesses the percentage of sleep study beds filled nightly in an effort to maximize access and decrease sleep-study wait times
  o Sleep Study Ordered and Protocol Followed: Metric assesses technician adherence to physician orders and Sleep Center Policy and Procedures reviewing 10 charts in each center monthly
  o Patient Evaluation of Sleep Services: Metric assessing patient satisfaction after sleep study and degree of patient positivity to UPMC sleep evaluation
## FACULTY

### Faculty in Core Divisions
**Fiscal Year 2015-2017**

<table>
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<tr>
<th>Division</th>
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*Note: Includes University of Pittsburgh full-time faculty and volunteer faculty who have a UPP appointment and excludes research associates, adjunct faculty and emeritus faculty.*

### Current Pulmonary, Allergy and Critical Care Medicine Faculty

#### Full-Time Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Role</th>
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<tr>
<td>Atwood Jr.</td>
<td>Charles W.</td>
<td>MD Associate Professor of Medicine</td>
</tr>
<tr>
<td>Camhi</td>
<td>Sharon L.</td>
<td>MD Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Cardenes</td>
<td>Nayra PhD</td>
<td>Research Instructor</td>
</tr>
<tr>
<td>Chandra</td>
<td>Divay MD</td>
<td>MD Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Chang</td>
<td>Baojun MD</td>
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</tr>
<tr>
<td>Chen</td>
<td>Beibei PhD</td>
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</tr>
<tr>
<td>Chiarchoaro</td>
<td>Jared MD</td>
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<td>Clark</td>
<td>Melissa MD</td>
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<td>Corcoran</td>
<td>Timothy E. PhD</td>
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<td>Crespo</td>
<td>Maria M. MD</td>
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<td>Donahoe</td>
<td>Michael P.</td>
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<td>Fajt</td>
<td>Merritt L.</td>
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<td>Fitzpatrick</td>
<td>Megan E. MD</td>
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<td>Marjorie P.</td>
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<tr>
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<td>Nyunoya Toru</td>
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<td>Ray Prabir</td>
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<td>Zou Chunbin</td>
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**Affiliated Faculty with UPP Appointments**

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<td>Barbash Ian</td>
<td>Clinical Instructor in Medicine</td>
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<td>Deluna Joy</td>
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<td>Gauthier Marc</td>
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<td>Haider Syed</td>
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<td>Jernigan Paula*</td>
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<td>Nguyen Quyen Le Ngoc</td>
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**Affiliated Faculty without UPP Appointments**

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<thead>
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<tbody>
<tr>
<td>Agassandian Marianna</td>
<td>PhD Adjunct Research Assistant Professor</td>
</tr>
<tr>
<td>Berndt Annerose</td>
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<tr>
<td>Bostwick Carol</td>
<td>A. PhD Adjunct Associate Professor of Medicine</td>
</tr>
<tr>
<td>Chan Yvonne R.</td>
<td>R. MD Adjunct Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Chaudhry Mehboob</td>
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<tr>
<td>Dauby Pierrealain</td>
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<tr>
<td>Doberer Daniel</td>
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<td>Holguin Fernando</td>
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<td>Koliner Charles</td>
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<tr>
<td>Leme Adriana S.</td>
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</tr>
<tr>
<td>Peker Yuksel</td>
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</tr>
<tr>
<td>Qayyum Azmat</td>
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</tr>
<tr>
<td>Viti Craig</td>
<td>G. MD Clinical Assistant Professor of Medicine</td>
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**New Faculty Hires**

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<tbody>
<tr>
<td>Barbash</td>
<td>Ian</td>
<td></td>
<td>MD</td>
<td>Clinical Instructor in Medicine, Pulmonary</td>
<td>Postdoctoral Scholar, Pulmonary, U of Pittsburgh</td>
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<tr>
<td>Cardenes</td>
<td>Nayra</td>
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<td>PhD</td>
<td>Research Instructor in Medicine, Pulmonary</td>
<td>Research Associate, Pulmonary/VMI, U of Pittsburgh</td>
</tr>
<tr>
<td>Clute</td>
<td>Stephen</td>
<td>P.</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine, Pulmonary</td>
<td>Associate Physician, Geisinger Health System, PA</td>
</tr>
<tr>
<td>Gauthier</td>
<td>Marc</td>
<td>C.</td>
<td>MD</td>
<td>Clinical Instructor in Medicine, Pulmonary</td>
<td>Pulmonary and Critical Care Fellow, UPMC</td>
</tr>
<tr>
<td>Last Name</td>
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<td>Degree</td>
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**Research Associates**

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<thead>
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<th>Research Associate</th>
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<td>Bahudhanapati</td>
<td>Harinathachari</td>
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<td>Research Associate</td>
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<tr>
<td>Chakraborty</td>
<td>Krisnendu</td>
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<td>Guo</td>
<td>Lanping</td>
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<td>Akihiko</td>
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<tr>
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<td>Hideki</td>
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<td>Hui-Hua</td>
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<td>Yu</td>
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## POST DOCS

### Current Post Docs in FY 2016-2017

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<th>Employee Last Name</th>
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<th>Degree Code</th>
<th>Current Title Code</th>
<th>Summary of activities</th>
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<tr>
<td>Alvarez Villa</td>
<td>Diana</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Alvarez Villa collects and analyzes data for several projects in the lab, focused primarily on the study of the ex-vivo lung perfusion and transplantation in human and animal models, as well as the characterization of normal and diseased lung fibroblasts. She works under the guidance of Mauricio Rojas, MD.</td>
</tr>
<tr>
<td>An</td>
<td>Xiaojing</td>
<td>MD</td>
<td>Visiting Scholar</td>
<td>Dr. An researches on molecular mechanisms of ischemia-reperfusion injury in mouse lung transplantation, and is mentored by Xingan Wang, MD, PhD.</td>
</tr>
<tr>
<td>Bahudhanapati</td>
<td>Harinatha cha</td>
<td>PhD</td>
<td>Research Associate</td>
<td>Dr. Bahudhanapati’s research focuses on the molecular and genetic basis of idiopathic pulmonary fibrosis (IPF) and related diseases. He works with Drs. Daniel Kass and Yingze Zhang.</td>
</tr>
<tr>
<td>Bain</td>
<td>William</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Bain works with Janet S. Lee, MD, and studies host defense in the context of lung injury by bacterial pathogens. He is investigating how the lung responds to bacterial injury using the coagulation cascade. In the future, he plans to investigate interactions between macrophages, lung epithelium, neutrophils, and platelets using intravital microscopy and other bioimaging techniques.</td>
</tr>
<tr>
<td>Banno</td>
<td>Asoka</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Banno investigates the roles of PPARs in asthma and other inflammatory lung diseases and is mentored by Raju Reddy, MD.</td>
</tr>
<tr>
<td>Barbash</td>
<td>Ian</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Barbash examines how we measure quality in the ICU, and how the reporting of those metrics affects care. He also hopes to research similar theses in chronic critical illness, interhospital transfers, and advanced lung disease/COPD. Dr. Jeremy Kahn is his mentor.</td>
</tr>
<tr>
<td>Chakrabarty</td>
<td>Krishnend u</td>
<td>PhD</td>
<td>Research Associate</td>
<td>Dr. Chakrabarty investigates the innate immune mechanisms in the lung that help to fight bacterial pathogens and restore homeostasis during pneumonia. He works under the guidance of Prabir Ray, PhD.</td>
</tr>
<tr>
<td>Das</td>
<td>Sudipta</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Das is participating in a research project investigating immune-epithelial cell interactions in defense against the respiratory virus, respiratory syncytial virus (RSV). She works under the guidance of Prabir Ray, PhD.</td>
</tr>
<tr>
<td>Evankovich</td>
<td>John</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Evankovich works under the guidance of Drs. Rama Mallampalli and Biebie Chen and conducts research on the mechanisms of innate immune activation in human disease; specifically in the development of Acute Lung Injury and ARDS.</td>
</tr>
<tr>
<td>Gallego Martin</td>
<td>Maria Teresa</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Gallego Martin works under the guidance of Christopher O’Donnell, PhD. Her research project examines the relationship between cardi ischemia and its impact on sleep and breathing using mouse models. The experiments will involve chronically instrumenting mice for sleep and breathing assessments, exposing mice to altered gas environments to induce or attenuate periodic breathing and assessing systemic and tissue-specific levels of cytokines and catecholamines.</td>
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Department of Medicine www.dom.pitt.edu/paccm
<table>
<thead>
<tr>
<th>Employee Name</th>
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<th>Current Title</th>
<th>Summary of activities</th>
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<tbody>
<tr>
<td>Gauthier</td>
<td>Marc</td>
<td>MD</td>
<td></td>
<td>Postdoctoral Scholar</td>
<td>Dr. Gauthier works under the guidance of Drs. Sally Wenzel and Anuradha Ray. He studies the immunology of severe asthma, looking at the effects of various cytokines on glucocorticoid receptor translocation and at the downstream effects of glucocorticoids in airway epithelial cells and immune cells (T-Cells, macrophage, DCs).</td>
</tr>
<tr>
<td>Guo</td>
<td>Lanping</td>
<td>MD</td>
<td></td>
<td>Research Associate</td>
<td>Dr. Guo studies the mechanisms of insulin resistance in an animal model of sleep apnea and the mechanisms of sleep disturbance in an animal model of Post Traumatic Stress Disorder, respectively. Both studies are physiologically based and involve sophisticated animal models with chronic instrumentation requiring technically challenging microvascular techniques. She works under the guidance of Christopher O’Donnell, PhD.</td>
</tr>
<tr>
<td>Hoji</td>
<td>Akihiko</td>
<td>PhD</td>
<td></td>
<td>Research Associate</td>
<td>Dr. Hoji’s research involves infecting CD4+ T cells with HIV in vitro and performing co-culture studies along with lung parenchymal cells to determine whether this leads to lung cell injury and, if so, to identify the underlying immune mechanisms. In addition, he has a project designed to study antibody-producing cell populations in the peripheral blood from lung transplant recipients with/without antibody-mediated rejection before and after treatment. He works under the guidance of John McDyer, MD.</td>
</tr>
<tr>
<td>Jadhav</td>
<td>Shantanu</td>
<td>MS</td>
<td></td>
<td>Health Science Research Fellow</td>
<td>Mr. Jadhav works under the guidance of Dr. Reddy, MD, and performs routine lab work, animal colony maintenance, genotyping and asthma mode related procedures.</td>
</tr>
<tr>
<td>Jin</td>
<td>Mingzhu</td>
<td>MD</td>
<td></td>
<td>Visiting Scholar</td>
<td>Working under the guidance of Dr. Wenzel, MD, Dr. Jin studies the intersection of autophagy and ferroptosis in human airway epithelial cells, as it relates to 15 Lipoxygenase 1 and 2, particularly in mouse models and during asthma exacerbations.</td>
</tr>
<tr>
<td>Kale</td>
<td>Sagar</td>
<td>PhD</td>
<td></td>
<td>Postdoctoral Associate</td>
<td>Dr. Kale works under the guidance of Dr. Ray, PhD. He studies immune dysfunction in severe asthma utilizing a newly established model of the disease. Additionally, he studies immune metabolism in dendritic cells that promote an inflammatory T cell response and the effect of immune modifying agents on the metabolic processes.</td>
</tr>
<tr>
<td>Kitsios</td>
<td>Georgios</td>
<td>MD, PhD</td>
<td></td>
<td>Postdoctoral Scholar</td>
<td>Dr. Kitsios explores the interactions between microbiota and the human host in periods of critical illness, involving disease processes like sepsis and the acute respiratory distress syndrome. Utilizing analyses of human samples for microbial colonies in different parts of the human body (gut, lungs, oral cavity) and perturbations of the microbiome with acute illness, he hopes to better understand the role of microbiome in the development of outcome of critical illness and define new pathways for therapies via manipulations of the microbiome. Dr. Kitsios works under the guidance of Drs. Alison Morris and Bryan McVerry.</td>
</tr>
<tr>
<td>Lai</td>
<td>Yandong</td>
<td>MD</td>
<td></td>
<td>Visiting Scholar</td>
<td>Dr. Lai researches the mechanisms of deregulated epigenetic enzymes in acute lung injury. He works under the guidance of Chunbin Zou, MD, PhD.</td>
</tr>
<tr>
<td>Lee</td>
<td>Eun Joo</td>
<td>PhD</td>
<td></td>
<td>Visiting Scholar</td>
<td>Working under the guidance of Mauricio Rojas, MD, Dr. Lee studies the use of mesenchymal stem cells as therapy for different types of ILDs.</td>
</tr>
<tr>
<td>Lennox</td>
<td>Alison</td>
<td>MD</td>
<td></td>
<td>Postdoctoral Scholar</td>
<td>Dr. Lennox researches Cystic Fibrosis and is trying to establish the regulation pathways of ATP12A and to investigate whether ATP12A plays airway surface volume regulation. Her mentors are Drs. Joseph Pilewski and Michael Myerburg.</td>
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<tr>
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<tr>
<td>Li</td>
<td>Hui Hua</td>
<td>MD</td>
<td>Research Associate</td>
<td>Dr. Li, who works with Dr. Ming-hui Fan, investigates the pathogenesis of lung fibrosis.</td>
<td></td>
</tr>
<tr>
<td>Li</td>
<td>Lian</td>
<td>PhD</td>
<td>Visiting Scholar</td>
<td>Dr. Li, working under the guidance of Yutong Zhao, MD, PhD, studies the role of de-ubiquitinating enzymes in lung inflammation, focusing on lung epithelial and endothelial biology.</td>
<td></td>
</tr>
<tr>
<td>Li</td>
<td>Shuang</td>
<td>MD</td>
<td>Visiting Scholar</td>
<td>Dr. Li, working with Yutong Zhao, MD, PhD, investigates the role of deubiquitinating enzymes in lung repair after injury.</td>
<td></td>
</tr>
<tr>
<td>Li</td>
<td>Xiaoyun</td>
<td>MD</td>
<td>Research Associate</td>
<td>Dr. Li works under the guidance of Yingze Zhang, PhD conducting research on the molecular and genetic basis of advanced lung diseases including COPD and IPF.</td>
<td></td>
</tr>
<tr>
<td>Li</td>
<td>Xiuying</td>
<td>PhD</td>
<td>Visiting Scholar</td>
<td>Dr. Li works under the guidance of Chunbin Zou, MD, PhD. She researches the deregulation of protein methyltransferase 4 in acute lung injury by using molecular, cellular biological and biochemical approaches.</td>
<td></td>
</tr>
<tr>
<td>Li</td>
<td>Zhipeng</td>
<td>MD</td>
<td>Visiting Scholar</td>
<td>Working under the guidance of Sally Wenzel, MD, Dr. Li studies the impact of mast cells and their mediators on human airway epithelial cells from asthmatics, allergic rhinitics and healthy controls.</td>
<td></td>
</tr>
<tr>
<td>Londino</td>
<td>James</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Londino studies the molecular and biochemical behavior of ubiquitin E3 ligases in acute lung injury. He is guided by Rama Mallampalli, MD.</td>
<td></td>
</tr>
<tr>
<td>Long</td>
<td>Chen</td>
<td>MD</td>
<td>Visiting Scholar</td>
<td>Dr. Long’s research focuses on the regulation of pulmonary important factors by the ubiquitin proteasomal degradation. He works under the guidance of Chunbin Zou, MD, PhD.</td>
<td></td>
</tr>
<tr>
<td>Nguyen</td>
<td>Quyen</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Nguyen investigates why pulmonary hypertension leads to right ventricular failure, resulting in death. The subcellular mechanisms underlying right ventricular dysfunction in pulmonary hypertension are incompletely understood. Previous studies have shown derangements in cardiac cellular energy metabolism in human and experimental pulmonary hypertension. Mitochondria play a central role in cellular metabolism, particularly in cardiac muscle cells. We hypothesize that mitochondrial dysfunction underlies right ventricular failure in pulmonary hypertension. We propose a comprehensive investigation of mitochondrial function over the time course to right ventricular failure in a pulmonary artery banding animal model of pulmonary hypertension. Dr. Nguyen works under the guidance of Sruti Shiva, PhD.</td>
<td></td>
</tr>
<tr>
<td>Nolley</td>
<td>Eric</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Nolley’s research focuses on lung transplantation. Though outcomes have improved with time, average life expectancy after transplant remains only 5.6 years and 50% of patients will develop chronic lung allograft rejection by 5 years’ post-transplant. Chronic rejection is the main limiting factor in survival following the first year after lung transplantation and is associated with high symptom burdens and health care utilization at end of life. Despite this, little is known about palliative care practices in the post-transplant setting or how palliative care can be effectively integrated into post-transplant care. He works under the guidance of Drs. Matthew Morrell, Yael Schenker and Bob Arnold.</td>
<td></td>
</tr>
<tr>
<td>Peng</td>
<td>Yating</td>
<td>MD</td>
<td>Visiting Scholar</td>
<td>Dr. Peng, working under the guidance of Mauricio Rojas, MD, investigates the role of Mesenchymal Stem Cells derived microvesicles in lung repair after injury.</td>
<td></td>
</tr>
<tr>
<td>Pulikkal Kadamberi</td>
<td>Ishaque</td>
<td>MS</td>
<td>Health Science Research Fellow</td>
<td>Mr. Pulikkal works under the guidance of Raju Reddy, MD, and performs routine lab work, animal colony maintenance, genotyping and asthma mode related procedures.</td>
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<tr>
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<tr>
<td>Qu</td>
<td>Yanyan</td>
<td>PhD</td>
<td>Research Associate</td>
<td>Dr. Qu works on in vivo models of lung inflammation and injury and cell-based studies to examine phagocyte responses following various models of injury. She works under the guidance of Janet Lee, MD.</td>
<td></td>
</tr>
<tr>
<td>Rose</td>
<td>Jason</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Rose works under the guidance of Mark Gladwin, MD. His research is multi-pronged and includes: 1) Testing the hypothesis that neuroglobin H64 substitutions produce a five-coordinate neuroglobin that binds CO with an affinity much higher than that of hemoglobin. 2) Testing the hypothesis that five-coordinate mutant neuroglobin rapidly removes CO in vivo in CO poisoned mice 3) Testing the effect of five-coordinate mutant neuroglobin therapy on brain mitochondrial respiration, cellular necrosis and apoptosis, and cognitive dysfunction in CO-poisoned mice and a large animal model. 4) Working on developing an orphan drug application for Neuroglobin H64 5) Researching current standards of care and outcomes for CO poisoning in large regional clinical databank.</td>
<td></td>
</tr>
<tr>
<td>Tan</td>
<td>Jiangning</td>
<td>MD</td>
<td>Research Associate</td>
<td>Dr. Tan works in the laboratory of Daniel Kass, MD, and he is responsible for two projects. The first is to test the role of the novel relaxin-like compound CGEN25009 in pulmonary fibrosis. He tests this drug in animal models and in vitro systems. The second project will focus on the role of cytokine-like factor 1 in lung development in the human and mouse. He manages a colony of CNTFR knockout mice and will perform in vivo and in vitro techniques to study the role of CLF1 in lung development.</td>
<td></td>
</tr>
<tr>
<td>Tirkey</td>
<td>Samay</td>
<td>MS</td>
<td>Health Science Research Fellow</td>
<td>Mr. Tirkey works under the guidance of Raju Reddy, MD, performing routine lab work, animal colony maintenance, genotyping and asthma mode related procedures.</td>
<td></td>
</tr>
<tr>
<td>Tong</td>
<td>Yao</td>
<td>MS</td>
<td>Health Science Research Fellow</td>
<td>Mr. Tong works under the guidance of Biebie Chen, PhD performing research on protein ubiquitination in ALO and IPF</td>
<td></td>
</tr>
<tr>
<td>Wang</td>
<td>Ban</td>
<td>MD</td>
<td>Visiting Scholar</td>
<td>Dr. Wang works under the guidance of Yutong Zhao, PhD investigating the role of deubiquitling enzymes in lung repair after injury.</td>
<td></td>
</tr>
<tr>
<td>Wang</td>
<td>Dan</td>
<td>MD</td>
<td>Visiting Scholar</td>
<td>Dr. Wang investigates the role of deubiquitling enzymes in lung repair after injury. His mentor is Yutong Zhao, MD, PhD.</td>
<td></td>
</tr>
<tr>
<td>Yu</td>
<td>Shibing</td>
<td>PhD</td>
<td>Research Associate</td>
<td>Dr. Yu works under the guidance of Yingze Zhang, PhD, investigating the pathogenesis of COPD and dissecting the molecular and cellular mechanisms associated with COPD.</td>
<td></td>
</tr>
<tr>
<td>Yuan</td>
<td>Huijuan</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Yuan, working with Anuradha Ray, PhD, studies mitochondrial metabolism in immune cells in the context of tolerance and inflammation in the lung.</td>
<td></td>
</tr>
<tr>
<td>Zeng</td>
<td>Ming</td>
<td>MD/PhD</td>
<td>Visiting Scholar</td>
<td>Dr. Zeng, working with Sally Wenzel, MD, focuses on projects related to severe autoimmune asthma.</td>
<td></td>
</tr>
</tbody>
</table>
### Terminated Post Docs in FY 2016-2017

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<thead>
<tr>
<th>Employee Last Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>An</td>
<td>Ping</td>
<td>PhD</td>
<td>Research Associate</td>
<td>Dr. An investigates the pathogenesis of COPD and IPF, dissecting the molecular and cellular mechanisms associated with COPD and IPF. She works under the guidance of Divay Chandra, MD, and Yingze Zhang, PhD.</td>
</tr>
<tr>
<td>Chen</td>
<td>Jie</td>
<td>MS</td>
<td>Health Science Research Fellow</td>
<td>Ms. Jie works on projects related to immune responses in the lung in response to allergens and infectious agents (viruses and bacteria). Her mentor is Anuradha Ray, PhD.</td>
</tr>
<tr>
<td>Han</td>
<td>Seung Hye</td>
<td>MD, MPH</td>
<td>Postdoctoral Associate</td>
<td>Dr. Han is working under the guidance of Rama Mallampalli, MD. She researches the relationship between bacterial endotoxins and inflammasomes in the disease process of the acute respiratory distress syndrome (ARDS).</td>
</tr>
<tr>
<td>Inoue</td>
<td>Hideki</td>
<td>MD</td>
<td>Research Associate</td>
<td>Dr. Inoue evaluates the impact of IL-27 on epithelial cells in asthma, utilizing air liquid interface culture systems, alone and in combination with Interferon gamma and IL-13. His mentor is Sally Wenzel, MD.</td>
</tr>
<tr>
<td>Minami</td>
<td>Yoshinori</td>
<td>MD, PhD</td>
<td>Visiting Scholar</td>
<td>Dr. Minami conducts epithelial cell studies in asthmatic and healthy controls, focused on the role of 15 LO1 in Beta-2 adrenergic receptor desensitization both in in vitro and in ex vivo samples. He works under the guidance of Sally Wenzel, MD.</td>
</tr>
<tr>
<td>Nan</td>
<td>Ling</td>
<td>MD</td>
<td>Visiting Scholar</td>
<td>Dr. Nan researches acute lung injury, and she works under the guidance of Yutong Zhao, JD, PhD.</td>
</tr>
<tr>
<td>Neelakandan</td>
<td>Logeswari</td>
<td></td>
<td>Visiting Scholar</td>
<td>Dr. Neelakandan severe autoimmune asthma and works with Sally Wenzel, MD.</td>
</tr>
<tr>
<td>Sellares-Torres</td>
<td>Jacobo</td>
<td>MD/Ph D</td>
<td>Visiting Scholar</td>
<td>Dr. Sellares-Torres works on the team of Drs. Daniel Kass and Mauricio Rojas. His research is focused on idiopathic pulmonary fibrosis (IPF) and related diseases.</td>
</tr>
<tr>
<td>Shah</td>
<td>Faraaz</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Shah is conducting research to better understand the development of hyperglycemia during sepsis. He works under the guidance of Drs. O’Donnell and McVerry.</td>
</tr>
<tr>
<td>Wang</td>
<td>Dan</td>
<td>MD</td>
<td>Visiting Scholar</td>
<td>Dr. Wang, working along Yutong Zhao, MD, PhD, investigates the role of deubiquilting enzymes in the lung repair after injury.</td>
</tr>
<tr>
<td>Yang</td>
<td>Yin</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Yang’s research centers on innate immune responses to infection by respiratory syncytial virus (RSV), using in vitro studies as well as animal model of infection. He works under the guidance of Prabir Ray, PhD.</td>
</tr>
</tbody>
</table>
A selection of high-impact publications from the PACCM faculty are outlined below.


  RATIONALE: Pay for performance is an increasingly common quality improvement strategy despite the absence of robust supporting evidence. We sought to determine the impact of a financial incentive program rewarding physicians for the completion of daily spontaneous breathing trials (SBTs) in three academic hospitals. We compared data from mechanically ventilated patients from 6 months before to 2 years after introduction of a financial incentive program that provided annual payments to critical care physicians contingent on unit-level SBT completion rates. We used Poisson regression to compare the frequency of days on which SBTs were completed among eligible patients and days on which patients were excluded from SBT eligibility among all mechanically ventilated patients. We used multivariate regression to compare risk-adjusted duration of mechanical ventilation and in-hospital mortality. The cohort included 7,291 mechanically ventilated patients with 75,621 ventilator days. Baseline daily SBT rates were 96.8% (hospital A), 16.4% (hospital B), and 74.7% (hospital C). In hospital A, with the best baseline performance, there was no change in SBT rates, exclusion rates, or duration of mechanical ventilation across time periods. In hospitals B and C, with lower SBT completion rates at baseline, there was an increase in daily SBT completion rates and a concomitant increase in exclusions from eligibility. Duration of mechanical ventilation decreased in hospital C but not in hospital B. Mortality was unchanged for all hospitals. In hospitals with low baseline SBT completion, physician-targeted financial incentives were associated with increased SBT rates driven in part by increased exclusion rates, without consistent improvements in outcome.


  Lower FEV1 is associated with increased prevalence of atherosclerosis; however, causal mechanisms remain elusive. We sought to determine if systemic endothelial dysfunction mediates the association between reduced FEV1 and increased atherosclerosis. Brachial artery endothelial function, pulmonary function, coronary artery calcium, and carotid plaque were assessed in 231 Pittsburgh SCCOR (Specialized Centers for Clinically Oriented Research) study participants; peripheral arterial endothelial function, pulmonary function, and coronary artery calcium were assessed in 328 HeartSCORE (Heart Strategies Concentrating on Risk Evaluation) study participants. Lower FEV1 was independently associated with increased atherosclerosis in both cohorts (per 25% lower % predicted FEV1: odds ratio [OR], 1.76; 95% confidence interval [CI], 1.30-2.40; P < 0.001 for carotid plaque in SCCOR participants) (per 25% lower % predicted FEV1: OR, 1.35; 95% CI, 1.02-1.77; P = 0.03 for coronary artery calcium in HeartSCORE participants). Similarly, reduced endothelial function was independently associated with increased atherosclerosis in both cohorts (per SD lower endothelial function: OR, 1.30; 95% CI, 1.01-1.67; P = 0.04 for carotid plaque in SCCOR participants) (per SD lower endothelial function: OR, 1.38; 95% CI, 1.09-1.76; P = 0.008 and OR, 1.41; 95% CI, 1.07-1.86; P = 0.01 for coronary artery calcium in SCCOR and HeartSCORE participants, respectively). However, there was no association between endothelial dysfunction and FEV1, FEV1/FVC, low-attenuation area/visual emphysema, and diffusing capacity in SCCOR participants, and between endothelial dysfunction and FEV1 or FEV1/FVC in HeartSCORE participants (all P > 0.05). Adjusting the association between FEV1 and atherosclerosis for endothelial dysfunction had no impact. Endothelial dysfunction
does not mediate the association between airflow limitation and atherosclerosis. Instead, airflow limitation and endothelial dysfunction seem to be unrelated and mutually independent predictors of atherosclerosis.


Airway surface liquid hyperabsorption and mucus accumulation are key elements of cystic fibrosis lung disease that can be assessed in vivo using functional imaging methods. In this study, we evaluated experimental factors affecting measurements of mucociliary clearance (MCC) and small-molecule absorption (ABS) and patient factors associated with abnormal absorption and mucus clearance. Our imaging technique utilizes two radiopharmaceutical probes delivered by inhalation. Measurement repeatability was assessed in 10 adult cystic fibrosis subjects. Experimental factors were assessed in 29 adult and pediatric cystic fibrosis subjects (51 scans). Patient factors were assessed in a subgroup with optimal aerosol deposition (37 scans; 24 subjects). Pediatric subjects (n=9) underwent initial and 2-year follow-up scans. Control subjects from a previously reported study are included for comparison. High rates of central aerosol deposition influenced measurements of ABS and, to a lesser extent, MCC. Depressed MCC in cystic fibrosis was only detectable in subjects with previous Pseudomonas aeruginosa infection. Cystic fibrosis subjects without P. aeruginosa had similar MCC to control subjects. Cystic fibrosis subjects had consistently higher ABS rates. We conclude that the primary experimental factor affecting MCC/ABS measurements is central deposition percentage. Depressed MCC in cystic fibrosis is associated with P. aeruginosa infection. ABS is consistently increased in cystic fibrosis.


The receptor for advanced glycation end products (RAGE) is a highly expressed cell membrane receptor serving to anchor lung epithelia to matrix components, and it also amplifies inflammatory signaling during acute lung injury. However, mechanisms that regulate its protein concentrations in cells remain largely unknown. Here we show that RAGE exhibits an extended life span in lung epithelia (t½ 6 h), is monoubiquitinated at K374, and is degraded in lysosomes. The RAGE ligand ODN2006, a synthetic oligodeoxynucleotide resembling pathogenic hypomethylated CpG DNA, promotes rapid lysosomal RAGE degradation through activation of protein kinase C zeta (PKCζ), which phosphorylates RAGE. PKCζ overexpression enhances RAGE degradation, while PKCζ knockdown stabilizes RAGE protein levels and prevents ODN2006-mediated degradation. We identify that RAGE is targeted by the ubiquitin E3 ligase subunit F-box protein O10 (FBXO10), which associates with RAGE to mediate its ubiquitination and degradation. FBXO10 depletion in cells stabilizes RAGE and is required for ODN2006-mediated degradation. These data suggest that modulation of regulators involved in ubiquitin-mediated disposal of RAGE might serve as unique molecular inputs directing RAGE cellular concentrations and downstream responses, which are critical in an array of inflammatory disorders, including acute lung injury.


Hemolysis is a fundamental feature of sickle cell anemia that contributes to its pathophysiology and phenotypic variability. Decompartmentalized hemoglobin, arginase 1, asymmetric dimethylarginine, and adenine nucleotides are all products of hemolysis that promote vasomotor dysfunction, proliferative vasculopathy, and a multitude of clinical complications of pulmonary and systemic vasculopathy, including pulmonary hypertension, leg ulcers, priapism, chronic kidney disease, and large-artery ischemic stroke. Nitric oxide (NO) is inactivated by cell-free hemoglobin in a dioxygenation reaction that also oxidizes hemoglobin to methemoglobin, a non-oxygen-binding form of hemoglobin that readily loses heme. Circulating hemoglobin and heme represent erythrocytic danger-associated molecular pattern (eDAMP) molecules, which activate the innate immune system and endothelium to
an inflammatory, proadhesive state that promotes sickle vaso-occlusion and acute lung injury in murine models of sickle cell disease. Intravascular hemolysis can impair NO bioavailability and cause oxidative stress, altering redox balance and amplifying physiological processes that govern blood flow, hemostasis, inflammation, and angiogenesis. These pathological responses promote regional vasoconstriction and subsequent blood vessel remodeling. Thus, intravascular hemolysis represents an intrinsic mechanism for human vascular disease that manifests clinical complications in sickle cell disease and other chronic hereditary or acquired hemolytic anemias.


Carbon monoxide (CO) is a leading cause of poisoning deaths worldwide, with no available antidotal therapy. We introduce a potential treatment paradigm for CO poisoning, based on near-irreversible binding of CO by an engineered human neuroglobin (Ngb). Ngb is a six-coordinate hemoprotein, with the heme iron coordinated by two histidine residues. We mutated the distal histidine to glutamine (H64Q) and substituted three surface cysteines with less reactive amino acids to form a five-coordinate heme protein (Ngb-H64Q-CCC). This molecule exhibited an unusually high affinity for gaseous ligands, with a P50 (partial pressure of O2 at which hemoglobin is half-saturated) value for oxygen of 0.015 mmHg. Ngb-H64Q-CCC bound CO about 500 times more strongly than did hemoglobin. Incubation of Ngb-H64Q-CCC with 100% CO-saturated hemoglobin, either cell-free or encapsulated in human red blood cells, reduced the half-life of carboxyhemoglobin to 0.11 and 0.41 min, respectively, from ≥200 min when the hemoglobin or red blood cells were exposed only to air. Infusion of Ngb-H64Q-CCC to CO-poisoned mice enhanced CO removal from red blood cells, restored heart rate and blood pressure, increased survival, and was followed by rapid renal elimination of CO-bound Ngb-H64Q-CCC. Heme-based scavenger molecules with very high CO binding affinity, such as our mutant five-coordinate Ngb, are potential antidotes for CO poisoning by virtue of their ability to bind and eliminate CO.


The discovery of novel globins in diverse organisms has stimulated intense interest in their evolved function, beyond oxygen binding. Globin X (GbX) is a protein found in fish, amphibians, and reptiles that diverged from a common ancestor of mammalian hemoglobins and myoglobins. Like mammalian neuroglobin, GbX was first designated as a neuronal globin in fish and exhibits six-coordinate heme geometry, suggesting a role in intracellular electron transfer reactions rather than oxygen binding. Here, we report that GbX to our knowledge is the first six-coordinate globin and the first globin protein apart from hemoglobin, found in vertebrate RBCs. GbX is present in fish erythrocytes and exhibits a nitrite reduction rate up to 200-fold faster than human hemoglobin and up to 50-fold higher than neuroglobin or cytoglobin. Deoxygenated GbX reduces nitrite to form nitric oxide (NO) and potently inhibits platelet activation in vitro, to a greater extent than hemoglobin. Fish RBCs also reduce nitrite to NO and inhibit platelet activation to a greater extent than human RBCs, whereas GbX knockdown inhibits this nitrite-dependent NO signaling. The description of a novel, six-coordinate globin in RBCs with dominant electron transfer and nitrite reduction functionality provides new insights into the evolved signaling properties of ancestral heme-globins.


In sickle-cell disease, a point mutation in the β-globin chain causes haemoglobin to polymerise within erythrocytes during deoxygenation, altering red blood cell rheology and causing haemolysis. Improvements in health infrastructure, preventive care, and clinical treatments have reduced the morbidity and mortality of sickle-cell disease in developed countries. However, as these patients live longer, the chronic effects of sustained haemolytic
anaemia and episodic vaso-occlusive events drive the development of end-organ complications. Cardiopulmonary organ dysfunction and chronic kidney injury have a large effect on morbidity and premature mortality, and typically accelerate in the second decade of life. These processes culminate in the development of pulmonary hypertension, left ventricular diastolic heart disease, dysrhythmia, and sudden death. In this Series paper, we review the mechanisms, clinical features, and epidemiology of major cardiovascular complications in patients with sickle-cell disease and discuss how screening and intervention could reduce their incidence.


Complex microbial communities within the human body, constituting the microbiome, have a broad impact on human health and disease. A growing body of research now examines the role of the microbiome in patients with critical illness, such as sepsis and acute respiratory failure. In this article, we provide an introduction to microbiome concepts and terminology and we systematically review the current evidence base of the critical-illness microbiome, including 51 studies in animal models and pediatric and adult critically ill patients. We further examine how this emerging scientific discipline may transform the way we manage infectious and inflammatory diseases in intensive care units. The evolving molecular, culture-independent techniques offer the ability to study microbial communities in unprecedented depth and detail, and in the short-term, may enable us to diagnose and treat infections in critical care more precisely and effectively. Longer term, these tools may also give us insights in the underlying pathophysiology of critical illness and reveal previously unsuspected targets for innovative, microbiome-targeted therapeutics. We finally propose a roadmap for future studies in the field for transforming critical care from its current isolated focus on the host to a more personalized paradigm addressing both human and microbial contributions to critical illness.


Idiopathic pulmonary fibrosis (IPF) is a chronic age-related lung disease with high mortality that is characterized by abnormal scarring of the lung parenchyma. There has been a recent attempt to define the age-associated changes predisposing individuals to develop IPF. Age-related perturbations that are increasingly found in epithelial cells and fibroblasts from IPF lungs compared with age-matched cells from normal lungs include defective autophagy, telomere attrition, altered proteostasis, and cell senescence. These divergent processes seem to converge in mitochondrial dysfunction and metabolic distress, which potentiate maladaptation to stress and susceptibility to age-related diseases such as IPF. Therapeutic approaches that target aging processes may be beneficial for halting the progression of disease and improving quality of life in IPF patients.


Bacterial pneumonia is a significant healthcare burden worldwide. Failure to resolve inflammation after infection precipitates lung injury and an increase in morbidity and mortality. Gram-negative bacteria are common in pneumonia and increased levels of the mito-damage-associated molecular pattern (DAMP) cardiolipin can be detected in the lungs. Here we show that mice infected with Klebsiella pneumoniae develop lung injury with accumulation of cardiolipin. Cardiolipin inhibits resolution of inflammation by suppressing production of anti-inflammatory IL-10 by lung CD11b+Ly6GintLy6CloF4/80+ cells. Cardiolipin induces PPARγ SUMOylation, which causes recruitment of a repressive NCOR/HDAC3 complex to the IL-10 promoter, but not the TNF promoter, thereby tipping the balance towards inflammation rather than resolution. Inhibition of HDAC activity by sodium butyrate enhances recruitment of acetylated histone 3 to the IL-10 promoter and increases the concentration of
IL-10 in the lungs. These findings identify a mechanism of persistent inflammation during pneumonia and indicate the potential of HDAC inhibition as a therapy.


The term asthma encompasses a disease spectrum with mild to very severe disease phenotypes whose traditional common characteristic is reversible airflow limitation. Unlike milder disease, severe asthma is poorly controlled by the current standard of care. Ongoing studies using advanced molecular and immunological tools along with improved clinical classification show that severe asthma does not identify a specific patient phenotype, but rather includes patients with constant medical needs, whose pathobiologic and clinical characteristics vary widely. Accordingly, in recent clinical trials, therapies guided by specific patient characteristics have had better outcomes than previous therapies directed to any subject with a diagnosis of severe asthma. However, there are still significant gaps in our understanding of the full scope of this disease that hinder the development of effective treatments for all severe asthmatics. In this Review, we discuss our current state of knowledge regarding severe asthma, highlighting different molecular and immunological pathways that can be targeted for future therapeutic development.


We previously showed that Th1/type 1 inflammation marked by increased IFN-γ levels in the airways can be appreciated in 50% of patients with severe asthma, despite high dose corticosteroid (CS) treatment. We hypothesized that a downstream target of IFN-γ, CXCL10, which recruits Th1 cells via the cognate receptor CXCR3, is an important contributor to Th1high asthma and CS unresponsiveness. We show high levels of CXCL10 mRNA closely associated with IFNG levels in the BAL cells of 50% of severe asthmatics and also in the airways of mice subjected to a severe asthma model, both in the context of high-dose CS treatment. The inability of CS to dampen IFNG or CXCL10 expression was not because of impaired nuclear translocation of the glucocorticoid receptor (GR) or its transactivational functions. Rather, in the presence of CS and IFN-γ, STAT1 and GR were recruited on critical regulatory elements in the endogenous CXCL10 promoter in monocytes, albeit without any abatement of CXCL10 gene expression. High CXCL10 gene expression was also associated with a mast cell signature in both humans and mice, CXCR3 being also expressed by mast cells. These findings suggest that the IFN-γ-CXCL10 axis plays a central role in persistent type 1 inflammation that may be facilitated by CS therapy through GR-STAT1 cooperation converging on the CXCL10 promoter.


The extracellular matrix (ECM) is the noncellular component critical in the maintenance of organ structure and the regulation of tissue development, organ structure, and cellular signaling. The ECM is a dynamic entity that undergoes continuous degradation and resynthesis. In addition to compromising structure, degradation of the ECM can liberate bioactive fragments that cause cellular activation and chemotaxis of a variety of cells. These fragments are termed matrikines, and their cellular activities are sentinel in the development and progression of tissue injury seen in chronic lung disease. Here, we discuss the matrikines that are known to be active in lung biology and their roles in lung disease. We also consider the use of matrikines as disease markers and potential therapeutic targets in lung disease.
Inflammasomes regulate innate immune responses by facilitating maturation of inflammatory cytokines, interleukin (IL)-1β and IL-18. NACHT, LRR and PYD domains-containing protein 7 (NALP7) is one inflammasome constituent, but little is known about its cellular handling. Here we show a mechanism for NALP7 protein stabilization and activation of the inflammasome by Toll-like receptor (TLR) agonism with bacterial lipopolysaccharide (LPS) and the synthetic acylated lipopeptide Pam3CSK4. NALP7 is constitutively ubiquitinated and recruited to the endolysosome for degradation. With TLR ligation, the deubiquitinase enzyme, STAM-binding protein (STAMBP) impedes NALP7 trafficking to lysosomes to increase NALP7 abundance. STAMBP deubiquitinates NALP7 and STAMBP knockdown abrogates LPS or Pam3CSK4-induced increases in NALP7 protein. A small-molecule inhibitor of STAMBP deubiquitinase activity, BC-1471, decreases NALP7 protein levels and suppresses IL-1β release after TLR agonism. These findings describe a unique pathway of inflammasome regulation with the identification of STAMBP as a potential therapeutic target to reduce pro-inflammatory stress.

Cyclic adenosine monophosphate (cAMP) response element-binding protein (CREB)-binding protein (CBP) is a histone acetyltransferase that plays a pivotal role in the control of histone modification and the expression of cytokine-encoding genes in inflammatory diseases, including sepsis and lung injury. We found that the E3 ubiquitin ligase subunit FBXL19 targeted CBP for site-specific ubiquitylation and proteasomal degradation. The ubiquitylation-dependent degradation of CBP reduced the extent of lipopolysaccharide (LPS)-dependent histone acetylation and cytokine release in mouse lung epithelial cells and in a mouse model of sepsis. Furthermore, we demonstrated that the deubiquitylating enzyme USP14 (ubiquitin-specific peptidase 14) stabilized CBP by reducing its ubiquitylation. LPS increased the stability of CBP by reducing the association between CBP and FBXL19 and by activating USP14. Inhibition of USP14 reduced CBP protein abundance and attenuated LPS-stimulated histone acetylation and cytokine release. Together, our findings delineate the molecular mechanisms through which CBP stability is regulated by FBXL19 and USP14, which results in the modulation of chromatin remodeling and the expression of cytokine-encoding genes.


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The Renal-Electrolyte Division is devoted to its core missions of clinical and academic excellence, and to training the next generation of nephrologists. Our nephrologists provide a multidisciplinary approach to ensure the well-being and highest quality of care for patients with the most complex kidney and/or electrolyte disorders.

The Renal-Electrolyte Division has a large interdisciplinary group of investigators who study kidney/epithelial cell structure and function in health or disease states using the tools of physiology, cellular and molecular biology, biochemistry, and cell signaling. A growing cadre of investigators is addressing important clinical and translational questions relevant to individuals with kidney disease, covering a range of topics that includes acute kidney injury, renal fibrosis, and transplant rejection. Investigators based at the Department of Veterans Affairs (VA) have led or are leading multicenter clinical studies focusing on prevention of contrast-induced nephropathy, on the management of diabetic nephropathy, and on dialysis intensity in the setting of acute kidney injury.

RESEARCH

Working in conjunction with groups at UPMC, the University of Pittsburgh, and the VA, the Renal-Electrolyte Division has developed a dynamic research program with expected total cost expenditures of approximately $7.6 million.

The Division received major grants from the NIH, the VA, and private foundations that support research on a diverse array of topics, including protein trafficking, ion transport physiology, kidney pathophysiology, and transplant immunology. Grants also support a range of clinical research activities. Our Pittsburgh Center for Kidney Research is an NIDDK-funded O’Brien Kidney Research Core Center, one of seven such centers nationwide. This center supports the research activities of 150 investigators with core facilities, pilot project grants, and educational opportunities. It also provides research opportunities for college undergraduate students. Division faculty lead an NIDDK-funded program project grant that is focused on spinal cord injury and associated urinary bladder disorders. Our VA physicians direct a multicenter cooperative study focused on strategies to prevent contrast-induced kidney injury, and have recently completed a multicenter cooperative study on therapeutics for diabetic nephropathy. Faculty members Lori Birder, PhD; Gerard Apodaca, PhD; and Thomas Kleyman, MD, hold or recently held NIH MERIT awards.

Our trainees and junior faculty continue to be successful in obtaining extramural support. Kelly Liang, MD, is a recipient of an NIDDK K23 award; Evan Ray, MD, PhD, is a recipient of an NIDDK K08 award; and Shujie Shi, PhD, and Mohammad Al-Bataineh, DVM, PhD, are recipients of NIDDK K01 awards. Roderick Tan, MD, PhD, is a recipient of an American Heart Association Fellow-to-Faculty Award. Manisha Jhamb, MD, MPH, completed an American Heart Association Fellow-to-Faculty Award, and has received an R01 grant from NIDDK. Cary Boyd-Shiwarski, MD, PhD, is supported by our NIDDK T32 training grant, and William Hoffman, MD, is supported by an American Society of Nephrology Postdoctoral Fellowship Award. To support the training of graduate students, postdoctoral fellows, and
medical students in renal research, the Division hosts an NIDDK-funded T32 training grant and an NIDDK-funded T35 training grant.

Basic research interests include:

- Structure, function, and regulation of epithelial sodium, potassium, and chloride transporters
- Protein trafficking in epithelia
- Response of epithelia to biomechanical forces
- Regulation of protein folding and maturation
- Mechanisms of bladder epithelial injury
- Neural-epithelial interactions in the urinary bladder
- Biology of immune cell memory
- Genetics of complex diseases
- Pathogenesis of acute kidney injury
- Pathogenesis of chronic kidney disease
- Central mechanisms of blood pressure control

Clinical research interests include:

- Electronic medical record and CKD management
- Exercise in ESRD
- Sleep disorders and quality of life in the setting of CKD and ESRD
- ICU nephrology
- Acute kidney injury
- Contrast nephropathy
- Depression in the setting of kidney disease
- Diabetic nephropathy
- Health literacy
- Optimization of peritoneal dialysis
- Palliative care in the setting of advanced CKD and ESRD

In conjunction with the Pittsburgh Center for Kidney Research, the Department of Critical Care Medicine, the Starzl Transplant Institute, and the Division of Pediatric Nephrology, the Renal-Electrolyte Division co-hosted the sixth annual University-wide retreat exploring acute kidney injury. The Renal-Electrolyte Division co-hosts an annual nephrotic syndrome symposium in conjunction with the Division of Pediatric Nephrology and the Pittsburgh Center for Kidney Research. The Division also supported the annual Local Traffic Symposium, which focuses on protein trafficking, highlighting work by investigators at the University of Pittsburgh and Carnegie Mellon University.

**New Research Funding**

New research funding within the Division includes:

- Geetha Chalasani, MD, was awarded a five-year R01, B Cells in Pathogenesis of Allograft Rejection, from the National Institute of Allergy and Infectious Disease.
- Sean Stocker, PhD, was awarded an R01, Central Osmosensory Mechanisms in Salt-Sensitive Hypertension, from the National Institute of Health.
- Sean Stocker, PhD, is a Principal Investigator on a four-year National Heart, Lung and Blood Institute grant, Adverse Neurogenic Actions of Dietary Salt, in collaboration with investigators at the University of Delaware.
• Mohammad Al-Bataineh, DVM, PhD, was awarded a five-year K01 grant, Role of Muc1 in the B-Catenin Response to Acute Kidney Injury, from the National Institute of Diabetes and Digestive and Kidney Diseases.
• Evan Ray, MD, PhD, was awarded a five-year K08 grant, Proteolytic Activation of ENaC in Proteinuric Kidney Disease, from the National Institute of Diabetes and Digestive and Kidney Diseases.
• William Hoffman, MD, received a two-year grant from the American Society of Nephrology, BAFF and Immunologic Memory in Early Kidney Transplant Rejection.
• Lori Birder, PhD, was awarded a two-year grant from the Interstitial Cystitis Association to study the Role of Mitochondria in Interstitial Cystitis.
• Lori Birder, PhD, was co-investigator on a five-year U54 grant from the University of Pittsburgh O’Brien Cooperative Research Center – Project 1.
• Linda Fried, MD, was reappointed the CKD Pilot Trials Chair and awarded a one-year grant from the National Institute of Diabetes and Digestive and Kidney Diseases.
• Florenta Kullmann, PhD, was awarded a one-year grant from Ferring Pharmaceuticals, Inc, Artemin: A Novel Target for Treatment of Interstitial Cystitis/Bladder Pain Syndrome.
• Bronagh McDonnell, PhD, was awarded a one-year grant from the Urology Care Foundation, Influence of Chronic Stress on Sensory Changes in IC/PBS.
• Paul Palevsky, MD, was a co-investigator on the R01, Biomarker Effectiveness Analysis on Contrast Nephropathy (BEACON), from the National Institute of Diabetes and Digestive and Kidney Diseases.
• Paul Palevsky, MD, received a one-year grant from BioPorto Diagnostics, Adjudication of Recovery from Acute Kidney Injury.
• Sean Stocker, PhD, was awarded a Mentor/Mentee award from the American Heart Association.
• Arohan Subramanya, MD, was awarded an R13, Epithelial Transport Group Sessions at Experimental Biology 2017, from National Institute of Diabetes and Digestive and Kidney Diseases.
• Steven Weisbord, MD, was a co-investigator on the R01, Biomarker Effectiveness Analysis on Contrast Nephropathy (BEACON), from the National Institute of Diabetes and Digestive and Kidney Diseases.
Faculty Research Interests

Mohammad Al-Bataineh DVM MS PhD
Dr. Al-Bataineh’s current research focuses primarily on studying the acute and chronic effects of the cell surface protein mucin 1 (Muc1) in regulating the b-catenin pathway during moderate and severe ischemia-reperfusion injury (IRI) in a mouse model.

Gerard Apodaca PhD
Dr. Apodaca’s lab studies the biology of the epithelial cells that line the inner surface of the bladder and ureters (urothelium), as well as the cells that line the tubules that comprise the kidney nephron. His lab focuses on three major projects: 1) Studies of stretch-regulated membrane traffic in umbrella cells; 2) Analysis of tight junction morphology and function in response to stretch; and 3) Exploration of the role of uroplakins in urinary tract development and congenital anomalies of the kidney and urinary tract.

Catherine Baty DVM PhD
Dr. Baty’s research interests focus on the role of lymphatic vasculature in health and disease. She collaborated with geneticists Robert Ferrell and David Finegold to first identify connexin mutations as a cause of lymphedema in humans. She is using a high speed confocal imaging perfusion system for studies of renal lymphatics, ex vivo kidney slice cultures, perfused renal proximal tubules and renal blood flow imaging.

Filitsa Bender MD FACP
Dr Bender studies the outcomes of patients with chronic kidney disease (CKD), primarily those who receive peritoneal dialysis (PD). She also researches outcomes in incident PD patients after renal transplant. In addition, Dr. Bender is participating in a study to assess depression in Hemodialysis patients.

José F. Bernardo MD MPH FASN
Dr. Bernardo’s research interests comprise AKI, chronic dialysis, calcium/phosphorus metabolism, renal pharmacology in AKI, and transplantation. He was part of a multidisciplinary team that developed a phone application to help patients to track their renal function level following an episode of AKI. Dr. Bernardo is involved in QI projects designed to optimize the delivery of therapy in patients receiving continuous renal replacement therapy (CRRT). Under his mentorship, undergraduate students at University of Pittsburgh and Carnegie Mellon University have implemented a Kidney Disease Screening Awareness Program (KDSAP), which provides opportunities for Renal Fellows to begin working with communities at risk for development of kidney disease.

Lori Birder PhD
Dr. Birder’s laboratory conducts research aimed at understanding the complexities of urinary bladder epithelial (urothelial) cell function and urothelial cell-neuronal interactions. Dr. Birder’s investigations have revealed that the urothelium, a stratified epithelial layer that lines the bladder lumen, has the capacity to send signals to neighboring cells via the release of chemical mediators. This arrangement represents a departure from the conventional view of the urothelium as a simple barrier. She is addressing how pathology impacts mechanisms of urothelial communication, which may provide important insight into targets for new therapies for the clinical management of lower urinary tract disorders.

Cary Boyd-Shiwarski MD PhD
Dr. Boyd-Shiwarski’s research interests are potassium homeostasis and ion transport, with a focus on the regulation of the NCC (sodium-chloride cotransporter) by WNK (With-No-Lysine) kinases. WNK kinases are the only known kinases that directly bind chloride and act as regulators of potassium homeostasis. Her recent studies have focused on the role of a kidney specific isoform of WNK1 in localizing WNK kinases to a protein complex.
Marcelo Carattino PhD
Dr. Carattino's lab studies the function of acid-sensing ion channels (ASICs). These channels are expressed in the nervous system where they contribute to sensory processes such as mechanosensation and nociception. The goals of the lab’s research program are to elucidate the molecular basis underlying the function of ASICs and to identify targets in these proteins that can be used to develop inhibitors. A second area of research examines the role of the urothelial barrier in interstitial cystitis/bladder pain syndrome (IC/BPS), a chronic voiding disorder with symptoms that include urinary frequency and pain in the bladder and/or pelvis. Although the exact cause of IC/BPS is unknown, numerous lines of evidence suggest that an increase in the permeability of the urothelium contributes to the symptoms in this condition. This project’s goal is to examine the mechanisms that mediate voiding symptoms and pain in an animal model with reduced urothelial barrier function, providing a rational foundation to treat hypersensitive bladder disorders.

Geetha Chalasani MD
Dr. Chalasani’s primary research interests include memory T cell biology, antibody-independent functions of B cells, and pathogenesis of chronic rejection. Her laboratory focuses on understanding how memory T cells are generated in transplantation. Her group investigates how B cells function; how their innate activation pathways contribute to T cell memory and chronic rejection; and how different B cell populations impact these processes. Other relevant translational areas of research include changes in B cell subpopulations and functions under depletional and non-depletional induction regimens in kidney transplant recipients; impact of circulating BAFF levels and concomitant donor specific B and T cell memory in kidney transplant recipients undergoing early rejection; and immune exhaustion in pediatric liver transplant recipients as a mechanism of operational tolerance off immunosuppression.

Ranil DeSilva MD
Dr. DeSilva studies the use of quality improvement initiatives to optimize quality and safety outcomes for inpatients and outpatients with chronic kidney disease and for end-stage renal disease dialysis dependent patients. He also researches how to optimize the transition of care—and reduce readmissions—for hospitalized ESRD dialysis patients who are moved to outpatient settings. In addition, Dr. DeSilva is interested in the use of more national registry/database tools to learn about population-based hemodialysis vascular outcomes and strategy in the geriatric population.

Linda F. Fried MD MPH
Dr. Fried’s research is concentrated in two areas: the association of decreased kidney function with adverse outcomes in older individuals, including cardiovascular disease, functional decline, and change in body composition; and progression of kidney disease, in particular, diabetic nephropathy. Dr. Fried was the Chair of a VA-sponsored multicenter study on the effects of combination ACEi/ARB vs. ARB monotherapy on the progression of diabetic nephropathy. She is currently chair of the steering committee for the NIDDK CKD pilot study consortium.

Sundaram Hariharan MD
Dr. Hariharan’s research centers on enhancing long-term kidney transplant allograft survival. Areas of focus include: recurrent and de novo diseases after renal transplantation, BKV infection after renal transplantation and long-term kidney transplant survival, and identification of clinical and biomarkers predicting long-term kidney transplant outcome. He is exploring mechanistic aspects of subclinical acute rejection and seeking to identify the rejection through non-invasive methods. Finally, Dr. Hariharan is assessing the impact of subclinical rejection in two categories of patients: those who are developing Delayed Graft Function after Deceased Donor Transplantation and those developing de novo DSA after both living and deceased donor transplantation.

John Hotchkiss MD
The underlying theme of Dr. Hotchkiss’s work is the application of contemporary computational and bioengineering techniques to complex biological and clinical systems. His goal is to produce computational tools that can be used to improve patient care, either directly or by guiding the application of extant or novel technologies in the clinical setting. His interests have expanded from individual patients to healthcare facilities and networks, focusing on access and economic issues.
Rebecca Hughey PhD
Dr. Hughey’s research centers on the characterization of the assembly, processing, and membrane trafficking of apically expressed glycoproteins in polarized kidney epithelial cells. She uses biochemistry and electrophysiology techniques to study the function of glycosylation, palmitoylation, and proteolytic processing of model proteins, such as the epithelial sodium channel (ENaC), gamma-glutamyltranspeptidase, and the cell surface sensor MUC1. Her recent studies have revealed that ENaC is activated by a very novel mechanism of proteolytic release of inhibitory peptides in the biosynthetic pathway and post-Golgi compartments—and in pathological states, such as proteinuria (kidney) and Cystic Fibrosis (lung). Her current studies of MUC1 function in normal kidney epithelia focus on its role in epithelial survival and recovery from acute kidney injury.

Youko Ikeda PhD
Dr. Ikeda’s research interests focus on building more knowledge about the cellular mechanisms that regulate urinary bladder contractile and storage functions. And in an effort to elucidate novel therapeutic agents, she is studying the impact of neurogenic injury, chemical cystitis, and ionizing radiation exposure on the lower urinary tract.

Edwin (Ed) Jackson PhD
Dr. Jackson is a senior clinical pharmacologist in renal and cardiovascular pharmacology. He is Associate Director of the Center for Clinical Pharmacology and directs its laboratory resources in genetics, mass spectrometry, cell culture, and animal physiology. He maintains a very active research program that collaborates with other researchers both within and outside of the institution.

Manisha Jhamb MD MPH
Dr. Jhamb’s clinical research focuses on understanding and improving patient-centered outcomes in patients with chronic kidney disease and end-stage renal disease. She is particularly interested in testing the effectiveness of clinical interventions to improve patient symptoms and quality of life in these patients. Her studies are evaluating the effect of intensive blood pressure control on sleep apnea and effect of technology-based collaborative care interventions on symptoms in dialysis patients. Another research focus is the use of health information technology to improve delivery of CKD care, reduce health disparities in CKD, and develop predictive modeling to identify high-risk CKD patients.

James Johnston MD
Dr. Johnston collaborates with colleagues in the Division on clinical studies in peritoneal dialysis and hemodialysis-based renal replacement therapy.

Hoda Kaldas MD
Dr. Kaldas’s research focuses on medical education, quality improvement, and patient safety. She developed an online module to teach about electrolyte disorders using virtual patient simulation. In the area of quality improvement, she is working on an initiative to ensure the safer discharge of high-risk patients with AKI and adequate follow-up. She is collaborating with Dr. Kellum’s group to develop an app for patients with kidney disease. She is also working with the rheumatology group to ensure adequate immunization occurs in high-risk patients with CKD.

Anthony Kanai PhD
Dr. Kanai’s lab studies lower urinary tract (e.g., urinary bladder, urethra, prostate) pathologies and their treatment through novel drug design and development, including the use of electrophysiological, molecular, and optical approaches. His work has resulted in several US patents. The lab was the first to demonstrate that the bladder urothelium is more than a barrier and it produces nitric oxide in response to adrenergic agonists through direct microsensor measurements. There are three major projects funded through Dr. Kanai’s ongoing P01 and two R01 grants: 1) The study of spinal cord injury and its consequences on lower urinary tract dysfunction; 2) Radiation-induced damage—mechanisms, prevention and treatment; and 3) The role of phosphodiesterase Type-5 (PDE5) inhibitors and soluble guanylate cyclase activators in treating bladder dysfunction.
Ossama Kashlan PhD
Dr. Kashlan’s research efforts are focused on the study of epithelial ion channels. His research team seeks a structurally based understanding of the mechanisms of regulation of this channel, e.g., activation by proteases or inhibition by sodium. Dr. Kashlan’s lab combines functional characterization by electrophysiology with x-ray crystallography and molecular modeling to study structure. Complementary to these approaches, his lab also employs molecular biology and molecular evolution to gather further insight into the molecular mechanisms of channel regulation.

John Kellum MD
Dr. Kellum’s work spans various aspects of critical care medicine, but centers on sepsis and acute organ dysfunction. He has organized multidisciplinary teams of investigators to study novel approaches to the treatment of sepsis and to the understanding of the pathogenesis of acute kidney injury. His laboratory integrates the work of epidemiology and health service research with studies of the basic mechanism of disease and new methods of treatment.

Thomas Kleyman MD
Dr. Kleyman’s research efforts are primarily directed at the study of epithelial Na channels (ENaCs) and large conductance Ca2+ activated K (BK) channels. Recent work has focused on elucidating mechanisms by which extracellular proteases, small ions, and mechanical forces modulate ENaC gating. He is studying how ENaC modification by glycans and palmitate affect channel trafficking and activity. His group has identified novel functional human ENaC variants and are assessing how these variants affect blood pressure in rodent models and humans. Studies are also directed at examining the regulation of BK channels in renal collecting tubules by WNK kinases and by dietary potassium. Dr. Kleyman serves as the director of the Division’s Pittsburgh Center for Kidney Research, and directs T32 and T35 training grants.

F. Aura Kullmann PhD
Dr. Kullmann’s research focuses on understanding the cellular mechanisms underlying various voiding dysfunctions, finding new targets for treatment of these conditions as well as developing and characterizing animal models for voiding dysfunctions. She utilizes a combination of in vivo and in vitro methodologies, including cystometry, metabolism cages, electrophysiology, single cell imaging, confocal microscopy, and immunohistochemistry, to investigate how different components of the urinary bladder, the urothelium, smooth muscle, and neurons are affected by pathology. Recent projects are focused on urothelial hyperplasia and regeneration after spinal cord injury in mice and changes in urothelial cell properties in animal models of interstitial cystitis.

Fadi Lakkis MD
The goal of Dr. Lakkis’s research is to understand the fundamental mechanisms of acute and chronic rejection in solid organ transplantation. The principal areas of investigation in his laboratory are the innate mechanisms responsible for initiating and perpetuating the alloimmune response and the role of memory T cells in allograft rejection. Mouse models of skin, heart, kidney, and islet transplantation are employed to address these areas of investigation. Intravital multiphoton microscopy is used to investigate the mechanisms of monocyte and memory T cell migration to the transplanted mouse kidney. Dr. Lakkis’s lab is also part of a human immunology group investigating innate and adaptive immune function in kidney transplant recipients.

Kelly Liang MD
Dr. Liang’s research focuses primarily on various aspects of lupus nephritis, acute kidney injury (AKI), and cardiorenal failure. She is investigating whether AKI biomarkers will be detectable in the kidneys and elevated in the blood of patients with biopsy-proven lupus nephritis (LN) during the time of an LN flare. She has performed a retrospective study using the Acute Renal Failure Trial Network (ATN) Study database assessing whether urea reduction ratio (URR) can be used as a simpler method of determining adequacy of intermittent hemodialysis in the critical care setting. She performed a pilot trial investigating whether a protocolized diuretic treatment strategy results in improved clinical decongestion, clinical outcomes, and health-related quality of life (HRQOL) in patients with cardiorenal failure.
Rajil Mehta MD FASN
Dr. Mehta’s research interests include clinical and translational aspects of subclinical organ rejection. He is interested in following long-term outcomes in patients with subclinical rejection—and in exploring alternative pathways that may be playing a contributory role in subclinical rejection, including the role of Th17 cells and the IL17 pathway.

Nicolas Montalbetti PhD
Dr. Montalbetti is examining the role of the umbrella cell layer in health and disease states. The interior of the bladder is covered by the urothelium, a stratified epithelium. Umbrella cells, the outer most cell layer in the urothelium, form an impermeable barrier that prevents the diffusion of urine constituents into the bladder interstitium. The goals of this project are to understand how umbrella cells maintain an impermeable barrier as bladders fill and deflate, and to understand how changes in urothelial permeability lead to disease states.

Thomas Nolin PharmD PhD
Dr. Nolin’s interests include optimizing drug therapy and developing novel therapeutic interventions in nephrology.

Paul Palevsky MD
Dr. Palevsky is Co-Chair of VA PRESERVE study (Prevention of Serious Adverse Events Following Angiography), a multicenter randomized controlled trial that enrolled nearly 5,200 patients. The goal is to evaluate strategies to prevent adverse renal outcomes following radiocontrast administration. The trial being conducted at 33 VA study sites in the United States as well as at international sites. A biorepository for analysis of potential biomarkers of kidney injury in nearly 1,000 patients has been created with funding from the NIDDK. Dr. Palevsky is also leading a U.S. consortium that wants to participate in the multinational Standard versus Accelerated initiation of Renal Replacement Therapy in Acute Kidney Injury (STARRT-AKI) trial. He is participating in the PreCISE AKI study, which will be obtaining kidney biopsies from patients with early acute kidney injury as part of the NIDDKs Kidney Precision Medicine Project (KPMP) consortium. Other areas of research include progression of CKD, management of symptoms in patients with CKD and ESRD, and implementation of quality improvement in CKD and ESRD.

Christopher Passero MD
Dr. Passero is a Clinical Assistant Professor of Medicine in the Renal-Electrolyte Division at the University of Pittsburgh. Clinical interests include caring for patients with chronic kidney disease, kidney disease in the setting of malignancy, and dialysis. He has had research interests involving the post-translational modification of the epithelial sodium channel (ENaC), especially the proteolytic processing of ENaC by the protease plasmin and its potential role in proteinuric kidney disease and edematous states.

Beth Piraino MD
Dr. Piraino’s research interests center on improving outcomes in patients with CKD.

Chethan Puttarajappa MD
Dr. Puttarajappa’s research interests include pre-transplant assessment of kidney transplant candidates, particularly in the area of cardiovascular risk and functional status assessment. His other areas of interest are Cytomegalovirus (CMV) infections in kidney transplant recipients and a cost-effectiveness analysis in transplantation.

Mohan Ramkumar MD
Dr. Ramkumar served as the site Principal Investigator at the Pittsburgh VA while serving as a coinvestigator on Dr. Myaskovsky’s Merit Review Tracking Kidney Donors’ Health, QoL and Financial Outcomes Post Donation.

Evan Ray MD PhD
Dr. Ray is examining factors that regulate renal sodium excretion, with a special focus on the epithelial sodium channel (ENaC). Using a combination of electrophysiology, animal modeling, and human clinical data, he is exploring the roles played by ENaC in regulating sodium excretion and blood pressure in healthy and diseased kidneys. He is examining whether genetic polymorphisms in the genes encoding ENaC alter blood pressure. He is exploring the role of proteolytic activation of ENaC in vivo in normal physiology and in disease states, such as nephrotic syndrome. As
ENaC is also expressed in the lung, colon, tongue, blood vessels and brain, Dr. Ray is also examining what physiologic roles ENaC plays in sodium transport in these organ systems.

**Helbert Rondon-Berrios MD FACP FASN**
Dr. Rondon-Berrios continued working towards improving nephrology medical education among medical students, internal medicine residents, and renal fellows. This included curriculum development using a flipped classroom approach that focuses on the integration of fluid and electrolyte physiology into clinical practice. Dr. Rondon-Berrios also has an interest in new cost-effective treatments for hyponatremia, including the use of urea. In addition, he is interested in glomerular disorders and is the site principal investigator for the CureGN, a multicenter five-year cohort study of nephrotic syndrome patients funded by the NIDDK.

**David Rothstein MD**
Dr. Rothstein's laboratory studies immunoregulation and tolerance in allograft and autoimmune models. His lab has used reagents that and promote tolerance by targeting specific molecules. By studying their basic mechanism(s) of action, he is able to identify new immunoregulatory pathways.

**Ankita Roy PhD**
Dr. Roy is examining molecular mechanisms by which aldosterone regulates the thiazide-sensitive NaCl cotransporter (NCC) via the WNK-SPAK/OSR1 pathway. She is also investigating how other physiologically relevant hormones such as insulin, vasopressin and angiotensin II activate NCC by recruiting specific WNK kinases, and how the cooperative E3 ligase DCNL4 regulates WNK kinase stability via the KLHL3/Cul3 complex.

**Jane Schell MD**
Dr. Schell’s research centers on physician communication skills training. She has developed and measured outcomes for a communication curriculum for nephrology fellows on palliative care topics.

**Nirav Shah MD**
Dr. Shah is collaborating on several topics in clinical transplantation, including immunosuppression, immune monitoring, and the management of medical complications of kidney transplantation. He is a co-investigator of an NIH study examining the effects of drug metabolism, based on Vitamin D levels, in CKD patients.

**Shaohu Sheng MD**
Dr. Sheng’s research focuses on the structure-function relationship and regulation of epithelial sodium channels. He and his colleagues continued to investigate the functional roles of individual subdomains within the extracellular regions of the sodium channels. His group also continued a study to characterize the genetic variants of human epithelial sodium channel genes and to examine the roles of specific variants in blood pressure regulation using knock-in mouse models.

**Shujie Shi PhD**
Mechanically gated ion channels play essential roles in transforming mechanical forces into cellular signals, a biological process referred to as mechanosensation. The focus of Dr. Shi’s research is to explore mechanisms by which ion channels of the epithelial sodium channel (ENaC)/degenerin family are regulated by mechanical forces. She uses the two expression systems, Xenopus oocytes and *C. elegans* worms, to perform systematic structure-function studies, and then translates her findings into a whole animal setting. She discovered that the *C. elegans* degenerin channel was activated by shear stress and the two pore-forming subunits, MEC-4 and MEC-10, had distinct roles in this response. She is currently working on identifying key domain or sites within the degenerin channel required for the channel’s activation by shear stress. She is also studying how accessory proteins, such as MEC-6 and its mammalian homology PON-2, regulate the channel activity and gating.
Puneet Sood MD
Dr. Sood’s clinical research interests include living donor transplantation, strategies for transplanting highly sensitized patients, including local or national donor exchange programs, strategies for living donor desensitization, and wait list desensitization. He is interested in transplant outcomes in highly sensitized patients, mechanism and treatment of antibody mediated rejection and HLA matching. He has been involved in the planning, conduct, and data analysis of multiple studies as well as publication of the study results. Dr. Sood is also the center PI for two industry-sponsored multicentric translational studies. He also collaborates with the School of Pharmacy to study drug disposition after kidney transplantation and in living donors.

Sean Stocker PhD
Dr. Stocker’s laboratory investigates how the central nervous system contributes to cardiovascular disease, including obesity-induced and salt-sensitive hypertension. The lab employs a variety of approaches, including in vivo cardiovascular monitoring, in vivo and in vitro electrophysiology, functional neuroanatomy, and translational studies in humans (microneurography, blood flow). A major goal of Dr. Stocker’s laboratory is to identify the cellular mechanisms that permit specialized “sodium-sensing neurons” or osmoreceptors in the brain to sense changes in sodium concentration and how it causes salt-sensitive hypertension. Additionally, he is evaluating the impact of dietary salt intake on sympathetic reflexes and blood pressure variability in normotensive humans—and, through the use of salt-resistant rodents, attempting to identify the novel mechanisms underlying these adverse neurogenic effects of dietary salt.

Arohan Subramanya MD
The goal of Dr. Subramanya’s research is to define and understand new molecular pathways that coordinate sodium, chloride, and potassium transport in the kidney and other organs. His work has provided insights into the pathogenesis of renal salt wasting nephropathies, and has identified novel mechanisms involved in the regulation of cell volume, blood pressure, and potassium balance.

Roderick Tan MD PhD
Dr. Tan is interested in unraveling the molecular mechanisms underlying the development of acute kidney injury and chronic kidney disease and fibrosis utilizing both in vivo and in vitro approaches. In particular, he is assessing novel ways in which the glomerular and tubular compartment cross-talk in disease, and how the Nrf2/Keap1 pathway can be leveraged to prevent CKD. He is also studying how the Wnt/beta-catenin pathway and matrix metalloproteinases affect renal injury.

Steven Truschel PhD
Age-related changes in cellular function can lead to various human pathologies, including cancer, diabetes, and neurodegenerative diseases. A common biomarker of aging cells is a change in the function of lysosomes, which are intracellular organelles responsible for the degradation and recycling of waste material from cellular metabolism and from normal organelle turnover. Impaired lysosomal function can lead to the accumulation of waste products within cells, a progressive loss of lysosomal activity, and ultimately cell death. Dr. Truschel is interested in understanding how aging affects the lysosomal network within the cells lining the inner surface of the urinary bladder and how these changes affect bladder function.

Steven Weisbord MD MSc
Dr. Weisbord’s main research interests include the processes of care related to acute kidney injury and quality of life and symptom burden in maintenance hemodialysis patients. He is the Principal Investigator and study Chairman of the ‘PRESERVE’ study, which is investigating interventions to prevent serious adverse outcomes related to contrast-induced acute kidney injury. The PRESERVE is a multicenter, randomized clinical trial study sponsored by a VA Cooperative Studies Program. Dr. Weisbord is a Principal Investigator of an NIH-funded study establishing a biorepository of blood and urine samples collected from PRESERVE trial participants. He was also the Principal Investigator of the SMILE study, a multicenter clinical trial that compared two strategies for the management of symptoms in patients receiving chronic hemodialysis.
Ora Weisz PhD
Research in the Weisz lab focuses broadly on understanding how membrane traffic in proximal tubule cells responds to physiologic cues to maintain kidney function. Her team is unraveling the mechanisms by which newly synthesized proteins are sorted and delivered to the appropriate plasma membrane domains of differentiated kidney cells. Additionally, she has been generating new in vitro and ex vivo systems, including disease models, to try to unravel how proximal tubule cells in the kidney alter their endocytic and ion transport capacity in response to changes in tubular flow and the accompanying fluid shear stress. Her studies have direct implications for the understanding and treatment of genetic and other disorders that result in tubular proteinuria and eventually lead to kidney failure, including Lowe syndrome and sickle cell disease.

Christine Wu MD
Dr. Wu's clinical and research interests lie in the selection of kidney transplant recipients and wait-list management, kidney transplantation in the elderly, and the impact of co-morbidity on transplant outcomes.

Irina Zabbarova PhD
Dr. Zabbarova's research interests focus on the mechanisms for the development of bladder dysfunction, especially those one caused by spinal cord injury (SCI) and pelvic organ irradiation (radiation cystitis). She also examines potential therapeutic options.
Faculty Research and Other Scholarly Activities

Mohammad Al-Bataineh DVM MS PhD
- Lecturer, Center for Critical Care Nephrology (CCCN) Bimonthly AKI Meeting, University of Pittsburgh, 2016

Gerard Apodaca PhD
- Editorial Board Member, Traffic, 2004-present
- Appointment, Academy of Master Educators (AME), University of Pittsburgh School of Medicine, 2006-present
- Editorial Board, American Journal of Physiology (Renal Physiology), 2007-present
- Editorial Board, American Journal of Physiology (Cell Physiology), 2009-present
- Member, Membrane Biology and Protein Processing Study Section, National Institutes of Health, 2012-2017
- Specialty Editor, Frontiers in Cell and Developmental Biology (Membrane Traffic), 2013-present

Catherine Baty DVM PhD
- Member, American College of Internal Medicine, Small Animal Internal Medicine, 1995-present
- Huygens Expert training on Deconvolution, September 22-23, 2016

Filitsa Bender MD FACP
- Member, National Kidney Foundation, 1990-present
- Member, American Society of Nephrology, 1992-present
- Member, International Society of Nephrology, 1993-present
- Member, International Society of Peritoneal Dialysis, 1998-present
- Fellow, American College of Physicians, 1998-present
- Core faculty, Interprofessional Healthcare Teams Course, 2007-present
- Member, National PD Continuous Quality Improvement Committee, Dialysis Clinic, Inc., 2007-present
- Member, Pharmacy and Therapeutics Hospital Committee, UPMC Presbyterian, 2011-present
- Chair, National PD Continuous Quality Improvement Committee, Dialysis Clinic, Inc., 2013-present
- Best Doctors, Pittsburgh Magazine, 2017

José Bernardo MD MPH FASN
- Member, Peruvian Society of Nephrology, 1990-present
- Member, American College of Physicians, 1995-present
- Member, American Society of Nephrology, 1995-present
- Member, American Society of Transplantation, 2005-present
- Best Doctors in America, Castle Connolly Medical Ltd., 2011-2017
- Best Doctors, Pittsburgh Magazine, 2012-2017
- Member, Multicultural Task Force, National Kidney Foundation, Pittsburgh, PA, 2014-present
- Physician and Medical Staff Honor Roll, FY2016 Excellence in Patient Experience, UPMC, 2015-2016
- Invited Speaker, The Connection Between Dietary Phosphorus, Cardiovascular Disease and Mortality: Rationale and Approaches to Reduce Phosphorus Levels, Peruvian American Endowment, Universidad Peruana Cayetano Heredia, Annual Meeting, Baptist Health South Florida, Miami, Oct. 29, 2016
Renal-Electrolyte FY 2016-2017

- Reviewer, CME/CE activity, Chronic Kidney Disease-Mineral Bone Disorder: Implications for Cardiac Outcomes, National Kidney Foundation, 2016-2017

Lori A. Birder PhD
- Member, Society for Neuroscience, 1998-present
- Member, American Physiological Society, 1998-present
- Member, American Society for Pharmacology and Experimental Therapeutics, 1998-present
- Member, Society for Urodynamics and Female Urology, 2002-present
- Member, International Continence Society, 2002-present
- Associate Editor, Neurology and Urodynamics, 2003-present
- Member, UCLA Center for Neurovisceral Sciences and Women’s Health, 2007-present
- Editorial Advisory Board, Lower Urinary Tract Symptoms, 2008-present
- IASP: International Association for the Study of Pain, 2010-present
- ESSIC: International Society for the Study of Bladder Pain Syndrome, 2012-present
- Co-Editor in Chief, Bladder, 2014-present
- Editorial Board, Autonomic Neuroscience: Basic and Clinical, 2014-present
- INUS: International Neuro-Urology Society, 2016-present
- Chair, Neural Control Committee 6th International Consultation on Incontinence, 2016
- Committee Member, National Urology Association (AUA) Research Council, 2016
- Committee Member, National Urology Research Agenda Committee (NURA) 2017
- Appointed Member, AUA Research Grants and Investigator Support Committee, 2017-2019
- Co-Chair, Basic Science Committee International Continence Society, 2018

Cary Boyd-Shiwarski MD PhD
- Member, American Society of Nephrologists, 2004-present
- Member, American Physiological Society, 2004-present
- Recipient, Fellowship Teaching Award, UPMC Renal Electrolyte Division, 2016
- Awarded, American Society of Nephrology Ben J. Lipps Research Fellowship Grant, 2016 (declined due to T32 funding)
- Appointee, Ruth L. Kirschstein NRSA NIH 4T32DK061296-14, Renal and Epithelial Biology Training Program, 2016-2018
- Ad Hoc Reviewer, American Journal of Physiology Renal, 2016
- Recipient, Meritorious Research Award, American Physiological Society Epithelial Transport Group, 2017

Marcelo Carattino PhD
- Member, American Physiological Society, 2004-present
- Editorial Board Member, American Journal of Physiology-Renal Physiology, 2007-present
- Member, American Society of Nephrology, 2008-present
- Member, The Biophysical Society, 2010-present
- Member, Society for Neuroscience, 2016-present
- Referee, Journal of Clinical Investigation, 2016
- Referee, Frontiers in Physiology, 2016-17
- Referee, American Journal of Physiology-Renal Physiology, 2016-17
- Referee, Biochemistry, 2017
- Referee, Physiological Reports, 2017
- Referee, Proceedings of the National Academy of Sciences, 2017

Geetha Chalasani MD
- Member, American Society of Nephrology, 2000-present
- Member, American Society of Transplantation, 2000-present
- Member, National Kidney Foundation, 2000-present
- Abstract Reviewer and Co-chair, major symposia and concurrent scientific sessions for American Society of Transplantation for ATC, 2007-2016
- Member, American Association of Immunology, 2007-present
- AST Grants Committee and TIRN Grants Reviewer, 2014-2016
- Member, The Federation of Clinical Immunology Societies, 2014-present
- Mentored Trainee Award, ASN Postdoctoral Research Fellowship (William Hoffman), 2016-2018

Ranil DeSilva MD
- Member, American Society of Nephrology, 2010-present
- Member, Renal Physician Association, 2011-present

Linda F. Fried MD MPH
- Member, American Society of Nephrology, 1995-present
- Member, National Kidney Foundation, 1996-present
- Member, Women in Nephrology, 2005-present
- Member, National Kidney Foundation CME Committee, 2011-March 2017
- Associate Editor, Clinical Journal of the American Society of Nephrology, 2011-2016
- Member, American Society of Nephrology Research Advocacy Committee, 2011-2016
- Member, NIDDK: External Expert Panel for the Chronic Renal Insufficiency Cohort (CRIC) Study, Phase III, 2012-present
- Committee Member, FDA Cardiovascular and Renal Drug Advisory Committee, 2013-2016
- Chair, Data Safety and Monitoring Board for the NIDDK: Data Monitoring Board, Preventing Early Renal Loss in Diabetes (PERL) Study, 2013-present
- Member, American Society of Nephrology Grant Review Committee, 2015-present
- Member, American Society of Nephrology Postgraduate Education Committee, 2015-present
- Saul G. Massry Distinguished Lectureship, National Kidney Foundation, 2016
Laurence Friedman MD
- Member, American College of Physicians, 1997-present
- Member, Healthcare Payment Committee, Renal Physicians Association, 2006-present
- Member, American Health Information Management Association, 2007-present
- Member, Admissions Interviewing Committee, University of Pittsburgh School of Medicine, 2010-present
- Member, Admissions Committee, University of Pittsburgh School of Medicine, 2015-present

Sundaram Hariharan MD
- Associate Editor, Clinical Transplantation, 2014-present
- Associate Editor, Transplantation, 2015-present

William Hoffman MD
- Member, American Society of Nephrology, 2013-present
- Recipient, Ben J. Lipps Research Fellowship, American Society of Nephrology, 2016-2018
- Member, American Society of Transplantation, 2016-present

Rebecca P. Hughey PhD
- Member, American Society for Cell Biology, 1983-present
- Member, American Society for Biochemistry and Molecular Biology, 1984-present
- Member, University of Pittsburgh Cancer Institute, 1986-present
- Member, American Physiological Society, 2003-present
- Member, The American Society of Nephrology, 2005-present
- Editorial Board Member, American Journal of Physiology–Renal Physiology, 2005-present
- Member, Consortium for Functional Glycomics, 2006-present
- Member, Admissions Committee, University of Pittsburgh School of Medicine, 2009-present
- Member, Executive Committee, University of Pittsburgh School of Medicine, 2014-2020

Youko Ikeda PhD
- Member, International Continence Society, full member, 2007-present
- Member, American Physiological Society, 2008-present
- Member, International Consultation on Incontinence Research Society, 2013-present
- Member, Society for Neuroscience, 2014-present

Manisha Jhamb MD MPH
- Member, American Society of Nephrology, 2009-present
- Member, National Kidney Foundation, 2010-present
- Member, University of Pittsburgh Renal-Electrolyte Fellowship Interviewing Committee, 2010-present
- Member, University of Pittsburgh Internal Medicine Residency Interviewing Committee, 2012-present
- MRI Research Center Pilot Imaging Grant, 2011-2016
- American Heart Association Fellow-to-Faculty Transition Award, 2011-2016
- Member, Dean’s Admissions Interview Committee, University of Pittsburgh School of Medicine, 2012-present
- Junior Scholars Award, Department of Medicine, University of Pittsburgh School of Medicine, 2014-2016
- Norman Coplon Satellite Healthcare Award, 2015-2017
- Study Section Member, Vascular Biology Blood Pressure, Vascular Endothelial and Cardiorenal Clinical, American Heart Association, October 2016
- Member, Standardized Outcomes in Nephrology (SONG)-HD Fatigue working group, 2016
- Member, Steering Committee, Kidney Health Initiative (KHI) project, Prioritizing Symptoms of ESRD Patients for Developing Therapeutic Intervention, 2016
- Pittsburgh Center for Kidney Research Pilot Project Award, 2016-2018

James R. Johnston MD
- Member, American Society of Nephrology, 1988-present
- Course Director, Renal Block, second-year medical students, University of Pittsburgh School of Medicine, 1998-present
- Member, National Kidney Foundation, 1999-present
- Block Coordinator, Body Fluid Homeostasis Course, second-year medical students, University of Pittsburgh School of Medicine, 1999-present
- Block Coordinator, Organ Systems Courses, University of Pittsburgh School of Medicine, 2004-present
- America’s Top Doctors®, 2005-2017
- Chairman, Membership Committee for the University of Pittsburgh School of Medicine Academy of Master Educators, 2005-present
- Member, Steering Committee for the University of Pittsburgh School of Medicine Academy of Master Educators, 2005-present
- Director, University of Pittsburgh School of Medicine Academy of Master Educators, 2007-2017
- Member, Academy of Master Educators Committee on Teaching Residents to Teach, 2007-present
- Member, UPMC Patient Safety Committee, 2007-present
- Member, Program Director Development Subcommittee, Graduate Medical Education Committee, 2007-present
- Member, Medicine Test Committee, National Board of Medical Examiners. 2009-present
- Reviewer, Clinical Journal of American Society of Nephrology, 2011-present
- Member and question author, American Society of Nephrology In-service Training Examination Committee, 2012-present
- Co-Course Director (1 of 12), Update in Internal Medicine, University of Pittsburgh School of Medicine, 2014-present
- Excellence in Education Award, Course Director, 2016
- Co-Chair, American Society of Nephrology In-Service Training Examination Clinic, 2016-present
- Physician and Medical Staff Honor Roll, UPMC FY 2016 Excellence in Patient Experience, 2015-2016

Hoda Kaldas MD
- Member, American Society of Nephrology, 2004-present
- Member, National Kidney Foundation, 2012-present
- Member, Internal Medicine Residency Interviewing Committee, University of Pittsburgh School of Medicine, 2012-present
- Member, Internal Medicine Residency Interviewing Committee (International Scholars Track), University of Pittsburgh School of Medicine, 2012-present
- Member, Internal Medicine Residency: High Value Care Committee, University of Pittsburgh School of Medicine, 2013-present
- Member, Nephrology Fellowship: Competency Committee, University of Pittsburgh School of Medicine, 2014-present
• Developer, Telemedicine Outreach Clinics, 2016-present

Nitin Kamat MD
• Member, American Society of Nephrology, 2006-present

Anthony Kanai PhD
• Member, American Physiological Society, 1998-present
• Member, Society for Neuroscience, 1998-present
• Member, American Society for Pharmacology and Experimental Therapeutics, 1998-present
• Member, International Continence Society, 2002-present
• Faculty, Molecular Pharmacology Graduate Training Program, 2006-present
• Member, International Society for the Study of Interstitial Cystitis, 2006-present
• Member, Society for Basic Urological Research, 2006-present
• Member, Society for Urodynamics and Female Urology, 2006-present
• Committee Member, Department of Pharmacology Graduate Curriculum Committee, 2006-present
• Editorial Board Member, Frontiers in Autonomic Neuroscience, 2008-present
• Editorial Board Member, Neurourology & Urodynamics, 2008-present
• Member, International Consultation on Incontinence—Research Society, 2009-present
• Editorial Board Member, Investigative Urology Committee, Journal of Urology, 2011-2017
• Study Section Member, DOD 2016 Spinal Cord Injury Research Program, INT-SC, 2016
• Member, International Consultation on Incontinence Cell Biology Committee, Urinary Incontinence Textbook, 4th, 5th and 6th Editions, 2009, 2012 and 2017

Ossama Kashlan PhD
• Member, American Association for the Advancement of Science, 2011-present
• Member, Biophysical Society, 2012-present
• Member, American Heart Association, 2013-present
• Member, American Society for Biochemistry and Molecular Biology, 2014-present

Thomas R. Kleyman MD
• Member, Society of General Physiologists, 1988-present
• Member, American Society of Nephrology, 1992-present
• Member, American Physiological Society, 1992-present
• Member, American Heart Association, 1995-present
• Member, American Society for Clinical Investigation, 1996-present
• Member, Association of Subspecialty Professors, 2000-present
• Member, American Society for Biochemistry and Molecular Biology, 2001-present
• Member, Biophysical Society, 2002-present
• Member, Association of American Physicians, 2004-present
• Member, National Kidney Foundation, 2006-present
• Deputy Editor-in-Chief, Physiological Reports, 2012-2017
• Member, Scientific Advisory Board, Telluride Science Research Center, 2013-present
• Chair, NIDDK, Special Emphasis Panel Study Section KDUS-J(03), 2016
• External Reviewer, Dutch Kidney Foundation, French National Research Agency, 2016-2017
• Member, ESRD Scientific Advisory Group, Milken Institute, 2016-2017
• Co-Chair, Bayer Discovery Grant Review Committee, American Heart Association, 2017
• Member, Established Investigatorship Award Review Committee, American Heart Association, 2017
• Selection as Incoming Editor-in-Chief, Physiological Reports, starting in 2018

F. Aura Kullmann PhD
• Member, Society for Neuroscience, 1998-present
• Member, American Urology Association, 2010-2016
• Member, International Continence Society, 2014-present
• Editorial board member, Neurourology and Urodynamics, 2014-present

Heather LaGuardia MD
• Member, American College of Physicians, 2007-present
• Member, American Medical Association 2007-present
• Member, National Kidney Foundation, 2010-present
• Member, American Society of Nephrology, 2010-present
• Member, American Transplant Society, 2012-present

Kelly Liang MD
• Member, American College of Physicians-American Society of Internal Medicine, 1998-present
• Member, American Medical Association, 1998-present
• Member, National Kidney Foundation, 2005-present
• Presenter, National Kidney Foundation (NKF), 2016-2017
• Presenter, University of Pittsburgh Department of Medicine Annual Research Day, 2016, 2017

Rajil Mehta MD
• Member, American Society of Nephrology, 2004-present
• Member, American Society of Transplantation (AST), 2013-present
• Member, Starzl Transplant Institute (STI) Outpatient Quality Improvement (QI) Program, 2015-present
• Co-Director, Starzl Transplant Institute (STI) Abdominal Transplant Quality Assessment and Improvement (QAPI) committee, 2015-2016

Nicolas Montalbetti PhD
• Member, Argentinean Biophysical Society, 2007-present
• Referee, Regulatory Toxicology and Pharmacology, 2013-present
• Referee, Biochemical Pharmacology, 2015-present
• Member, American Physiological Society, 2015-present
• Referee, Bioscience Reports, 2016
• Referee, International Journal of Developmental Neuroscience, 2016
• Referee, Clinical Science, 2016
• Member, Society for Neuroscience, 2016-present
• Member, Salt and Water Club, 2016-present
Paul Palevsky MD
- Fellow, American College of Physicians, 1986-present
- Member, International Society of Nephrology, 1986-present
- Fellow, American Society of Nephrology, 1988-present
- Member, American Heart Association Council on the Kidney in Cardiovascular Disease, 1989-present
- Fellow, National Kidney Foundation, 1990-present
- Member, Renal Physicians Association, 1993-present
- Member, American Federation for Medical Research, 1994-present
- Fellow, American College of Chest Physicians, 1996-present
- Member, Allegheny County Medical Society, 2001-present
- Member, American Medical Association, 2001-present
- Member, Pennsylvania Medical Society, 2001-present
- Editorial Board Member, Journal of Intensive Care Medicine, Nephrology, 2003-present
- Member, Quality, Safety and Accountability Committee, Renal Physicians Association, 2003-present
- Section Editor, *UpToDate, Acute Renal Failure*, 2005-present
- Editorial Board Member, Blood Purification, 2008-present
- Member, Dialysis Steering Committee, United States Department of Veterans Affairs, 2010-present
- Deputy Editor, Clinical Journal of the American Society of Nephrology, 2011-2016
- Member, Renal Field Advisory Committee, United States Department of Veterans Affairs, 2011-present
- Member, NIDDK Observational Study Monitoring Board for the Chronic Renal Insufficiency Cohort (CRIC) Study, 2012-present (acting chair, 2016)
- Consultant, FDA Gastroenterology and Urology Devices Panel, Medical Devices Advisory Committee, Centers for Devices and Radiological Health, 2013-present
- Member, Medical Review Board, Quality Insights Renal Network 4, 2013-present
- Member, National Kidney Foundation Scientific Advisory Board, 2013-present
- Member, Water Safety Committee, United States Department of Veterans Affairs, 2014-present
- Chair, NIDDK Novel Interventions Hemodialysis Patients Cooperative Agreement Protocol Review Committee and Data Safety Monitoring Board, 2014-present
- Chair, Board of Directors, Quality Insights Renal Network 4, 2016-present (Vice-Chair, 2013-2016)
- Co-chair, Kidney Care Quality Alliance (KCQA) Steering Committee, 2016-present
- Deputy Editor, Journal of the American Society of Nephrology, 2018-

Christopher Passero MD
- Member, American Society of Nephrology, 2005-present
- Member, American Heart Association, 2009-present
- Member, American College of Physicians, 2009-present

Beth M. Piraino MD
- Member, Alpha Omega Alpha, 1976-present
- Member, American Society of Nephrology, 1982-present
- Member, National Kidney Foundation, 1984-present
- Member, International Society for Peritoneal Dialysis, 1984-present
- Member, International Society of Nephrology, 1986-present
- Editorial Board Member, Peritoneal Dialysis International, 1993-present
• Member, Women in Nephrology, 1999-present
• Best Doctors, Pittsburgh Magazine, 2012-2017
• Fellow, American College of Physicians, 2012-present
• Board Member, National Kidney Foundation Serving the Alleghenies, 2014-present
• Editorial Board Member, CJASN, 2017-present
• Recipient of the Raymond M. Rault, MD, Faculty Teaching Award, 2017
• Co-Chair, Kidney Gala, 2017

Chethan Puttarajappa MD
• Member, American Society of Nephrology, 2010-present
• Member, American Society of Transplantation (AST), 2013-present
• Member, Starzl Transplant Institute (STI) Protocol Review Committee/Data Safety Monitoring Board (PRC/DSMB), 2013-present
• Invited reviewer, Clinical Transplantation, 2014-present
• Invited reviewer, Transplantation, 2015-present

Mohan Ramkumar MD
• Member, American Society of Nephrology, 2000-present
• Member, American Society of Transplantation, 2003-present
• Member, VA National Transplant Surgery Advisory Board, 2012-present
• Member, National VA Dialysis Steering Committee, 2013-present
• Member, UPSOM Admissions Committee, 2014-present

Evan Ray MD PhD
• Member, American Society of Nephrologists, 2013-present
• Member, American Heart Association, 2013-present
• Member, National Kidney Foundation, 2013-present
• 1st Place, Basic Sciences Research, NKF Mid-Atlantic Young Investigators Forum, Baltimore, MD, 2016
• 2nd Place, Basic Sciences Research, NKF National Young Investigators Forum, Boston, MA, 2016
• Winner, Post-Doctoral Bench Research, Department of Medicine Research Day, University of Pittsburgh School of Medicine, 2016
• Fellow, American Society of Nephrologists, 2016
• Member, American Physiological Society, 2017-present

Helbert Rondon-Berrios MD FACP FASN
• Fellow, American College of Physicians, 2002-present
• Fellow, American Society of Nephrology, 2005-present

Ankita Roy PhD
• Associate Faculty Member, Faculty of 1000, Nephrology, 2012-present
• Member, American Society of Physiology, 2012-present
• Member, American Heart Association, 2012-present
Ramyasahasranamam MD
- Member, American College of Physicians, 2007-present
- Member, American Society of Nephrology, 2010-present
- Member, National Kidney Foundation, 2010-present

Jane Schell MD
- Recipient, William and Sandra Bennett Clinical Scholars Program, 2014-2016
- Member, Education Committee for the National Kidney Foundation, Palliative care and Geriatrics, 2015-2017
- Ambassador, Supportive Care Online Community, American Society of Nephrology, 2016-present
- Editorial Board, American Journal of Kidney Disease, 2016-present
- President, Kidney Special Interest Group, American Academy of Hospice and Palliative Medicine, 2017-present

Nirav Shah MD
- Member, American Society of Transplantation, 2005-present
- Member, Renal Physician Association, 2005-present
- Member, American Society of Nephrology, 2005-present
- Best Doctors, Pittsburgh Magazine, 2015-2017

Shaohu Sheng MD
- Editorial Board Member, American Journal of Physiology-Renal Physiology, 2007-present
- Editorial Board Member, Frontiers in Renal and Epithelial Physiology, 2012-present

Shujie Shi PhD
- Member, American Physiological Society (APS), 2016-present

Puneet Sood MD
- Member, American Society of Nephrology, 2007-present
- Member, American Society of Transplantation (AST), 2009-present
- Member, Member Starzl Transplant Institute (STI) Abdominal Transplant Quality Assessment and Improvement (QAPI) committee, 2013-present
- Member, Member Starzl Transplant Institute (STI) Protocol Review Committee/Data Safety Monitoring Board (PRC/DSMB), 2013-present
- Ad Hoc Reviewer, Transplantation, 2014-present
- Ad Hoc Reviewer, Clinical Transplantation, 2014-present

Sean Stocker PhD
- Member, American Physiological Society, 1998-present
- Member, American Heart Association Hypertension Council, 2002-present
- Editorial Board, Hypertension, 2010-present
- NIH Special Emphasis Panel – Neuroscience AREA R15 Grants, 2012-present
- Section Editor, Current Hypertension Reports, 2013-2016
- Editorial Board, Physiological Reports, 2013-present
- Editorial Board, American Journal of Physiology Regulatory Integrative and Comparative Physiology, 2014-present
- Associate Editor, Journal of Neurophysiology, 2014-present
- Chair, Vascular Biology/Blood Pressure Integration Study Section, American Heart Association, 2015-present
- Committee Member, Mentored Transition to Independence Review Committee, NIH NHLBI, 2015-present
- Committee Member, Strategically Focused Network Hypertension Oversight Committee, American Heart Association, 2015-present
- American Physiological Society Henry Pickering Bowditch Award/Lecture, 2016
- Board of Directors, American Heart Association - Great Rivers Affiliate, 2016-present
- Committee Member, Science Engagement Committee, American Heart Association - Great Rivers Affiliate, 2017-present
- Committee Member, Research Funding Committee, American Heart Association, 2016-present
- Committee Member, Hypertension Council Leadership Committee, American Heart Association, 2016-present
- Director of Research, University of Pittsburgh Hypertension Center, University of Pittsburgh School of Medicine, 2016-present
- Organizer, Hypertension Retreat, Department of Medicine, University of Pittsburgh School of Medicine, 2017
- Chair, American Physiological Society Awards Committee, 2017-present
- President-Elect, American Heart Association - Great Rivers Affiliate, 2017-present
- Member, DLAR Operations Committee, University of Pittsburgh, 2017-present

Arohan Subramanya MD
- Member, American Society of Nephrology, 2002-present
- Member, American Physiological Society, 2006-present
- Member, American Heart Association, 2006-present
- Member, National Kidney Foundation, 2006-present
- Member, The Salt and Water Club, 2006-present
- Member, American Society for Cell Biology, 2010-present
- Editorial Board Member, American Journal of Physiology-Renal Physiology, 2010-present
- Editorial Board Member, Frontiers in Renal and Epithelial Physiology, 2010-present
- Member, Epithelial Transport Group Steering Committee, American Physiological Society, 2014-2018
- Member, KCVD Membership and Communications Committee, American Heart Association 2014-present
- Member-at-Large, KCVD Leadership Committee, American Heart Association, 2014-present
- Section Editor, Molecular Cell Biology and Physiology of Solute Transport Section, Current Opinion in Nephrology and Hypertension, 2017
- Co-Chair, Epithelial Transport Group Steering Committee, American Physiological Society, 2018-2020

Roderick Tan MD PhD
- Member, American Society of Nephrology, 2011-present
- Member, National Kidney Foundation, 2011-present
- Ad hoc reviewer, PLoS One, 2013-present
- Interviewer, Medical School Admissions, University of Pittsburgh School of Medicine, 2013-present
• Ad hoc reviewer, American Journal of Physiology-Renal Physiology, 2014-present
• Editorial Board, Physiological Reports, 2015-present
• Ad hoc reviewer, Oxidative Medicine and Cellular Longevity, 2016-present
• Invited Speaker, CKDinform: A PCP's Guide to CKD Detection and Delaying Progression, Conemaugh Hospital Grand Rounds, Johnstown, PA, 2016
• Invited Speaker, Protective Effects of the Nrf2 Pathway in Acute Kidney Injury, Transplantation Grand Rounds, University of Pittsburgh, 2016.
• Chair, Basic Science Abstracts, Department of Medicine Research Day, University of Pittsburgh, 2017
• Invited Speaker, The Keap1/Nrf2 Pathway in AKI-to-CKD Progression, University of Pittsburgh Renal-Electrolyte Division Alumni Reception, 2017

Steven D. Weisbord MD MSc
• Member, American Society of Nephrology, 2005-present
• Member, National Kidney Foundation, 2011-present
• Editorial Board Member, Clinical Journal of the American Society of Nephrology, 2011-present
• Member, International Society of Nephrology, 2013-present
• Associate Editor, BMC Nephrology, 2014-present
• Invited Reviewer, Contrast-Associated Acute Kidney Injury-American Society of Nephrology and John M. Eisenberg Center for Clinical Decisions and Communications Science Center for Collaborative and Interactive Technologies (CCIT), Baylor College of Medicine, 2016

Ora A. Weisz PhD
• Member, American Society for Cell Biology, 1985-present
• Editorial Board Member, American Journal of Physiology- Cell Physiology, 2002-present
• Member, American Physiological Society, 2004-present
• Editorial Board Member, Physiological Reviews, 2009-present
• Member, Academy of Master Educators, 2009-present
• Editorial Board Member, Traffic, 2012-present
• Review Editor, Frontiers in Membrane Traffic, 2013-present
• Board of Scientific Counselors, NIH NHLBI, 2014-present
• Chair, ASCB Kaluza Prize for Excellence in Graduate Research review committee, 2016
• Program Committee, ASCB/EMBO 2017 Annual Meeting, 2016
• Executive Committee, University of Pittsburgh Liver Center, 2016
• Vice Chair, Italian Telethon Foundation Scientific Committee, 2016-2017 (member since 2012)
• Elected to American Society for Cell Biology Council, 2016-2019

Christine Wu MD
• Member, American College of Physicians, 2000-present
• Member, American Society of Nephrology, 2002-present
• Member, American Transplant Society, 2005-present
• Program Director, Transplant Nephrology Fellowship, 2014-present
• Member, Admissions Interview Committee, University of Pittsburgh School of Medicine, 2014-present
Irina Zabbarova PhD
- Member, International Continence Society (ICS), full member, 2007-present
- Member, American Society of Pharmacology and Experimental Therapeutics (ASPET) 2009-present
- Member, International Consultation on Incontinence Research Society (ICI-RS), 2011-present
- Member, Society for Neuroscience, 2014-present
- Presenter, International Continence Society Annual Meeting, 2016
- Translational Junior Faculty Research Award, 15th Annual Research Day, Department of Medicine, University of Pittsburgh School of Medicine, 2017
## GRANTS AND CONTRACTS AWARDED

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<tr>
<th>PUBLIC HEALTH SERVICE</th>
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<td><strong>AL-BATAINEH, MOHAMMAD</strong></td>
<td>ROLE OF MUC1 IN THE B-CATENIN RESPONSE TO ACUTE KIDNEY INJURY</td>
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<td>PITTSBURGH CENTER FOR KIDNEY RESEARCH - CORE C</td>
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<td><strong>APODACA, GERARD</strong></td>
<td>ROLE OF UROPLAKINS IN URINARY TRACT DEVELOPMENT AND CAKUT</td>
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<td>BIOLOGY AND FUNCTION OF THE BLADDER UMBRELLA CELL PARACELLULAR BARRIER</td>
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<td><strong>BATY, CATHERINE J.</strong></td>
<td>REGULATION OF TH17 FUNCTIONS IN AUTOIMMUNE CNS INFLAMMATION</td>
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<td><strong>BIRDER, LORI</strong></td>
<td>PDE5 INHIBITION OF AFFERENTS AND INTERSTITIAL CELLS IN OVERACTIVE MOUSE BLADDERS</td>
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<td><strong>BIRDER, LORI</strong></td>
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<td>MECHANISMS/TREATMENTS OF LOWER URINARY TRACT DYSFUNCTION AFTER SPINAL CORD INJURY - PROJECT 2</td>
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<td><strong>BIRDER, LORI</strong></td>
<td>UNIVERSITY OF PITTSBURGH O'BRIEN COOPERATIVE RESEARCH CENTER PROGRAM-PROJECT 1</td>
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<td><strong>CARATTINO, MARCELO</strong></td>
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<td><strong>CHALASANI, GEETHA</strong></td>
<td>B CELLS IN PATHOGENESIS OF ALLOGRAFT REJECTION</td>
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<td><strong>FRIED, LINDA</strong></td>
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<td><strong>KANAI, ANTHONY</strong></td>
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<tr>
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<td>MATURATION OF K TRANSPORT IN THE DISTAL NEPHRON</td>
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<td>KULLMANN, FLORENTA A.</td>
<td>EFFECT OF ULTRAFILTRATION ON CLINICAL OUTCOMES AND HEALTH-RELATED QUALITY OF LIFE IN CARDIORENA L FAILURE</td>
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<td>PROTEOLYTIC ACTIVATION OF ENAC IN PROTEINURIC KIDNEY DISEASE</td>
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<td>RAY, EVAN</td>
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<td>SUBRAMANYA, AROHAN</td>
<td>DRUG METABOLIZING ENZYME AND TRANSPORTER FUNCTION IN CHRONIC KIDNEY DISEASE</td>
<td>UNIVERSITY OF COLORADO/ NIGMS</td>
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<td>SHI, SHUJIE</td>
<td>REGULATION OF ENAC/DEGENERIN CHANNELS BY MECHANICAL FORCES</td>
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<td>STOCKER, SEAN</td>
<td>ADVERSE NEUROGENIC ACTIONS OF DIETARY SALT</td>
<td>UNIVERSITY OF DELAWARE/ NHLBI</td>
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<td>CENTRAL OSMOSENSORY MECHANISMS IN SALT-SENSITIVE HYPERTENSION</td>
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<td>SUBRAMANYA, AROHAN</td>
<td>THE ROLE OF NA/H EXCHANGER IN CEREBRAL ISCHEMIA</td>
<td>NINDS</td>
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<td>SUBRAMANYA, AROHAN</td>
<td>IMPACT OF SLEEP ON CHRONOBIOLOGY OF MICTURITION</td>
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<td>SUBRAMANYA, AROHAN</td>
<td>CHARACTERIZATION AND CONTROL OF THE RENAL WNK1 SIGNALING PATHWAY</td>
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<td>SUBRAMANYA, AROHAN</td>
<td>EPITHELIAL TRANSPORT GROUP SESSIONS AT EXPERIMENTAL BIOLOGY 2016</td>
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<td>PROJECT DESCRIPTION AND FUNDING AGENCY</td>
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<td>SUBRAMANYA, AROHAN</td>
<td>GENETIC AND FUNCTIONAL ANALYSIS OF HYPERTENSION SUSCEPTIBILITY GENES, UNIVERSITY OF MARYLAND/ NHLBI</td>
<td>$30,029</td>
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<td>SUBRAMANYA, AROHAN</td>
<td>EPITHELIAL TRANSPORT GROUP SESSIONS AT EXPERIMENTAL BIOLOGY 2017, NIDDK</td>
<td>$2,500</td>
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<td>WEISZ, ORA A.</td>
<td>BIOMARKER EFFECTIVENESS ANALYSIS IN CONTRAST NEPHROPATHY (BEACON), NIDDK</td>
<td>$6,813</td>
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<td>WEISZ, ORA A.</td>
<td>INTEGRATED PERFUSION AND CONFOCAL IMAGING SYSTEM, OD</td>
<td>$398,795</td>
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<td>WEISZ, ORA A.</td>
<td>FLOW-STIMULATED ENDOCYTOSIS IN THE PROXIMAL TUBULE, NIDDK</td>
<td>$199,594</td>
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<td>WEISZ, ORA A.</td>
<td>APICAL PROTEIN SORTING IN RENAL EPITHELIAL CELLS, NIDDK</td>
<td>$217,500</td>
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<td>TOTAL PUBLIC HEALTH SERVICE</td>
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<td>BIRDER, LORI</td>
<td>ROLE OF MITOCHONDRIA IN INTERSTITIAL CYSTITIS, INTERSTITIAL CYSTITIS ASSOCIATION</td>
<td>$50,000</td>
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<td>HOFFMAN, WILLIAM</td>
<td>BAFF AND IMMUNOLOGIC MEMORY IN EARLY KIDNEY TRANSPLANT REJECTION, AMERICAN SOCIETY OF NEPHROLOGY</td>
<td>$50,000</td>
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<td>HUGHEY, REBECCA P.</td>
<td>SLIM INITIATIVE IN GENOMIC MEDICINE FOR THE AMERICAS, BROAD INSTITUTE</td>
<td>$122,467</td>
<td>$53,518</td>
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<td>JHAMB, MANISHA</td>
<td>PREDICTION MODELING IN OLDER ADULTS WITH ADVANCED CKD, VANDERBILT UNIVERSITY</td>
<td>$34,956</td>
<td>$5,243</td>
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<td>MCDONNELL, BRONAGH</td>
<td>INFLUENCE OF CHRONIC STRESS ON SENSORY CHANGES IN IC/PBS, UROLOGY CARE FOUNDATION</td>
<td>$40,000</td>
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<td>STOCKER, SEAN</td>
<td>STOCKER AHA MENTOR/MENTEE AWARD, AMERICAN HEART ASSOCIATION-NATIONAL</td>
<td>$11,932</td>
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<td>TAN, RODERICK</td>
<td>OXIDATIVE STRESS IN CHRONIC KIDNEY DISEASE, AMERICAN HEART ASSOCIATION</td>
<td>$115,000</td>
<td>$11,500</td>
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<td>WEISBORD, STEVEN</td>
<td>TREATMENT OPTIONS FOR DEPRESSION IN PATIENTS UNDERGOING HEMODIALYSIS, UNIVERSITY OF WASHINGTON</td>
<td>$4,897</td>
<td>$1,959</td>
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<td>TOTAL SOCIETY AND FOUNDATIONS</td>
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<td>$429,252</td>
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<td>KULLMANN, FLORENTA A.</td>
<td>ARTEMIN: A NOVEL TARGET FOR TREATMENT OF INTERSTITIAL CYSTITIS / BLADDER PAIN SYNDROME, FERRING PHARMACEUTICALS, INC.</td>
<td>$50,000</td>
<td>$12,500</td>
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<td>PALEVSKY, PAUL M.</td>
<td>ADJUDICATION OF RECOVERY FROM ACUTE KIDNEY INJURY, BIOPORTO DIAGNOSTICS</td>
<td>$10,245</td>
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<td>TOTAL INDUSTRY</td>
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</table>
TEACHING

Teaching medical students, graduate students, medical residents, and renal fellows continues to be a strength of the Division. Our faculty are consistently recognized as some the best educators in the School of Medicine, as evidenced by their consistently high scores on teaching evaluations and by the teaching awards that the faculty receive. Our faculty has been active in many educational forums, including:

- Directors of medical school and CME courses
- Invited lectureships nationally and internationally
- Leading and participating in courses at national specialty meetings
- Coordinator of the second-year medical student curriculum
- Scholarly project and career mentors
- Membership in the Academy of Master Educators
- James Johnston, MD, received an Excellence in Education Award from the Class of 2017 for contributions as a Small Group Facilitator

Teaching Activities

Gerard Apodaca PhD

- Lecturer, Foundations of Biomedical Science Course, University of Pittsburgh School of Medicine Graduate Program, 2016
- Course Organizer and Co-Director, Research Seminar/Membrane Trafficking, University of Pittsburgh School of Medicine Graduate Program, 2016
- Lecturer, Small Group Facilitator, and PBL Course Leader, Cellular and Pathological Basis of Disease, University of Pittsburgh School of Medicine, 2016
- Course Organizer and Co-Director, Research Seminar/Membrane Trafficking, University of Pittsburgh School of Medicine Graduate Program, Spring 2017

Catherine Baty DVM PhD

- Member, Thesis Committee, Sandeep Khatri, Department of Human Genetics, Graduate School of Public Health, 2016
- Lecturer, MSCMP 3750: Angiogenesis Molecular Pathways and Pathophysiological Functions, Department of Pathology, University of Pittsburgh School of Medicine, 2016
- Co-Organizer, Renal Electrolyte Division Research Meetups, for students, staff and junior faculty, 2016-present

Filitsa Bender MD

- Core Faculty, Development of the Interprofessional Health Care Teams Course, University of Pittsburgh, 2007-present
- Small Group Facilitator, MS I: Introduction to Becoming a Physician, 2014-present
- Advisor, MS I: FAST (Faculty and Students Together), 2014-present
- Facilitator, Renal Block Small Group Discussion, MS II, 2014-present
- Small Group Facilitator, MS IV: Clinical Pharmacology, Edematous States and Diuretic Use, 2014-present
- Core Faculty, MS IV: Interprofessional Health Care Teams Course, 2014-present
- Lecturer, Shadyside Hospital Residents’ Noon lecture, 2014-present
- Lecturer, Nephrology Fellows Core Curriculum Lectures (2), 2014-present
José Bernardo MD
- Lecture, Diuretic Therapy, (MS-IV year), School of Medicine, University of Pittsburgh, 2017

Lori Birder PhD
- Lecturer, Geriatric Pharmacology, 2012-17
- Medical Students (MS0-2), 2016

Cary Boyd-Shiwarski MD PhD
- Lecturer, UPMC Nephrology Fellowship Teaching Series, 2016-2017
- Facilitator, Renal-Electrolyte Block, second-year medical students, University of Pittsburgh School of Medicine, 2016
- Co-Mentor, Summer Undergraduate Research Program, University of Pittsburgh School of Medicine, 2016-2017

Marcelo Carattino PhD
- Facilitator, MSCBMP 2895 Summer Course, Cellular Physiology of the Kidney, 2014-present
- Faculty, Intensive Pedagogical Laboratory Research Experience, Yale University and Mt. Desert Island Biological Laboratory, 2017

Geetha Chalasani MD
- Lecture, MSIMM 2210, Comprehensive Immunology, Memory T Cells, 2011-present
- Lecture, MS-1 MED 5116, Immunology in Health and Disease, Transplantation Immunology Lectures, 2011-present

Ranil DeSilva MD
- Nephrology Fellowship Teaching Series, University of Pittsburgh Medical Center, 2017-2018

Linda Fried MD MPH
- Small Group and Session Facilitator, Lecturer, Renal Block, second-year medical students, University of Pittsburgh School of Medicine, 2005-present

Laurence Friedman MD
- Lecturer, UPMC Shadyside Internal Medicine Noon Conference, AKI, 2016
- Lecturer, UPMC Shadyside Internal Medicine Noon Conference, Nephrolithiasis, 2016
- Lecturer, VA Hospital Pittsburgh University Drive Internal Medicine Noon Conference, AKI, 2016
- Lecturer, UPSOM Renal-Electrolyte Division Noon Conference, When Bad Things Happen to Good Hemodialysis, 2016
- Lecturer, UPMC Shadyside Internal Medicine Noon Conference, AKI, 2016
- Lecturer, UPMC Montefiore Internal Medicine Noon Conference, AKI, 2016
- Lecturer, UPSOM Renal-Electrolyte Division Noon Conference, Nephrolithiasis, 2016

Sundaram Hariharan MD
- Lectures, Transplant Nephrology Trainee Nephrology fellow, 2015-present
William Hoffman MD
- Facilitator, Pathophysiology Renal-Electrolyte Block, second-year medical students, University of Pittsburgh School of Medicine, 2016-2017
- Lecturer, Nephrology Fellowship Teaching Series, University of Pittsburgh, 2016-present
- Lecturer, RN Transplant Educational series, 2016-present
- Lecturer, Kidney Course Educational Series, rotating medical students and residents, 2014-present

Rebecca Hughey PhD
- Member, Medical School Admissions Committee and Interviewer, 2014-present
- Assistant Dean for Medical School Research, 2014-present
- Facilitator, Investigation & Discovery (ID), second-year medical students, 2014-present

Youko Ikeda PhD
- Facilitator, Basic Pharmacokinetics Conference, Cellular and Pathologic Basis of Disease/Pharmacology course, 2016
- Facilitator, G-Protein Coupled Receptor Drugs Conference, Cellular and Pathologic Basis of Disease/Pharmacology course, 2016
- Animal Laboratory Demonstrator, Principles of Pharmacology (2310) Graduate Course, University of Pittsburgh, 2017

Manisha Jhamb MD
- Small Group Facilitator, Renal Body Fluid Homeostasis, University of Pittsburgh School of Medicine, 2011-present
- Lecturer, Kidney Disease, Renal Organ system, second-year medical students, University of Pittsburgh School of Medicine, 2013-present
- Small Group Facilitator, Fellows Board Review Hypertension, University of Pittsburgh School of Medicine, 2014-present
- Instructor, K-Grant Writing Workshop, Department of Medicine, University of Pittsburgh School of Medicine, 2016-2017
- Lecturer, Chronic Kidney Disease, Internal Medicine Resident Noon Conference Series, University of Pittsburgh School of Medicine, 2017
- Trainer to Shannon Woolley (PhD in Biostatistics, Dissertation Committee Member), Tests for Random Signs Censoring in Competing Risk Analysis of Liver Transplant Patients, 2016-2017
- Trainer to Amith Roy Shamir (Nephrology Fellow), Association of Intradialytic Hypertension with Left Ventricular Mass in Hemodialysis Patients, 2016-2017
- Trainer to Badamkhand Baatarkhuu (Nephrology Fellow), Comprehensive Exercise Intervention to Improve Patient-Centered Outcomes in Dialysis Patients, 2016-2017

James Johnston MD
- Course Director, Renal Block, second-year medical students, University of Pittsburgh School of Medicine, 1998-present
- Block Coordinator, Body Fluid Homeostasis Course, second-year medical students, University of Pittsburgh School of Medicine, 1999-present
- Team Leader, Integrated Case Studies Course, second-year medical students, University of Pittsburgh School of Medicine, Spring, 2000-present
- Block Coordinator, Organ Systems Courses, University of Pittsburgh School of Medicine, 2004-present
- Chair, Membership Committee, University of Pittsburgh School of Medicine Academy of Master Educators, 2005-present
- Member, Steering Committee, University of Pittsburgh School of Medicine Academy of Master Educators, 2005-present
- Director, University of Pittsburgh School of Medicine Academy of Master Educators, 2007-2017
- Member, Program Director Development Subcommittee, Graduate Medical Education Committee, 2007-present
- Member, Academy of Master Educators Committee on Teaching Residents to Teach, 2007-present

Hoda Kaldas MD
- Attending Physician, Nephrology Consultation Service, 2007-present
- Lecturer and Organizer, Kidney Course, Renal Consult Elective, internal medicine residents, 2014-present
- Attending physician, Nephrology Consult Outpatient Clinic, 2014-present

Nitin Kamat MD
- Instructor to residents and Renal Fellows rotating at Shadyside Hospital, 2008-present

Anthony Kanai PhD
- Lecturer, Nitric Oxide Signaling, Receptors and Signal Transduction course, University of Pittsburgh School of Medicine Graduate Program, 2001-present
- Small Group Facilitator, Problem Based Learning Class, Cell Communication and Pharmacology course, University of Pittsburgh School of Medicine, 2006-present
- Lecturer, Pharmacology of Autonomics Drugs I and II, Principles of Pharmacology course, University of Pittsburgh School of Medicine Graduate Program, 2006-present

Ossama Kashlan PhD
- MSCBMP 2895 Summer Course in Cellular Physiology of the Kidney, 2014-present
- Mentor, Neuroscience undergraduate student, 2015-present
- Mentor, Summer Undergraduate Research Program, 2015-present
- Postdoctoral Advisor, XuePing Wang, Renal-Electrolyte Division, Department of Medicine, University of Pittsburgh, 2016-present
- Instructor, American Society of Nephrology TREKS course: Origins of Renal Physiology, Distal Nephron Module, Mt. Desert Island Biological Laboratory, Bar Harbor, Maine, 2017

Thomas Kleyman MD
- Course Organizer and Director, Transport Physiology Journal Club, University of Pittsburgh School of Medicine Graduate Program. 2001-present
- Director, T32 Training Grant, supports predoctoral and postdoctoral trainees, 2002-present
- Director, T35 Training Grant, supports summer research activities for medical students, 2004-present
- Director, Pittsburgh Center for Kidney Research, 2008-present
- Supervisor: 2 graduate students, 2016-2017
- Supervisor: 2 postdoctoral fellows, 2016-2017
- Mentor: 4 K awardees, 2016-2017
- Mentor: Summer Undergraduate Research Program, 2017
- Chair, Thesis Committees, 2 graduate students, 2016-2017
- Facilitator, Renal Organ System Course
- Lecturer, Renal Fellow Lecture Series
F. Aura Kullman PhD
- Small group workshop, medical students, Pharmacology Workshop: Pharmacokinetics; MS-1 Cellular & Path Basis of Disease, 2016
- Mentor, First Experiences in Research (FE-R) Program, (two undergraduate students), 2017
- Guest Lecturer, MSMPHL 2310: Animal Laboratory Practical Course For Graduate Students, Spring 2017

Heather LaGuardia MD
- Lecturer, Transplant Emergencies, ER Fellowship Program, UPMC Hamot, 2016-present

Kelly Liang MD
- Small Group Facilitator, Renal Organ System Course, University of Pittsburgh School of Medicine, 2009-2016
- Faculty lecturer, Lupus Nephritis, Renal-Electrolyte Division Fellows Renal Lecture, University of Pittsburgh Medical Center, 2015-2016
- Faculty lecturer, Cardiorenal Syndrome, Renal-Electrolyte Division Fellows Renal Lecture, University of Pittsburgh Medical Center, 2015-2016
- Faculty Lecturer, Acid-Base, Glomerulonephritis, and Acute Kidney Injury

Rajil Mehta MD
- Teaching nephrology fellows and transplant nephrology fellows, including formal lectures and informal teaching sessions, 2014-present
- Teaching mid-levels and arranging lecture series for nurse practitioners, physician assistants, and RNs, 2016-present

Nicolas Montalbetti PhD
- Laboratory Assistant, Structure and Function of Polarized Epithelial Cells, Yale University School of Medicine, 2017

Paul Palevsky MD
- Facilitator, Small Group and Pathology Session, Renal Block, second-year medical students, University of Pittsburgh School of Medicine, 1989-present
- Lecturer, Acid-Base 2 Clinical Disorders, Renal Block lecture, second-year medical students, University of Pittsburgh School of Medicine, 1994-present
- Lecturer, Acute Kidney Injury, Renal Block lecture, second-year medical students, University of Pittsburgh School of Medicine, 2003-present
- Visiting Professor, University of Maryland, Baltimore, MD, 2016
- Visiting Professor, University of Pennsylvania, Philadelphia, PA, 2016
- Visiting Professor, Cooper Medical School of Rowan University, Camden, NJ, 2016
- Lecturer, Acute Kidney Injury: Prevention and Non-Dialytic Treatment, American Society of Nephrology Board Review Course and Update, Chicago, IL, 2016
- Lecturer, Case Discussions: Acute Kidney Injury and ICU Nephrology, American Society of Nephrology Board Review Course and Update, Chicago, IL, 2016
- Lecturer, Renal Replacement Therapy for AKI: Challenges in 2016 and Beyond, Renal Roundtable/Horizons in Nephrology, Seven Springs, PA, 2016
- Lecturer, Selecting a Modality of Renal Replacement Therapy, Critical Care Nephrology: 2016 Update, American Society of Nephrology, Chicago, IL, 2016
• Lecturer, Dosing Renal Replacement Therapy, Critical Care Nephrology: 2016 Update, American Society of Nephrology, Chicago, IL 2016
• Visiting Professor, University of Alabama at Birmingham, Birmingham, AL, 2017
• Visiting Professor, Texas Health Presbyterian Dallas, Dallas, TX, 2017
• Lecturer, Acute Kidney Injury Highlights: What’s Trending, ASN Highlights 2017: Translating Kidney Week into Clinical Practice, Mumbai, India, 2017
• Lecturer, Renal Support in Acute Kidney Injury, Nephrology 2017, Harvard Medical School, Boston, Massachusetts, 2017
• Lecturer, Contrast-Induced Nephropathy, Nephrology 2017, Harvard Medical School, Boston, Massachusetts, 2017
• Lecturer, Key Aspects for Renal Replacement Therapy in the Critically Ill Patient, National Kidney Foundation 2017 Spring Clinical Meetings, Orlando, FL, April 2017
• Lecturer, Contrast-Associated AKI: How to Identify the Risks and Prevent It, National Kidney Foundation 2017 Spring Clinical Meetings, Orlando, FL, April 2017
• Lecturer, Management of AKI in the Outpatient Setting, National Kidney Foundation 2017 Spring Clinical Meetings, Orlando, FL, April 2017
• Lecturer, Controversies in Renal Replacement Therapy for AKI: My Approach to the Prescription of RRT for AKI, National Kidney Foundation 2017 Spring Clinical Meetings, Orlando, FL, April 2017
• Lecturer, We Don’t Have to Fail at Acute Renal Failure: A Multidisciplinary Approach to Quality Improvement (J. Michael Lazarus Distinguished Lecture), National Kidney Foundation 2017 Spring Clinical Meetings, Orlando, FL, April 2017
• Lecturer, Timing and Dose of Renal Replacement Therapy in Acute Kidney Injury, 12o Congresso Mineiro de Nefrologia, Ouro Preto, Minas Gerais, Brazil, 2017
• Lecturer, Highlights from the American Society of Nephrology: Acute Kidney Injury, 12o Congresso Mineiro de Nefrologia, Ouro Preto, Minas Gerais, Brazil, 2017

Christopher Passero MD
• Lecturer, Renal Fellowship Noon Seminar, 2007-present
• Lecturer, Medicine Residents Noon Seminar, 2007-present
• Instructor, Shadyside Hospital Nephrology Consult Resident Elective, University of Pittsburgh Medical Center Shadyside Hospital, 2013-present
• Lecturer, Shadyside Hospital Open Heart Class for Nursing, 2014-present

Beth Piraino MD
• Facilitator, Renal Section of Body Fluid Homeostasis workshops, (MS II-9 students), 1993-present
• Facilitator, Introduction to Being a Physician (MSI-8-9 students), 1998-present
• Facilitator, Meeting with Prologue Students, 2010-present
• Facilitator, Population Medicine, MS II, 2011-present
• FAST advisor, 2016-2017
• Facilitator, Evidence and Discovery in Medicine Block 2016 fall (MS2) and 2017 winter (MS1)
• Clinical Experience MSI and II, 2016-2017
Chethan Puttarajappa MD
- Supervision of Renal Fellows’ Journal Club, 2015-present
- Continuous Renal Replacement Therapy Workshop (for Renal and Critical Care Medicine Fellows), Annual, 2015-present
- Transplant board review to Renal Fellows, 2015-present
- Annual Renal course workshop for medical students, 2016
- Lecturer, Adult Gerontology Acute Care Nurse Practitioner students (Pitt school of Nursing): Topic: Dialysis Strategies in the Critically Ill, 2016
- Transplant Lecture Series, nurse practitioners and coordinators, Transplant Pharmacology and Surveillance in Kidney Transplantation, 2016

Mohan Ramkumar MD
- Faculty Lecturer, residents, VA ICU, 2014-present
- Preceptor, 2 Fellows, 2014-present

Evan Ray MD PhD
- Lecturer, Nephrology Fellowship Teaching Series, University of Pittsburgh Medical Center, 2015-2017
- Small Group Facilitator, Renal-Electrolyte Block, second-year medical students, University of Pittsburgh School of Medicine, 2015-2017
- Small Group Facilitator, Anti-hypertensives and Diuretics, Pharmacology Elective, fourth-year medical students, University of Pittsburgh School of Medicine, 2015-2017
- Lecturer, Salt and Water Handling in Regulation of Extracellular Fluid Volume, University of Pittsburgh BIOSC 1455 Human Endocrinology Course, 2015-present
- Small Group Facilitator, Investigation and Discovery Course Scholarly Research Project, University of Pittsburgh School of Medicine, 2016
- Lecturer, University of Pittsburgh Hypertension Center Mini-Retreat. Investigation and Discovery Course Scholarly Research Project Facilitator 2017
- Lecturer, Aquaporins and Water Homeostasis, University of Pittsburgh Summer Undergraduate Research Program, 2017
- Lecturer, Human ENaC Variants in Salt-Sensitive Hypertension, UPMC Renal Fellowship Fellows’ Reunion, 2017

Helbert Rondon-Berrios MD
- Board Reviewer, Renal Fellows. 2012-present
- Facilitator, Renal Organ System. second-year medical students, 2012-present
- MD Program Course Co-Director, Elective in Renal Disease, University of Pittsburgh School of Medicine 2013-present
- Lecturer, Renal Lecture Series, UPMC Renal Fellowship Training Program, 2013-present
- Lecturer, Renal Fellowship Core Curriculum, 2014-present
- Lecturer, Internal Medicine Residency Acute Management Series, UPMC PUH/MUH, 2014-present
- Lecturer, Internal Medicine Residency Acute Management Series, VAPHS, 2014-present
- Lecturer, Internal Medicine Residency Acute Management Series, UPMC Shadyside, 2014-present
- Lecturer, Internal Medicine Residency Noon Conference Series, UPMC PUH/MUH, 2014-present
- Lecturer, Internal Medicine Residency Noon Conference Series, VAPHS, 2014-present
- Lecturer, Internal Medicine Residency Noon Conference Series, UPMC Shadyside, 2014-present
- Lecturer, Kidney Course, 2014-present
• Lecturer, Renal Organ System, second-year medical students, 2014-present
• Discussion Leader, Integrated Case Studies, 2014-present
• Instructor, Medical Spanish, 2014-present
• Lecturer, Department of Medicine Grand Rounds for UPMC Presbyterian, 2016

Ramya Sahasranamam, MD
• Instructor, inpatient teaching of residents, fellows, Shadyside Hospital, 2016-2017
• Discussion Leader, AKI and renal follow-up, hospitalist group at UPMC Passavant, 2016-2017

Jane Schell MD
• Co-Instructor, Workshop Developer, NephroTalk, Nephrology Fellows, University of Pittsburgh Medical Center, 2012-present
• Co-Instructor, Organizer, Critical Care Communication Workshop, Pulmonary and Critical Care Fellows, University of Pittsburgh Medical Center, 2012-present
• Facilitator, Communication Skills, advanced medical interviewing, health literacy topics, second- and third-year internal medicine residents, University of Pittsburgh Medical Center, 2012-present
• Facilitator, introductory communication skills, first-year medical students, University of Pittsburgh Medical Center, 2013-present
• Clinical Experience 3 Faculty Leader, Musicare, medical student volunteer group that plays music for patients in hospital, 2016
• Faculty Advisor, Faculty and Students Together (FAST), first-year medical students, 2016

Nirav Shah MD
• Facilitator, MLM: How to Critically Evaluate Medical Literature, first-year medical students, 2005-present
• Facilitator, Pharmacology of Hypertensive Drugs, second-year course lecture, 2005-present
• Facilitator and Lecturer, Nephrology Block, second-year medical students, University of Pittsburgh School of Medicine, 2005-present
• Lecturer, ESRD Management, University of Pittsburgh School of Nursing, 2005-present

Shaohu Sheng PhD
• MSCBMP 2855: Res. Seminar Molecular Physiology, 2017

Puneet Sood MD
• Lecturer, New Kidney Allocation System—One Year of Implementation, Transplantation Grand Rounds, Thomas Starzl Transplantation Institute, University of Pittsburgh Medical Center, 2016
• Lecturer, A History of Transplant Excellence, A Future of Innovation, Optum Spotlight Conference, Pittsburgh, PA, 2016
• Lecturer, Updates in Abdominal Transplantation Medicine and Surgery, Antibodies—HLA Typing, CPRA, Cross Matching and Antibody Mediated Rejection, Fairmont Hotel, Pittsburgh, PA, 2017
• Lecturer, Delayed Graft Function Post Kidney Transplantation: New Opportunities for Intervention, Annual STI Scientific Retreat, 2016
Sean Stocker PhD
- Graduate Mentor, Brian J. Kinsman (MD, PhD Candidate, Penn State University), 2014-present
- Graduate Mentor, Haley Nation (PhD Anatomy Candidate, Penn State University), 2015-2017
- Advisory Committee, American Heart Association SURP, University of Pittsburgh, 2017-present
- Undergraduate Research Mentor, Rachel Maile (Virginia Tech, supported by APS fellowship), 2017-present
- Undergraduate Research Mentor, Jason Ong (University of Pittsburgh), 2017-present

Arohan Subramanya MD
- Lecturer and Facilitator, Section 2: Cellular & Pathologic Basis of Disease, MED 5217 Body Fluid Homeostasis – Renal Segment, 2009-present
- Facilitator, MSCBMP 2880 Cellular Biology of Normal and Disease States, 2010-present
- Facilitator, MED 5127 Fundamentals of Basic Science Block, 2012-present
- Facilitator, MED 5265 Investigation and Discovery, 2015-present
- Facilitator, MED 5181 Evidence Based Medicine-Applied, 2015-present
- Course Director, MSCBMP 2895 Summer Course, Cellular Physiology of the Kidney, 2016-present

Roderick Tan MD PhD
- Preceptor, Renal Journal Club, 2014-present
- PBL Facilitator, Introduction to Being a Physician, University of Pittsburgh School of Medicine, 2016
- PBL Facilitator, Body Fluid Homeostasis – Renal Block, University of Pittsburgh School of Medicine, 2016
- Lecturer, Diuretics, Body Fluid Homeostasis – Renal Block Sept. 30, 2016
- Lecturer and Facilitator, Integrative Systems Biology Bedside to Bench Class, 2016
- Lecturer, Acute, Chronic, and End-Stage Renal Disease, Cellular Physiology of the Kidney (MSCBMP 2895), 201, 2017
- Molecular Mechanisms of Tissue Growth and Differentiation, 2017

Steven Truschel PhD
- Teaching Facilitator, Cellular and Pathologic Basis of Disease, Medical Student Team Based Learning, University of Pittsburgh School of Medicine, 2016-2017
- Teaching Facilitator, Cellular and Pathologic Basis of Disease, Medical Student Lab Section, University of Pittsburgh School of Medicine, 2016-2017
- Teaching Facilitator, Cellular and Pathologic Basis of Disease, Medical Student Application Session, University of Pittsburgh School of Medicine, 2016-2017

Steven Weisbord MD
- Facilitator, Small Group and Pathology Session, Renal Block, second-year medical students, University of Pittsburgh School of Medicine, 2005-present
- Lecture, Disorders of Volume Homeostasis, second-year medical students, University of Pittsburgh School of Medicine, 2012-present

Ora Weisz PhD
- Lecturer, Foundations of Biomedical Science, 2016
Christine Wu MD
- Faculty Lecturer, IgA Nephropathy, Hematuria, Evaluation of Kidney Transplant Recipients, Evaluation of Kidney Donors, Fellows and Residents, 2014-present
- Faculty Lecturer, Dialysis and Transplantation, second-year medical students, 2014-present
- Small Group Facilitator, Renal Course, University of Pittsburgh School of Medicine, second-year medical students, 2016-present

Irina Zabbarova, PhD
- Facilitator, Cellular and Pathologic Basis of Disease/Pharmacology course, Rational Use of Drugs Conference, 2016
- Facilitator, Cellular and Pathologic Basis of Disease/Pharmacology course, Adrenergic and Cholinergic Pharmacology, 2016
- Facilitator, Cellular and Pathologic Basis of Disease/Pharmacology course, G-Protein Coupled Receptor Drugs Conference, 2016
- Animal Laboratory Demonstrator, Principles of Pharmacology (2310) Graduate Course, University of Pittsburgh, 2017
### Fellowship Program

<table>
<thead>
<tr>
<th>Current Fellow</th>
<th>Medical School</th>
<th>Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdalla Hossam</td>
<td>Ain Shams University Egypt</td>
<td>Queens Hospital Center, New York</td>
</tr>
<tr>
<td>Baatarkhuu Badamkhand</td>
<td>Health Sciences University of Mongolia</td>
<td>Danbury Hospital, Connecticut</td>
</tr>
<tr>
<td>Husain Sara</td>
<td>Aga Khan Medical College, Pakistan</td>
<td>William Beaumont Hospital, Texas</td>
</tr>
<tr>
<td>Lusica Melbeth</td>
<td>De La Salle University, Philippines</td>
<td>Queens Hospital, NY</td>
</tr>
<tr>
<td>Ong Eric</td>
<td>St. George’s School of Medicine</td>
<td>University of Arizona, AZ</td>
</tr>
<tr>
<td>Paul Rohan</td>
<td>University of Western Australia Faculty of Medicine</td>
<td>Kaiser Foundation, CA</td>
</tr>
<tr>
<td>Pochineni Vaishnavi</td>
<td>Bhaskar Medical College, India</td>
<td>Queens Hospital Center, New York</td>
</tr>
<tr>
<td>Puli Amoghavarsha</td>
<td>Sri Devaraj Urs Medical College, India</td>
<td>Medstar Union Memorial, Maryland</td>
</tr>
<tr>
<td>Sadolf Joshua</td>
<td>St Matthew's University, Grand Cayman</td>
<td>New Hanover Regional Medical Center, North Carolina</td>
</tr>
<tr>
<td>Shamir Amith</td>
<td>Kasturba Medical College, India</td>
<td>Good Samaritan Hospital, MD</td>
</tr>
<tr>
<td>Sharma Akhil</td>
<td>Wayne State University</td>
<td>UPMC Presbyterian Shadyside</td>
</tr>
<tr>
<td>Tandukar Srijan</td>
<td>Kathmandu Medical College, Nepal</td>
<td>Western Reserve Health Education, Ohio</td>
</tr>
</tbody>
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**TRANSLANT NEPHROLOGY**

<table>
<thead>
<tr>
<th>Departing Fellows</th>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baatarkhuu Badamkhand</td>
<td>Basset Hospital, Cooperstown, New York</td>
</tr>
<tr>
<td>Lusica Melbeth</td>
<td>Virginia Beach General Hospital, Virginia</td>
</tr>
<tr>
<td>Ong Eric</td>
<td>Frostburg University Hospital, Maryland</td>
</tr>
<tr>
<td>Paul Rohan</td>
<td>Nephrology Fellow at UCSF, California</td>
</tr>
<tr>
<td>Shamir Amith</td>
<td>Blue Grass Kidney Consultants, Louisville, Kentucky</td>
</tr>
</tbody>
</table>

**Fellow Presentations**

**Lusica M, Baatarkhuu B.** Quality Improvement Project, Incidence of Hypoglycemia in ICU Patients on Continuous Renal Replacement Therapy (Phoxillum vs Prismsate), poster presentation, 2017 Research Day, Department of Medicine, University of Pittsburgh, May 1-2, 2017
CLINICAL CARE

Our clinicians provide state-of-the-art care for patients with kidney and/or electrolyte disorders at UPMC and VA facilities in Oakland and at UPMC Shadyside, UPMC East, UPMC McKeensport, UPMC St. Margaret, UPMC Mercy, and UPMC Passavant.

While UPMC and Dialysis Centers, Inc. (DCI) have ended their joint dialysis network, the Division continues to provide outpatient dialysis services at DCI Oakland, Banksville, Monroeville, Five Points, Harmar Village, Point Breeze, and North Versailles. We also provide dialysis services at a recently opened DCI dialysis unit at Canterbury Place, a part of UPMC Senior Communities located in the Lawrenceville section of the city of Pittsburgh. UPMC is ending its joint dialysis network with Fresenius Medical Corporation (FMC). Our Division continues to provide dialysis services at FMC West Penn, Penn Hills, Shaler, and Shadyside. Our faculty serve as medical directors at nine dialysis centers. UPMC returned a percentage of the UPMC-FMC joint venture profits to the Renal-Electrolyte Division, which supported the Division’s biomedical research activities.

Inpatients at UPMC Presbyterian, Montefiore, and Magee Hospitals with kidney and/or electrolyte disorders are cared for by rounding teams, consisting of a physician, fellow, physician extender, residents, and medical students. A large number of renal replacement therapies are administered in the various intensive care units under the supervision of nephrology attending physicians and fellows. The Division has continued to enhance its inpatient services, performing 11,610 inpatient dialysis treatments in FY 2017. The Renal Division also provides consultation services at UPMC Shadyside, UPMC Mercy, UPMC Passavant, UPMC McKeensport, and UPMC East. The Division no longer provides consultation services at UPMC St. Margaret.

The Division’s outpatient kidney and multidisciplinary specialty clinics treat patients with a wide variety of kidney and hypertensive disorders, with nephrologists and staff coordinating all aspects of patient testing and care. Division physicians provide care for patients with renal and electrolyte disorders at clinics throughout the metropolitan area, including University Center in Oakland, central and eastern suburbs (Shadyside and Monroeville), northern suburbs (Wexford and St. Margaret’s), and southern suburbs (Mount Lebanon). Our physicians also provide care for patients pre- and post-kidney transplant at clinics in Oakland, Erie (UPMC Hamot), West Mifflin and UPMC Altoona. Our physicians collaborate with rheumatologists in providing patient care at the UPMC Lupus Center of Excellence clinic in Oakland. Evan Ray, MD, PhD, collaborates with cardiology faculty in managing patients with complex hypertension at UPMC Mercy. Jane Schell, MD, provides palliative renal care at our University Center site. Through the efforts of our nurse education coordinator, the Division provides outpatient CKD education sessions at both University Center and community clinic locations. An increasing number of late-stage patients are expressing interest in home-dialysis modalities once educated on the range of available therapies.

The Division has an active role at the VA Pittsburgh Healthcare System, with in-center hemodialysis and home peritoneal dialysis, as well as inpatient dialysis and a VA renal outpatient clinic. Division faculty members participate in a growing kidney transplant program, and provide consultative support for distant facilities via the electronic medical record.

<table>
<thead>
<tr>
<th>TABLE 1: RENAL HISTORICAL INPATIENT VOLUME</th>
</tr>
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<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Visits, Consultations, and Subsequent Care</td>
</tr>
<tr>
<td>Dialysis Treatments</td>
</tr>
<tr>
<td>TOTAL VOLUME</td>
</tr>
</tbody>
</table>
**Telemedicine**

In FY17, the Division expanded its patient market by offering telemedicine services by participating the the Empower 3 program sponsored by the UPMC Health Plan and in collaboration with Dr. Zane Gates. Manisha Jhamb, MD, and Kelly Liang, MD, are leading this effort.

**New Initiatives**

The Renal-Electrolyte Division is collaborating with the UPMC Health Plan to identify and engage patients with advanced chronic kidney disease (CKD) who have not seen a nephrologist. To support primary care physicians in managing these complex patients, our physicians are providing assistance in medical management through electronic consults (eConsults). Our Division has also initiated a program in partnership with DCI and the UPMC Health Plan to provide a variety of support services for health plan members with advanced CKD. These include nurse educators, care managers, dietitians and pharmacists. Our Division has joined an ESRD Seamless Care Organization (ESCO) in a partnership with Dialysis Clinics Incorporated (DCI) and community nephrologists. The purpose is to improve outcomes and reduce costs for Medicare beneficiaries with end-stage renal disease (ESRD). Objectives include reducing hospitalizations, decreasing catheters and increasing home dialysis therapies. The Division is also working with departmental leadership and the Divisions of General Internal Medicine and Cardiology to establish a Center that focuses on Hypertension. Sean Stocker, PhD has been recruited to co-direct this center. The Division is also working with departmental leadership and the Division of Rheumatology to establish a center focusing on Glomerular Diseases.
Clinical Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPMC Kidney Clinic at UPMC Shadyside</td>
<td>Shadyside Medical Building, 5200 Centre Avene, Suite 509, Pittsburgh, PA 15232</td>
</tr>
<tr>
<td>UPMC Kidney Clinic at University Center</td>
<td>University Center, 120 Lytton Avenue, Suite 300, Pittsburgh, PA 15213</td>
</tr>
<tr>
<td>UPMC Kidney Clinic at Wexford</td>
<td>117 VIP Drive, Suite 120, Wexford, PA 15090</td>
</tr>
<tr>
<td>UPMC Kidney Clinic at UPMC St. Margaret</td>
<td>Medical Arts Building, 200 Delafield Road, Suite 2005, Pittsburgh, PA 15215</td>
</tr>
<tr>
<td>UPMC Kidney Clinic at UPMC Monroeville Oxford Drive</td>
<td>UPMC Monroeville Oxford Drive, 400 Oxford Drive, Suite 203, Monroeville, PA 15146</td>
</tr>
<tr>
<td>UPMC Kidney Clinic at Mt. Lebanon</td>
<td>733 Washington Road, Suite 204, Mt Lebanon, PA 15228</td>
</tr>
</tbody>
</table>
CLINICAL QUALITY IMPROVEMENT INITIATIVES

Ranil DeSilva, MD, joined the Division of Renal Electrolyte in FY17 and serves as the director of Quality Improvement. Dr. DeSilva is working to develop a number of new quality improvement projects. One project he has developed is to improve hospital transition of care of ESRD dialysis patients with the aim of lowering readmission rates. Currently, one-third of ESRD costs are attributed to hospitalizations. ESRD admissions over the 2015-2016 academic year were 3,284. Readmissions within 30 days were 820 (30-day readmission rate of 25%).

The goals are to:
- Improve the timeliness of outpatient dialysis unit notification of discharge
- Provide valuable clinical information to the patient’s dialysis unit and to be able to rapidly execute a post-discharge care which would include an updated medication list using a final Renal Progress note.
- Our goal is to develop a built-in automatic fax function in Cerner to direct fax the last renal progress note to the outpatient dialysis unit with a discharge order as the trigger.

Ranil DeSilva, MD, and James Johnston, MD, led a study to determine whether use of phoxilium as dialysate fluid for CRRT, which has no glucose, was associated with an increased risk of hypoglycemia, when compared with conventional prismasate dialysate fluid that contains glucose. Results of their study suggested that AKI requiring CRRT is associated with a risk of hypoglycemia, but that this does not appear to depend on the type of dialysate used.

Under the direction of Nirav Shah, MD, the Division continues to report data quantifying its satisfaction of selected quality measures for covered services furnished to Medicare beneficiaries in its outpatient clinics. This is in conjunction with the department’s response to Medicare’s Patient Quality Reporting Initiative. The measures tracked include blood pressure management and lab testing in CKD stage 4/5 patients, as well as urine protein screening in patients with diabetes mellitus. All patients with advanced CKD are receiving dedicated education sessions to discuss all treatment options including in-center and home dialysis modalities, transplantation, and palliative care options when appropriate. Our inpatient dialysis unit initiated an online program to monitor for chloramines, in addition to standard monitoring.

Hoda Kaldas, MD, is working on a project to improve patient education in the setting of acute kidney injury (AKI), with a focus on education after discharge using Healthwise, a new UPMC educational system. The goals are to ascertain whether patients are receiving appropriate follow up, to adjust medications, and to prevent the recurrence of AKI. Hoda Kaldas, MD, and Nirav Shah, MD, are working on a project to insure that patients with advanced CKD receive immunizations for pneumococcus, influenza, and hepatitis B. Data was collected regarding rate of hepatitis B vaccination in patients with chronic kidney disease with Heena Sheth, MD, MPH. The Kidney Clinic is one of the sites for the IMPRESS study directed by Rohit Aggarwal, MD. The goal is to improve pneumococcal immunization rates in subspecialty clinics. Hoda Kaldas, MD, is working on reduction of PICC line placement in patients with advanced CKD with Franziska Jovin, MD.

Harry Hariharan, MD, and the Starzl Transplant Institute nephrology physicians monitor the transplant recipient evaluation checklists and selection outcomes documentation forms. They utilize the UNOS administrative scorecard for each transplant program.
# FACULTY

**Faculty in Core Divisions**  
**Fiscal Year 2015-2017**

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2003 (Base Year)</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renal-Electrolyte</td>
<td>26</td>
<td>48</td>
<td>48</td>
<td>51</td>
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</tbody>
</table>

## Current Renal-Electrolyte Faculty

### Full-Time Faculty

<table>
<thead>
<tr>
<th>Full Name</th>
<th>First Name</th>
<th>Last Name</th>
<th>Degree</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al-Bataineh</td>
<td>Mohammad</td>
<td>M. DVM, PhD</td>
<td>Instructor in Medicine</td>
<td></td>
</tr>
<tr>
<td>Apodaca</td>
<td>Gerard</td>
<td>L. PhD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Baty</td>
<td>Catherine</td>
<td>J. PhD</td>
<td>Research Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Bender</td>
<td>Filitsa</td>
<td>H. MD</td>
<td>Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Bernardo</td>
<td>Jose</td>
<td>F. MD</td>
<td>Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Birder</td>
<td>Lori</td>
<td>A. PhD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Carattino</td>
<td>Marcelo</td>
<td>D. PhD</td>
<td>Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Chalasani</td>
<td>Geetha</td>
<td>MD</td>
<td>Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>DeSilva</td>
<td>Ranil</td>
<td>N. MD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Fried</td>
<td>Linda</td>
<td>F. MD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Hariharan</td>
<td>Sundaram</td>
<td>MD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Hughey</td>
<td>Rebecca</td>
<td>P. PhD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Ikeda</td>
<td>Youko</td>
<td>PhD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Jhamb</td>
<td>Manisha</td>
<td>MD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Johnston</td>
<td>James</td>
<td>R. MD</td>
<td>Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Kaldas</td>
<td>Hoda</td>
<td>H. MD</td>
<td>Associate Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Kanai</td>
<td>Anthony</td>
<td>J. PhD</td>
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<tr>
<td>Kashlan</td>
<td>Ossama</td>
<td>B. PhD</td>
<td>Assistant Professor of Medicine</td>
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<tr>
<td>Kleyman</td>
<td>Thomas</td>
<td>R. MD</td>
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<td>Kullmann</td>
<td>Florenta</td>
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<tr>
<td>Liang</td>
<td>Kelly</td>
<td>V. MD</td>
<td>Assistant Professor of Medicine</td>
<td></td>
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<tr>
<td>Mehta</td>
<td>Rajil</td>
<td>B. MD</td>
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<tr>
<td>Montalbetti</td>
<td>Nicolas</td>
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<td>Research Instructor in Medicine</td>
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</tr>
<tr>
<td>Palevsky</td>
<td>Paul</td>
<td>M. MD</td>
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<tr>
<td>Piraino</td>
<td>Beth</td>
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<tr>
<td>Puttarajappa</td>
<td>Chethan</td>
<td>M. MD</td>
<td>Assistant Professor of Medicine</td>
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</tr>
<tr>
<td>Ray</td>
<td>Evan</td>
<td>C. MD, PhD</td>
<td>Assistant Professor of Medicine</td>
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<tr>
<td>Rondon-Berrios</td>
<td>Helbert</td>
<td>H. MD</td>
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<tr>
<td>Roy</td>
<td>Ankita</td>
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<tr>
<td>Shah</td>
<td>Nirav</td>
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<tr>
<td>Sheng</td>
<td>Shaohu</td>
<td>MD</td>
<td>Research Associate Professor of Medicine</td>
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<tr>
<td>Shi</td>
<td>Shujie</td>
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<tr>
<td>Sood</td>
<td>Puneet</td>
<td>MD</td>
<td>Assistant Professor of Medicine</td>
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<tr>
<td>Stocker</td>
<td>Sean</td>
<td>R. PhD</td>
<td>Visiting Professor of Medicine</td>
<td></td>
</tr>
<tr>
<td>Subramanya</td>
<td>Arohan</td>
<td>R. MD</td>
<td>Assistant Professor of Medicine</td>
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<tr>
<td>Tan</td>
<td>Roderick</td>
<td>J. MD, PhD</td>
<td>Assistant Professor of Medicine</td>
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<tr>
<td>Name</td>
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<tr>
<td>Truschel</td>
<td>Steven T. PhD</td>
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<td>Research Assistant Professor of Medicine</td>
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<tr>
<td>Weisbord</td>
<td>Steven D. MD</td>
<td></td>
<td>Associate Professor of Medicine</td>
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<tr>
<td>Weisz</td>
<td>Ora A. PhD</td>
<td></td>
<td>Professor of Medicine</td>
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</tr>
<tr>
<td>Wu</td>
<td>Christine M. MD</td>
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<tr>
<td>Zabbarova</td>
<td>Irina V. PhD</td>
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<td>Research Assistant Professor of Medicine</td>
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**Affiliated Faculty with UPP Appointments**

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<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Denshaw</td>
<td>Robert M. MD</td>
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<tr>
<td>Dorneich</td>
<td>Yan</td>
<td></td>
</tr>
<tr>
<td>Friedman</td>
<td>Laurence E. MD</td>
<td></td>
</tr>
<tr>
<td>Hoffman</td>
<td>William F. MD</td>
<td></td>
</tr>
<tr>
<td>Kamat</td>
<td>Nitin M. MD</td>
<td></td>
</tr>
<tr>
<td>Kaur</td>
<td>Amandeep MD</td>
<td></td>
</tr>
<tr>
<td>LaGuardia</td>
<td>Heather A. MD</td>
<td></td>
</tr>
<tr>
<td>Passero</td>
<td>Christopher J. MD</td>
<td></td>
</tr>
<tr>
<td>Sahasranamam</td>
<td>Ramya MD</td>
<td></td>
</tr>
<tr>
<td>Shiwar斯基</td>
<td>Cary Boyd MD</td>
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**Affiliated Faculty without UPP Appointments**

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<thead>
<tr>
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<tbody>
<tr>
<td>Bertani</td>
<td>Tullio MD</td>
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<tr>
<td>Caccamo</td>
<td>Antonia C. MD</td>
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</tr>
<tr>
<td>Hanna-Mitchell</td>
<td>Ann T. PhD</td>
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</tr>
<tr>
<td>Levenson</td>
<td>David J. MD</td>
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<tr>
<td>Liput</td>
<td>Joseph H. MD</td>
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<tr>
<td>Powell</td>
<td>Thomas R. MD</td>
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<tr>
<td>Ramkumar</td>
<td>Mohan MD</td>
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<tr>
<td>Raza</td>
<td>Hashim MD</td>
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**Research Associates**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Chen</td>
<td>Jingxin MD</td>
<td></td>
</tr>
<tr>
<td>Marciszyn</td>
<td>Allison L. PhD</td>
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## New Faculty Hires

<table>
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<tr>
<th>Last Name</th>
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<th>Primary Title</th>
<th>Division</th>
<th>Previous Position</th>
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<tbody>
<tr>
<td>DeSilva</td>
<td>Ranil</td>
<td>N.</td>
<td>MD</td>
<td>Assistant Professor of Medicine</td>
<td>Renal-Electrolyte</td>
<td>Attending, Partners in Nephrology and Endocrinology, UPMC</td>
</tr>
<tr>
<td>Dorneich</td>
<td>Yan</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Renal-Electrolyte</td>
<td>Nephrology Fellow, UPMC</td>
<td></td>
</tr>
<tr>
<td>Hoffman</td>
<td>William</td>
<td>F.</td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
<td>Renal-Electrolyte</td>
<td>Transplant Nephrology Fellow, UPMC</td>
</tr>
<tr>
<td>Kaur</td>
<td>Amandeep</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Renal-Electrolyte</td>
<td>Nephrology Fellow, UPMC</td>
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<tr>
<td>LaGuardia</td>
<td>Heather</td>
<td>A.</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Renal-Electrolyte</td>
<td>Transplant Nephrologist, Baptist Health Transplant Institute, AR</td>
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<tr>
<td>Shiwarski</td>
<td>Cary Boyd</td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
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<td>Nephrology Fellow, UPMC</td>
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</tr>
<tr>
<td>Stocker</td>
<td>Sean</td>
<td>D.</td>
<td>PhD</td>
<td>Visiting Professor of Medicine</td>
<td>Renal-Electrolyte</td>
<td>Professor, Pennsylvania State College of Medicine</td>
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## Current Post Docs in FY 2015-2016

<table>
<thead>
<tr>
<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree Code</th>
<th>Current Title</th>
<th>Summary of activities</th>
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</thead>
<tbody>
<tr>
<td>Bhattacharyya</td>
<td>Sohinee</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. Bhattacharyya is studying the regulation of flow-stimulated endocytosis in polarized renal cells and mouse proximal tubules.</td>
</tr>
<tr>
<td>Bondi</td>
<td>Corry</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Bondi is researching the effect of the Nrf2 pathway on proteinuric CKD using genetically modified mice possessing hyperactive Nrf2 signaling.</td>
</tr>
<tr>
<td>Boyd-Shiwarski</td>
<td>Cary</td>
<td>MD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Boyd’s research interest centers on ion transport, and she is studying several different ion channels including ENaC, CFTR, ROMK, TMEM16A and NCC (NaCl cotransporter). She is currently studying the regulation of NCC by WNK (With-No-Lysine) kinases.</td>
</tr>
<tr>
<td>Dalghi</td>
<td>Marianela</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. Dalgi is studying the use of zebrafish to analyze protein interactions between uroplakin 3 and polarity proteins. She will also analyze how the mammalian protein promotes renal development.</td>
</tr>
<tr>
<td>Gallo</td>
<td>Luciano</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. Gallo is investigating the regulation of stretch-induced exocytosis in the bladder epithelium. These studies involve the identification of a Rab27B-dependent pathway. She is also studying the regulation of microvilli formation by uroplakins and its interacting proteins, using polarized epithelial-derived kidney cells.</td>
</tr>
<tr>
<td>Getchell</td>
<td>Sam</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Getchell is studying the therapeutic benefits of activators and stimulators of soluble guanylyl cyclase and modulators of p75 and relaxin receptors in lower urinary tract dysfunction in rodents. This involves in vivo and in vitro experiments using models of cystitis and spinal cord injury. He is also testing the efficacy of analogs of these agents in cell-based assays.</td>
</tr>
<tr>
<td>McDonnell</td>
<td>Bronaugh</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. McDonnell is studying the expression and function of non-neuronal (and neuronal) cells that play a role in urinary bladder function.</td>
</tr>
<tr>
<td>Mukherjee</td>
<td>Anindit</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. Mukherjee is researching the physiological roles of palmitoylation and palmitoyltransferases in regulating Epithelial Sodium Channel function.</td>
</tr>
</tbody>
</table>
Nie  

Dr. Nie is exploring the role of innate receptor pathways, specifically Nlrp3-inflammasome- and TLR-MyD88-mediated activation in B cells and how this influences B cell functions in the context of transplantation. He is studying antibody production in mice lacking Nlrp3 or MyD88 specifically in B cells after transplantation, the impact of B cell intrinsic Nlrp3 or MyD88 deficiency on alloreactive T cell responses and how these changes alter outcomes such as alloimmune memory, acute rejection and chronic rejection using murine heart transplant models.

Tan  

Dr. Tan is investigating when B and which cells become important in memory responses and how it affects chronic rejection. He will be testing depletion of all B cells vs. depletion or deletion of specific B cell populations in murine transplantation models. He will examine how these measures impact generation and maintenance of donor reactive T cell memory, antibody responses, and how these changes alter outcomes of acute and chronic rejection of murine heart transplants.

Wang  

Dr. Wang is studying the structure of the Epithelial Sodium Channel, and determining how bile acids and oxidative stress affect its function.

### Terminating Post Docs

<table>
<thead>
<tr>
<th>Employee Last Name</th>
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<th>Degree Code</th>
<th>Current Title</th>
<th>Summary of activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al-Bataineh</td>
<td>Mohammad</td>
<td>DVM, MS, PhD</td>
<td>Instructor</td>
<td>Dr. Al-Bataineh studied how MUC1 in the kidney provide protection against ischemia-reperfusion injury (IRI) through the β-catenin pathway using a mouse model of IRI.</td>
</tr>
<tr>
<td>Alshogran</td>
<td>Osama</td>
<td>MS, PhD</td>
<td>Assistant Professor, Jordan University of Science and Technology</td>
<td>Dr. Alshogran looked at the role of purinergic signaling and gap junction proteins in regulating fluid shear stress-stimulated endocytosis in human proximal tubule epithelia.</td>
</tr>
<tr>
<td>Krauson</td>
<td>Aram</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Krauson investigated the proton-gating mechanisms of acid sensing ion channel 1a (ASIC1a) using electrophysiological, biochemical and molecular biology techniques.</td>
</tr>
<tr>
<td>Maringer</td>
<td>Katherine</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Maringer’s focused her research on binding interactions and inter-regulation of AMP-activated protein kinase (AMPK) and the cystic fibrosis trans-epithelial receptor (CFTR) using HEK cells, and polarized bronchial epithelial cells. She transitioned to studies of a subpopulation of kidney endothelial progenitor cells and their influence on the susceptibility and recovery following acute kidney injury (AKI) produced through unilateral ischemia reperfusion.</td>
</tr>
<tr>
<td>Employee Last Name</td>
<td>Employee First Name</td>
<td>Degree Code</td>
<td>Current Title</td>
<td>Summary of activities</td>
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<tr>
<td>--------------------</td>
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<tr>
<td>Raghavan</td>
<td>Venkatesan</td>
<td>PhD</td>
<td>Consultant at Quintiles IMS, NY</td>
<td>Dr. Raghavan studied the regulation of flow stimulated endocytosis in polarized epithelial cells.</td>
</tr>
<tr>
<td>Ray</td>
<td>Evan</td>
<td>MD, PhD</td>
<td>Assistant Professor of Medicine</td>
<td>Dr. Ray investigated the physiologic regulation of ENaC as it pertains to renal sodium handling and blood pressure.</td>
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</table>
PUBLICATIONS

High-Impact Publications


As part of a clinical trial of symptom management in patients on chronic hemodialysis, the investigators assessed depression on a monthly basis. They found that patients on chronic hemodialysis with depression are frequently not interested in modifying or initiating antidepressant treatment, and commonly attribute their depression to a recent acute event, chronic illness, or dialysis. Furthermore, renal providers are often unwilling to modify or initiate antidepressant therapy.


The authors examined the role of ubiquitin-protein ligase NEDD4-2 in the adaptation of organisms to K+ deficiency. NEDD4-2 is known to negatively regulate the epithelial sodium channel, the Na+/Cl- cotransporter, and with no-lysine-kinase 1 (WNK1). They found that NEDD4-2 has a crucial role in K+ conservation through direct and indirect effects on ENaC, distal nephron K+ channels, and WNK signaling.


The authors conducted a UNOS survey across US transplant centers regarding their approach to surveillance biopsies and reasons for the nonperformance of surveillance biopsies. They found that only 17% of centers performed surveillance biopsies, with an additional 21% performing surveillance biopsies in select cases.

Peer-Reviewed Publications


Chiu B, Tai HC, Chung SD, **Birder LA**. Botulinum Toxin A for Bladder Pain Syndrome/Interstitial Cystitis. Toxins (Basel). 2016 Jul 1;8(7).


Drake MJ, **Kanai A**, Bijos DA, **Ikeda Y**, **Zabbarova I**, Vahabi B, Fry CH. The Potential Role of Unregulated Autonomous Bladder Micromotions in Urinary Storage and Voiding Dysfunction; Overactive Bladder and Detrusor Underactivity. BJU Int. 2017 Jan;119(1);22-29.


Ikeda Y, Zabbarova I, Schaefer CM, Bushnell D, De Groat WC, Kanai A, Bates CM. Fgfr2 is Integral for Bladder


Kleyman TR, Davis JR. Why Publish Case Reports in Physiological Reports. Physiol Rep. 2016 May;4(9)


Tan RJ. TNF ROCKs the Boat as the Kidney Endothelium Springs a Leak. Physiol Rep. 2016 Jan;4(1)


The Division of Rheumatology and Clinical Immunology continues to be a worldwide leader both clinically and academically, and it is on the leading edge of research that will ultimately offer patients the latest clinical therapies. UPMC has been named one of the top rheumatology programs in the United States by U.S. News & World Report every year since 2007; our program was ranked 11th in the magazine’s most recent rankings. The Division also includes physicians and faculty members who are included among the peer-selected Best Doctors in America.

Among this year’s Division highlights are:

- Innovative clinical and laboratory research programs
- Unique opportunities for future academic rheumatologists
- Extramural funding to investigate:
  - Pathogenesis of autoimmune disease
  - Systemic lupus erythematosus
  - Polymyositis
  - Rheumatoid arthritis
  - Vasculitis
  - Osteoarthritis
  - Systemic sclerosis
  - Sjögren’s syndrome
  - Pain in autoimmune diseases

We are committed to a mission of providing the highest quality care for patients with arthritis and autoimmune diseases, and to mentoring and training medical students, residents, fellows, and junior faculty. Our research mission is to better understand arthritis, autoimmune, and other connective tissue diseases in order to improve diagnosis and therapies, with the ultimate goal of finding ways to cure and prevent these disorders.
Extramural funding remained consistent during the past year. Major faculty areas of investigative interest include basic mechanisms of tissue injury and pathogenesis, as well as clinical features, natural history and therapy of systemic sclerosis, systemic lupus erythematosus, polymyositis-dermatomyositis, rheumatoid arthritis, vasculitis, and osteoarthritis. The division also has a T-32 fellowship in collaboration with the Department of Immunology.

Sarah Gaffen, PhD, has been named the Director of Basic Research in the Division of Rheumatology and Clinical Immunology. She works with junior investigators and oversee our research laboratories.

Research activities included:

- Larry Moreland, MD, and Mandy McGeachy, PhD, received a fourth-year of competitive funding from NIAID and NIAMS to participate in a UH2 project as part of the Accelerating Medicines Partnership for Rheumatoid Arthritis (RA) and Systemic Lupus Erythematosus (SLE).
- Last year, Larry Moreland, MD, and Mandy McGeachy, PhD, initiated a clinical study in patients with rheumatoid arthritis. The MAZERATI study will examine the mechanisms of action between three commonly used biologic agents.
- Ghaith Noaiseh, MD, was invited to continue in the Lupus Clinical Investigators Network (LuCIN), which now has its first set of clinical trials.
- Rohit Aggarwal, MD, MS, is working in a partnership with Momenta Pharmaceuticals, Inc. to genetically characterize the Fc Receptor in myositis patients.
- Chester V. Oddis, MD, and Rohit Aggarwal, MD, MS, initiated a multi-site clinical trial with Bristol-Meyers Squibb to examine the use of abatacept in treating myositis patients with interstitial lung disease.
- Partrizia Fuschiotti, PhD, and ASLAN Pharmaceuticals are investigating the neutralization of cutaneous T-cell lymphomas with a new agent from ASLAN.
- Kimberly P. Liang, MD, is a co-investigator on a new award to Dr. Shanmugam Nagarajan to study the impact of Fc gamma receptor signaling on lupus-induced atherosclerosis.
- Working with Elpidera, Robert Lafyatis, MD, is testing the efficacy of targeting LOXL2 in a murine model of systemic sclerosis.
- Continuing his work with single-cell RNAseq in scleroderma, Dr. Lafyatis is studying gene expression of dermal mesenchymal cells with funding from the Scleroderma Foundation as well as regulation of profibrotic macrophages with competitive funding from Pfizer, Inc.
- With NIH funding and free drug from Biogen, Dr. Lafyatis has begun a study to look at dimethyl fumarate’s efficacy in scleroderma patients with pulmonary arterial hypertension.
- Sarah L. Gaffen, PhD, received NIH funding to examine IL-17 isoforms in organ specific autoimmunity with her colleagues Mandy J. McGeachy, PhD, and Partha S. Biswas, BVSc, MVSc, PhD.
• Yong Gil Hwang, MD, and Dr. Moreland began examining subgroups of patients with rheumatoid arthritis based on biophysical and psychosocial factors. They received funding from Pfizer.

• Dr. Gaffen was recognized by the National Institute of Dental and Cranialfacial Research (NIDCR) as having superior competence and outstanding productivity. Her R01 renewal application was renewed as a MERIT award R37.

• Robyn Domsic, MD, MPH, received NIH R01 funding to enhance future clinical trials in scleroderma with her project, Addressing Critical Knowledge Gaps in Early Diffuse Scleroderma Trial Design.

• With her colleagues from the University of Michigan, Dr. Domsic is recruiting patients to the Bayer-supported study, RESCUE: A Pilot Study to Assess the Efficacy and Safety of Riociguat vs. Placebo in Scleroderma-Associated Digital Ulcers.

• Continuing their work investigating the use of ACTHAR gel in myositis, Drs. Aggarwaland and Oddis received continued funding from Mallinckrodt to include additional patients and a new arm to their pilot study: Open Label Proof of Concept Study to Evaluate Efficacy and Safety of Adrenocorticotropic Hormone Gel in Refractory Dermatomyositis or Polymyositis.

• Dr. Aggarwal received funding from The Myositis Association to study novel outcome measures in adult myositis using a physical activity monitor.

• Dr. Biswas’s proposal, Mechanisms of IL-17 Mediated Host Defense in the Kidney, was funded as an R01 from NIH/NIDDK.

• Patrizia Fuschiotti, PhD, received funding from the Cutaneous Lymphoma Society to study the Role of the Interleukin 13 Alpha 2 Receptor (IL-13Ra2) in Cutaneous T cell Lymphoma.

• Dr. Fuschiotti also received NIH funding for her R21 proposal, Molecular Pathways of Interleukin-13 in Cutaneous T-cell Lymphoma.

• Dr. Gaffen is participating as co-investigator on a study at Case Western University to examine IL-17C mediated mechanisms of inflammation.

• Dr. Lafyatis joined the academic rheumatology faculty in FY16 and brought with him a P50 award, Novel Therapeutics and Precision Medicine in Systemic Sclerosis.

• Dr. Lafyatis also transferred a P30 core center award for scleroderma research, Rheumatic Diseases Research Core Centers.

• In addition, the study, Innate Immunity in Dermal Fibrosis and Systemic Sclerosis, was transferred as an R01 by Dr. Lafyatis to the University of Pittsburgh School of Medicine.

• Dr. Liang received R21 funding for three years from NIH/NIAMS for her SEDRA study, which is trying to answer the question, Does Sildenafil Improve Endothelial Dysfunction in Rheumatoid Arthritis?

• Dr. Liang was awarded $70,000 from the Department of Medicine Junior Scholars’ competition; the funds will provide research assistance for her clinical studies.

• Dr. McGeachy received funding from the Rheumatology Research Foundation to examine Th17/Tfh cell function and regulation in rheumatoid arthritis patients.

• Dr. Moreland was invited by the Autoimmunity Centers of Excellence (ACE Network) to serve as a site PI for theStopRA study to evaluate a strategy to prevent the onset of clinically-apparent rheumatoid arthritis using traditional disease-modifying drugs (DMARDs). Based on enrollment, this is $145,959 in funding.

• Dr. Moreland is working with colleagues at Harvard University on the TARGET-PET-CT study, which will use sophisticated PET-CT imaging to examine the effect of rheumatoid arthritis disease-modifying drugs (DMARDs) on vascular inflammation in patients with rheumatoid arthritis ($80,000).
New Research Initiatives / Ongoing and Planned Collaborations

New research initiatives include the following:

- **Rohit Aggarwal MD MSc** received funding from Pfizer for his immunization project, IMPRESS, which will expand the immunization program to other Divisions in the Department of Medicine, including cardiology, endocrinology, gastroenterology and hepatology, hematology/oncology, immunology, infectious diseases, nephrology and pulmonary.
**Faculty Research Interests**

**Rohit Aggarwal** MD MS  
Dr. Aggarwal’s research centers on myopathies, including polymyositis, dermatomyositis, and inclusion body myositis. He is also interested in autoimmune or connective tissue disease that is related to interstitial lung disease or pulmonary fibrosis.

**Partha Biswas** BVSc MVSc PhD  
The Biswas laboratory’s research centers on understanding the impact of Interleukin-17 receptor signaling in renal immunity and autoimmunity by combining basic and translation research. The kidney is often subject to irreversible damage caused by infections and auto-inflammatory conditions. The incidence of end-stage kidney damage is increasing worldwide and represents a major clinical and economic burden. Currently, there are no effective treatments for this fatal condition. The complex inflammatory cytokine network and renal inflammatory events that drive the progression of kidney injury to irreversible damage is poorly understood. The research program in the Biswas laboratory is divided into several areas, focused around IL-17 receptor signaling in the kidney: 1) Determining how IL-17 drives irreversible kidney damage, with the goal of revealing effective therapeutic approaches to block IL-17 signaling in chronic kidney diseases including lupus nephritis; 2) Defining the mechanisms of IL-17-mediated renal immunity against disseminated candidiasis and uropathogenic E. coli infection, and 3) Understanding the role of IL-17 receptor signaling in renal fibrosis, the final outcome of acute or chronic kidney diseases leading to kidney dysfunction.

**Robyn Domsic** MD MPH  
Dr. Domsic’s is interested in improving the care of patients with scleroderma. Her research to date has focused on creating and testing risk stratification strategies for scleroderma patients. These tools can be used to improve both patient care and clinical trial design. Her second main area of research interest is Raynaud's phenomenon and the vascular manifestations of scleroderma. Specifically, she is interested in novel imaging techniques for vascular involvement in scleroderma and assessing new outcome measures for testing therapies treating Raynaud's phenomenon.

Dr. Domsic continues to be actively involved in several multi-center clinical trials investigating potential therapies for the management of scleroderma and Raynaud's phenomenon. Recently, she was awarded funding for an investigator-initiated trial examining the effect of atorvastatin on Raynaud's phenomenon that will be completed only at the University of Pittsburgh.

**Patrizia Fuschiotti** PhD  
Dr. Fuschiotti’s research interests focus on the cellular and molecular mechanisms of pathogenesis by T cell and T cell-derived cytokines in chronic inflammatory conditions. Particular emphasis is given to the roles played by cytokine IL-13 and its receptors (IL-13Ra1 and IL-13Ra2) in fibrosis, autoimmunity, and cancer. The context of this work has been in human diseases primarily affecting the skin, namely systemic sclerosis (SSc), an autoimmune connective tissue disease whose main clinical feature is fibrosis, and cutaneous T cell lymphoma (CTCL). Dr. Fuschiotti has shown that IL-13 and its molecular pathways are involved in both diseases, acting as a major pro-fibrotic factor in SSc and as an autocrine factor for CTCL. In addition to understanding the underlying mechanisms of pathogenesis, Dr. Fuschiotti has also been developing strategies aimed at targeting IL-13 and its molecular pathways for therapeutic relief.

**Sarah Gaffen** PhD  
The immune system strikes a remarkably tight balance between controlling infections and limiting immunity to self. T cell-derived cytokines are a case in point: while critical for protecting against infectious disease, they also mediate pathology in autoimmunity. The Gaffen lab studies a cytokine called IL-17, which links innate and adaptive immunity through regulation of neutrophils and innate antimicrobial proteins. IL-17 and its receptor are unique in structure and sequence from other known cytokine families, and the Gaffen lab was among the first to study signaling mechanisms
mediated by this novel protein. Dr. Gaffen's group takes a variety of biochemical, molecular and in vivo approaches to defining IL-17 biology. In terms of infections, the lab was the first to demonstrate that IL-17 is critical for immunity to mucosal fungal infection with the commensal fungus, Candida albicans, causative agent of oral and vaginal thrush and also of systemic candidiasis, a serious hospital-acquired infection with >50% mortality. Research in the Gaffen lab is heavily focused on defining the biological function of IL-17 and its receptor in the context of the oral mucosa. Treatment of autoimmune diseases has been revolutionized by biologic drugs that neutralize cytokines, such as etanercept (a TNF receptor antagonist) and tocilizumab (an IL-6 receptor antagonist). Many of these drugs target the Th17/IL-17 pathway, and antibodies to IL-17 were approved in 2016 for psoriasis. Dr. Gaffen's group aims to understand the physiological impact of cytokine blockade in humans, particularly with respect to the IL-17 signaling pathway.

Yong Hwang MD
Rheumatoid arthritis (RA) is a common immune-mediated disease. Patients with established RA indicate that 47% of patients continue to have widespread pain despite relatively low levels of inflammation. Dr. Hwang's current research interest is to identify subgroups of RA patients with distinct pain, inflammation, and psychosocial factors and to investigate whether there are different treatment responses among subgroups.

Robert Lafyatis MD
Dr. Lafyatis’s laboratory focuses on understanding scleroderma (systemic sclerosis) and developing novel therapeutic approaches based on identifying biomarkers of the disease process and utilizing biomarkers in clinical trials. The lab’s researchers have utilized a biomarker approach in a clinical trial of fresolimumab (anti-TGF-beta) to show a role for TGF-beta in skin fibrosis associated with systemic sclerosis. They are also applying their pharmacodynamic biomarker of skin disease to trials of tocilizumab (trial completed), and C-82 and rilonacept (ongoing). The lab has a particular interest in understanding the mechanisms stimulating immune response in systemic sclerosis, focusing on innate immune responses leading to fibrosis and vascular injury. Data show increased expression of interferon responsive genes in circulating monocytes of scleroderma patients, prompting current investigations into the stimulus for this pattern of gene expression and the effect of interferon on fibrosis and vascular injury. Most recently, Dr. Lafyatis and his team have been examining the transcriptome of single cells in the skin and lungs of patients with systemic sclerosis to better understand changes in gene expression in different immune and connective tissue cell types that lead to disease.

To aid in developing new therapies for systemic sclerosis, Dr. Lafyatis is studying the pathogenesis through existing murine models, particularly bleomycin-induced skin and lung fibrosis, testing novel therapeutics to clarify the relationship between innate immunity and fibrosis. The goal is to gain insight from these models that will enable us to propose more informative early phase clinical trials, utilizing biomarkers to show target engagement and as a surrogate clinical response.

Kimberly Liang MD
Dr. Liang’s interests lie in the heterogeneity of rheumatic diseases and their link pathologically to atherosclerosis and vascular disease. Her current research focus is on the evaluation of risks, determinants, and management strategies of premature cardiovascular disease (CVD) in RA patients, through the use of novel noninvasive vascular studies that serve as measures of subclinical atherosclerosis and surrogate markers of future CVD events. Her NIH-funded R21 proposal investigates whether sildenafil use in RA patients improves endothelial dysfunction (as assessed by brachial artery flow-mediated dilation and peripheral arterial tone) and improves serum biomarkers of atherosclerosis and inflammation. Her NIH-funded K23 proposal investigated whether RA patients are more likely to develop vulnerable, atherosclerotic plaques than non-RA patients, as assessed by novel microbubble contrast-enhanced carotid ultrasound (CU) imaging techniques. Dr. Liang’s Vasculitis Foundation-funded proposal investigates whether CU can differentiate between active disease vs. atherosclerotic damage in large-vessel vasculitis. She is interested in developing expertise in novel vascular techniques and applying this technology to the diagnosis and follow-up of rheumatic disease patients with vascular diseases. She is also actively engaged in multiple clinical trials and observational studies of patients with SLE, vasculitis, and RA.
Douglas Lienesch MD
Dr. Lienesch supports the clinical research efforts of the University of Pittsburgh Rheumatology through the Vasculitis and Rheumatoid Arthritis Centers.

Mandy McGeachy PhD
The McGeachy lab studies mechanisms of activation and regulation of Th17 cells in autoimmune inflammation. In the past decade, Th17 cells have garnered much attention as drivers of tissue inflammation, and therapies to target Th17-associated pathways are making remarkable progress in clinic. Dr. McGeachy’s research is uncovering unexpected roles for both immune and non-immune associated proteins in Th17 biology. For example, in one NIH-funded project, the lab has identified that integrin avß3 is expressed by Th17 cells and is important for their ability to induce inflammation in EAE, the mouse model of multiple sclerosis. Ongoing studies are now investigating the mechanisms through which avß3 integrins regulate Th17 inflammation in different tissues of the body, including LN. Dr. McGeachy is also studying inflammatory T cells in humans with rheumatoid arthritis, in a project recently funded by the Rheumatology Research Foundation to study effects of T cell costimulatory pathway blockade in RA. Biologic therapy in patients offers the opportunity to determine changes in T cells that are related to blockade of specific immune pathways, and researchers are collaborating with rheumatologists to conduct controlled longitudinal clinical studies to track changes in T cell populations that correspond to blockade of TNF, CD28 or IL-6R. The University of Pittsburgh, including the McGeachy lab, is also one of five sites chosen nationally for the NIH/industry/foundation-funded Accelerating Medicines Partnership, which aims to dissect the immune networks that are active in different cellular populations isolated from RA joint tissues using state-of-the-art assays and bioinformatics.

Thomas Medsger MD
Dr. Medsger has more than 280 peer-reviewed publications and over 150 invited works (textbook chapters, reviews). He has developed a national/international reputation for his clinical and translational research on systemic sclerosis (SSc). His interests include development of clinical and serologic classification and subset classification of SSc, serum autoantibodies in SSc, clinical features, organ system involvement and natural history of disease (morbidity and mortality). Dr. Medsger co-created the University of Pittsburgh Scleroderma Patient Registry, a longitudinal database containing over 4,000 patients, and he developed a widely-used damage index for organs affected by SSc. Ten of his former research trainees have gone on to found SSc research and patient care programs at other institutions. In 2016, the Department of Medicine, in recognition of his accomplishments, created an endowed professorship for arthritis research in Dr. Medsger’s name.

Siamak Moghadam-Kia MD MPH
Dr. Moghadam-Kia’s interests are inflammatory myopathies and biomarker clinical studies

Niveditha Mohan MD
Dr. Mohan’s research centers on clinical trials in vasculitis.

Larry Moreland MD
Dr. Moreland’s research interest is conducting translational research for diseases such as rheumatoid arthritis, vasculitis, lupus, and spondyloarthropathies. He has extensive experience in clinical trials and long-term registries for patients with autoimmune diseases. Specific areas of interest are pathogenesis, biomarkers, and outcomes research. He has extensive collaborations with colleagues at the University of Pittsburgh as well as numerous investigators at other academic institutions. In addition to being the Rheumatology Division Chief, Dr. Moreland is Director of the University of Pittsburgh and UPMC Rheumatoid Arthritis Center and Vasculitis Center.

Ghaith Noaiseh MD
Dr. Noaiseh is the site Principal Investigator for several randomized clinical trials assessing efficacy of different novel biological therapies in the management of Sjögren’s Syndrome and Systemic Lupus Erythematosus. He also studies how the overlap of autoimmune rheumatic diseases affects the clinical phenotype, disease course, and response to therapy; specifically, the overlap of Sjögren’s Syndrome with other autoimmune diseases, such as Systemic Lupus...
Erythematous, myositis and Scleroderma. In 2014, his lab established the UPMC Sjogren's Registry, which collects data and blood samples of patients with Sjogren's Syndrome to facilitate research and collaboration with other institutions in this field.

**Chester Oddis MD**
Dr. Oddis has conducted myositis research for more than 30 years, and he has a longstanding interest in the epidemiology, clinical features, autoantibody correlations, and treatment of this condition. As Director of the Myositis Center at the University of Pittsburgh, he supervises and manages one of the world's largest clinically and serologically defined, longitudinal myositis databases. It includes over 1,000 patients with adult polymyositis, adult dermatomyositis, and overlap myositis disorders. He was the Principal Investigator on the RIM (Ritubimab in Myositis) Trial, which was the first multicenter clinical trial in myositis funded by the National Institutes of Health (N01 AR042273) and the largest clinical trial ever completed in myositis, enrolling 200 subjects from 20 adult and 11 pediatric national and international centers. Dr. Oddis collaborates with many national and international myositis investigators and has been involved with task forces developing clinical trial guidelines for both myositis as well as connective tissue disease associated interstitial lung disease (ILD). In 2008, he developed the Rheumatic Disease Data Management System (RDMS), which enabled myositis investigators to link disease activity and damage measures with clinical, laboratory, serologic, and experimental data over time. RDMS is web-based, and it permits real-time entry of clinical data and includes a robust specimen tracking system. Dr. Oddis has written extensively on the diagnosis and management of patients with myositis, including the use of novel immunosuppressive agents such as tacrolimus.

**John Richards MD**
Dr. Richards' research interests include participation in the VA Cooperative Studies Program #594: Comparative Effectiveness in Gout: Allopurinol vs. Febuxostat. He is also the site PI for the Veterans Affairs Rheumatoid Arthritis Registry.

**Faculty Research & Other Scholarly Activities**

**Rohit Aggarwal MD MS**
- Vice Chair, Scientific Committee, International Myositis Assessment & Clinical Studies (IMACS group), 2014-present
- Scientific Committee Member, International Conference on Myositis, 2016-present
- Member, Medical Advisory Board, The Myositis Association, 2014-present
- Co-Chair, Abstract Committee, Muscle Diseases, American College of Rheumatology, 2014-present

**Mehret Birru-Talabi MD PhD**
- Reviewer, Journal of General Internal Medicine, 2016-present

**Partha Biswas PhD**
- Ad hoc Reviewer, Competitive Medical Research Fund (CMRF), University of Pittsburgh, 2016
- Study Section Member, Rheumatology Research Foundation Innovative and Pilot Research Grant Program, 2016
- Ad hoc Reviewer, Competitive Medical Research Fund, University of Pittsburgh Office of Research, Health Sciences, Pittsburgh, PA, 2016, 2017
- Ad hoc Reviewer, grant pre-applications for Congressionally Directed Medical Research Program, Department of Defense-Lupus Panel, 2016
- Ad hoc Reviewer and Study Section Member, NIH/NIDDK Digestive, Kidney and Urological Systems (DKUS) Integrated Review Group [ZRG1 DKUS R (90)], 2017
• Ad hoc Reviewer, Health Research Board, Trinity College Dublin, Ireland, 2017
• Ad hoc Reviewer, Competitive Pilot Project Fund (CPPF) program, VA Healthcare Network VISN-4 2018, 2017
• Member, Pediatric Rheumatology Fellow Advisory Committee, 2014-present
• Member, Rheumatology Fellow Advisory Committee, 2015-present
• Member, Faculty Advisory Committee, 2015-present
• Editorial Board Member, Journal of Immunology, Infections and Inflammatory Disease, 2015-present

Robyn Domsic MD MPH
• Editorial Board, Journal of Scleroderma and Related Disorders, 2016-present

Patrizia Fuschiotti PhD
• Member, Scleroderma Center, UPMC
• Member, Melanoma Program, UPCI
• Member, American Association of Immunology
• Member, Federation of Clinical Immunology Societies (FOCIS)

Sarah Gaffen PhD
• Member, Training Grant External Advisory Board, University at Buffalo, State University of New York, 2010-present
• Member, Journal Editorial Board, Cytokine and Growth Factor Reviews, 2010-present
• Member, Editorial Board, Immunological Investigations, 2001-present
• Associate Editor, Cytokine, 2006-present
• Section Editor, Journal of Immunology, 2014-present
• Associate Editor, PLoS Pathogens, 2014-present
• Reviewing Editor, Journal of Biological Chemistry, 2015-present

Robert Lafyatis MD
• Co-Chair, International Workshop for Scleroderma, 2005-present
• Global Fibrosis Foundation Medical Advisory Council, 2009-present
• Associate Editor, Journal of Cell Communication and Signaling, 2006–present
• Reviewer, Arthritis & Rheumatism, 2005-present
• Reviewer, Annals of Rheumatic Diseases, 2005-present
• Reviewer, Journal of Investigative Dermatology, 2005-present
• Reviewer, American Journal of Pathology, 2005-present
• Reviewer, Journal of Cell Science, 2005-present
• Reviewer, Journal of Dermatologic Science, 2005-present
• Reviewer, American Journal of Respiratory Cell and Molecular Biology, 2005-present
• Reviewer, British Journal of Dermatology, 2005-present
• Reviewer, Journal of Pathology, 2005-present
• Reviewer, PlosONE, 2005-present
• Reviewer, Journal of Rheumatology, 2005-present
• Reviewer, Journal of Immunology, 2005-present
Kimberly Liang MD
- Editorial Board Member, Biomed Research International, 2013-2017
- Ad hoc Reviewer, Arthritis and Rheumatology, Arthritis Care and Research, The Journal of Rheumatology, other, 2015-present
- Reviewer, University of Newcastle PhD student thesis, 2017

Douglas Lienesch MD
- Pennsylvania Rheumatology Society Board of Directors
- Study Group, American College of Physicians/Rheumatology Research Foundation Training Award
- UPMC Mercy Hospital Grand Rounds, IL-17 Therapy in Rheumatic Disease

Mandy McGeachy PhD
- Ad hoc Reviewer, Nature Immunology, 2012-present
- Ad hoc Reviewer, Immunity, 2012-present
- Ad hoc Reviewer, Blood, 2012-present
- Ad hoc Reviewer, Journal of Experimental Medicine, 2012-present
- Ad hoc Reviewer, European Journal of Immunology, Arthritis and Rheumatology, 2012-present
- Ad hoc Reviewer, PLOS One, 2012-present
- Ad hoc Reviewer, Journal of Immunology, 2012-present
- Member, Editorial Board, Cytokine, 2014-present
- Member, Editorial Board, Scientific Reports (Nature Publishing Group), 2015-present
- Pre-Application Review, Congressionally Directed Medical Research Program, Department of Defense-Rheumatoid Arthritis, 2016

Thomas Medsger MD
- Member, Scleroderma Foundation, Western PA Chapter
- Board of Directors, Scleroderma Foundation, Western PA Chapter, 1992-present
- Treasurer, Scleroderma Foundation, Western PA Chapter, 1995-present
- Scleroderma Clinical Trials Consortium, 1993-present
- Member, National Scleroderma Foundation Medical Advisory Board, 2011-present

Siamak Moghadam-Kia MD
- Member, American College of Rheumatology, 2015-present

Niveditha Mohan MD
- Member, University of Pittsburgh School of Medicine Admissions Interviewing Committee, 2000-present

Larry Moreland MD
- Margaret Jane Miller Endowed Professor for Arthritis Research Chair, University of Pittsburgh, 2007-present
- NIAMS Clinical Trials Study Section, June 2016
- Member, American Society of Clinical Investigation (ASCI), 2000-present
- Editorial Board Member, Journal of Rheumatology, 1999-present
- Section Editor, Rheumatoid Arthritis Section, Current Rheumatology Reports, 1998-present
- Editorial Board Member, American Journal of Medicine, 2001-present
Ghaith Noaiseh MD
- Reviewer, Therapeutics and Clinical Risk Management, 2014-present
- Reviewer, Journal of Clinical Rheumatology, 2011-present
- Reviewer, Arthritis Care and Research, 2017-present
- Consensus Panel Expert Member, Clinical Practice Guidelines Recommendations on Rheumatological Manifestations and Management in Sjogren’s syndrome, Sjogren’s Syndrome Foundation, 2014-present
- Chairman, Sjogren’s Syndrome Foundation committee, Clinical Practice Guidelines Recommendations on Manifestations and Management of Vasculitis in Sjogren’s syndrome, Sjogren’s Syndrome Foundation, 2017-present

Chester Oddis MD
- Member, International Myositis Assessment and Clinical Studies (IMACS Group), 2000-present
- Member, Research Grant Review Committee, The Myositis Association, 2001-present
- Member, IMACS-Scientific Committee, 2016
- Member, International Myositis Classification Criteria Project, 2005-present
- Member, International Myositis Genetic Consortium (MYOGEN), 2006-present
- Member, Corporate Relations Committee, American College of Rheumatology, 2014-present
- Associate Editor, Arthritis & Rheumatology, 2015-present

John Steuart Richards MD
- Member, International Society for Clinical Densitometry, 2004-present
- Member, American Society for Bone and Mineral Research, 2008-present
- Member, Veterans Affairs Rheumatology Field Advisory Committee, 2010-present
- Ad hoc Reviewer, Journal of Viral Hepatitis, 2016
- Ad hoc Reviewer, The Open Rheumatology Journal, 2016
- Ad hoc Reviewer, Arthritis Care and Research, 2016
- American College of Rheumatology Abstract Selection Committee: Co-Chair for Rheumatoid Arthritis: Small molecules biologics and Gene Therapy, 2016, 2017

Jeremy Tilstra MD PhD
- FOCIS 2017 Oral Abstract Presentation Travel Award: FOCIS meeting, Chicago, IL, 2017
- Oral Abstract Presentation: Tumor Transplant and Tolerance Retreat, University of Pittsburgh, Pittsburgh, PA, 2017
- Basic Science Research Award, Fellows Category, University of Pittsburgh DOM Research Day, 2017
## GRANTS AND CONTRACTS AWARDED

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<td>Moreland, Larry W.</td>
<td>Central Pain Mechanisms, Pain Intensity and Drug Response in Rheumatoid Arthritis</td>
<td>BRIGHAM AND WOMEN'S HOSPITAL, INC./NIAMS</td>
</tr>
<tr>
<td>Moreland, Larry W.</td>
<td>Autoimmunity Centers of Excellence (ACE); Protocol ARA08; Strategy to Prevent the Onset of Clinically-Apparent Rheumatoid Arthritis; (STOPRA)</td>
<td>UNIVERSITY OF CALIFORNIA/DAVIS/NIAMS</td>
</tr>
<tr>
<td>Moreland, Larry W.</td>
<td>UPITT Rheumatoid Arthritis Combined Center (UPITT RACC)</td>
<td>NIAMS</td>
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<tr>
<td>Moreland, Larry W.</td>
<td>Vasculitis Clinical Research Consortium</td>
<td>UNIVERSITY OF PENNSYLVANIA/NIAMS</td>
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<td>Moreland, Larry W.</td>
<td>Novel Methods for the Conduct of Clinical Trials</td>
<td>UNIVERSITY OF PENNSYLVANIA / NHLBI</td>
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<tr>
<td>Moreland, Larry W.</td>
<td>Treatments Against RA and Effect on FDG PET CT: The Target Trial</td>
<td>BRIGHAM AND WOMEN'S HOSPITAL, INC./NIAMS</td>
</tr>
<tr>
<td>Oddis, Chester V.</td>
<td>Studies of the Natural History and Pathogenesis of Autoimmune and Connective Tissue Diseases (MTA)</td>
<td>NIEHS</td>
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<tr>
<td>Oddis, Chester V.</td>
<td>Environmental Risk Factors for the Antisynthetase Syndrome Protocol (MYORISK)</td>
<td>SOCIAL AND SCIENTIFIC SYSTEMS, INC./NIEHS</td>
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<tr>
<td>Oddis, Chester V.</td>
<td>Autoimmunity Center of Excellence Clinical Research Program: Rituximab for Treatment of SSC-PAH (ASC01)-Mechanistic</td>
<td>UNIVERSITY OF CALIFORNIA - SAN FRANCISCO/NIAD</td>
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<tr>
<td><strong>Total Public Health Service</strong></td>
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<td><strong>SOCIETY AND FOUNDATIONS</strong></td>
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<td>INDIRECT COSTS</td>
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<td><strong>AGGARWAL, ROHIT</strong></td>
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<tr>
<td>Novel outcome measures in adult myositis using a physical activity monitor and the PROMIS physical function assessments</td>
<td>MYOSITIS ASSOCIATION</td>
<td>$46,296</td>
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<tr>
<td><strong>DOMSIC, ROBYN</strong></td>
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<tr>
<td>A phase II study to evaluate the subcutaneous abatacept vs placebo in diffuse cutaneous systemic sclerosis - a double-blind, placebo-controlled, randomized controlled trial</td>
<td>UNIVERSITY OF MICHIGAN/ BRISTOL</td>
<td>$22,988</td>
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<tr>
<td><strong>DOMSIC, ROBYN</strong></td>
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<tr>
<td>The scleroderma patient-centered intervention network (SPIN) cohort</td>
<td>JEWISH GENERAL HOSPITAL</td>
<td>$2,742</td>
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<tr>
<td><strong>FUSCHIOTTI, PATRIZIA</strong></td>
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<td>Role of the interleukin 13 alpha 2 receptor (IL-13RA2) in cutaneous T cell lymphoma</td>
<td>CUTANEOUS LYMPHOMA FOUNDATION</td>
<td>$11,500</td>
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<tr>
<td><strong>LAFYATIS, ROBERT</strong></td>
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<tr>
<td>Single cell transcription of dermal mesenchymal cells in systemic sclerosis</td>
<td>SCLERODERMA FOUNDATION</td>
<td>$15,439</td>
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<tr>
<td><strong>MCGEACHY, MANDY J.</strong></td>
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<td>TH17/TFH cell function and regulation in RA patients</td>
<td>RHEUMATOLOGY RESEARCH FOUNDATION</td>
<td>$185,185</td>
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<tr>
<td><strong>MORELAND, LARRY W.</strong></td>
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<td>Abatacept (CTLA4-LG) for the treatment of relapsing, non-severe, granulomatosis with polyangitis (Wegener's) (ABROGATE)</td>
<td>CLEVELAND CLINIC</td>
<td>$9,096</td>
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<tr>
<td><strong>MORELAND, LARRY W.</strong></td>
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<tr>
<td>An international, open label, randomized controlled trial comparing rituximab with azathioprine as maintenance therapy in relapsing ANCA-associated vasculitis (RITAXAREM)</td>
<td>UNIVERSITY OF PENNSYLVANIA</td>
<td>$485</td>
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<tr>
<td><strong>MORELAND, LARRY W.</strong></td>
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<tr>
<td>Enhancing patients ability to understand and utilize complex information concerning medication self-management</td>
<td>UNIVERSITY OF NORTH CAROLINA/ PCORI</td>
<td>$3,669</td>
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<tr>
<td><strong>NOAISEH, GHAIITH</strong></td>
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<td>Lupus clinical investigators network (LUCIN)</td>
<td>ALLIANCE FOR LUPUS RESEARCH</td>
<td>$80,000</td>
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<tr>
<td><strong>ODDIS, CHESTER V.</strong></td>
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<td>Analysis and cleansing of osteoarthritis initiative (OAI) and the pivotal osteoarthritis MRI analyses (POMA) data</td>
<td>UNIVERSITY OF ARIZONA</td>
<td>$102,528</td>
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<td><strong>TOTAL SOCIETY AND FOUNDATIONS</strong></td>
<td><strong>$479,928</strong></td>
<td><strong>$31,996</strong></td>
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<td>INDUSTRY</td>
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<tr>
<td>AGGARWAL, ROHIT</td>
<td>MOLECULAR CHARACTERIZATION OF FC RECEPTOR BIOLOGY INDEX IN MYOSITIS PATIENTS</td>
<td>MOMENTA PHARMACEUTICALS, INC.</td>
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<tr>
<td>AGGARWAL, ROHIT</td>
<td>OPEN LABEL PROOF OF CONCEPT STUDY TO EVALUATE EFFICACY AND SAFETY OF ADRENOCORTICOTROPIC HORMONE GEL IN REFRATORY DERMATOMYOSITIS OR POLYMYOSITIS (ADMIN CORE)</td>
<td>QUESTCOR PHARMACEUTICALS, INC.</td>
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<tr>
<td>AGGARWAL, ROHIT</td>
<td>ACTHAR DERMATOMYOSITIS AND POLYMYOSITIS TREATMENT (ADAPT) REGISTRY</td>
<td>PNA CENTER FOR NEUROLOGICAL RESEARCH</td>
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<tr>
<td>DOMSIC, ROBYN</td>
<td>A PILOT STUDY TO ASSESS THE EFFICACY AND SAFETY OF RIOCIGUAT VS PLACEBO IN SCLERODERMA-ASSOCIATED DIGITAL ULCERS</td>
<td>UNIVERSITY OF MICHIGAN/BAYER</td>
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<tr>
<td>DOMSIC, ROBYN</td>
<td>ANALYSIS OF RESEARCH ENDPOINTS TO A BAYER CLINICAL TRIAL</td>
<td>COVANCE CENTRAL LABORATORY SERVICES</td>
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<tr>
<td>DOMSIC, ROBYN</td>
<td>SCLERODERMA TREATMENT WITH CELUTION PROCESSED ADIPOSE DERIVED REGENERATIVE CELLS (STAR): A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL WITH INCOMPLETE CROSSOVER</td>
<td>CYTORI THERAPEUTICS, INC.</td>
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<tr>
<td>DOMSIC, ROBYN</td>
<td>A DOSE-RANGING STUDY OF THE EFFICACY AND SAFETY OF BARDOXOLONE METHYL IN PATIENTS WITH PULMONARY HYPERTENSION</td>
<td>REATA PHARMACEUTICALS</td>
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<tr>
<td>DOMSIC, ROBYN</td>
<td>A PHASE 2, DOUBLE-BLIND, RANDOMIZED, PLACEBO-CONTROLLED MULTICENTER STUDY TO EVALUATE SAFETY, TOLERABILITY, EFFICACY, AND PHARMACOKINETICS OF JBT-101 IN DIFFUSE CUTANEOUS SYSTEMIC SCLEROSIS, AGREEMENT EXECUTED WITH CORBUS PHARMACEUTICALS (SPONSOR) HAS BEE</td>
<td>CORBUS PHARMACEUTICALS</td>
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<tr>
<td>FUSCHIOTTI, PATRIZIA</td>
<td>ASLAN COLLABORATIVE RESEARCH PROJECT</td>
<td>ASLAN PHARMACEUTICALS</td>
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<td>GAFFEN, SARAH</td>
<td>CYTOKINE SYNERGY IN CONTROL OF FUNGAL INFECTIONS</td>
<td>JANSSEN PHARM</td>
</tr>
<tr>
<td>GAITH NOAISEH</td>
<td>A PHASE 2A, RANDOMISED, PLACEBO-CONTROLLED, PROOF OF MECHANISM STUDY TO EVALUATE THE SAFETY AND EFFICACY OF AMG557/MEDI5872 IN SUBJECTS WITH PRIMARY SJOGREN'S SYNDROME</td>
<td>MEDIMUMMINE</td>
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<td>Project Description</td>
<td>Sponsor</td>
<td>Direct Costs</td>
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<td>PHASE 3B/4 RANDOMIZED SAFETY ENDPOINT STUDY OF 2 DOSES OF TOFACITINIB IN COMPARISON TO A TUMOR NECROSIS FACTOR (TNF) INHIBITOR IN SUBJECTS WITH RHEUMATOID ARTHRITIS</td>
<td>Pfizer, Inc.</td>
<td>$15,847</td>
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<td>A MULTI-CENTER, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, PARALLEL GROUP PHASE 2A STUDY TO ASSESS THE EFFICACY OF RO5459072 IN PATIENTS WITH PRIMARY SJÖRGEN’S SYNDROME</td>
<td>Hoffman LaRoche</td>
<td>$22,332</td>
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<td>A MULTICENTRE, RANDOMISED, DOUBLE-BLIND, PLACEBO-CONTROLLED, PHASE 3 STUDY EVALUATING THE EFFICACY AND SAFETY OF ANIFROLUMAB IN ADULT SUBJECTS WITH ACTIVE SYSTEMIC LUPUS ERYTHEMATOSUS</td>
<td>AstraZeneca</td>
<td>$27,633</td>
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<td>A PILOT, PHASE 2, RANDOMIZED, PLACEBO-CONTROLLED, DOUBLE-BLIND, STUDY TO EVALUATE EFFICACY, SAFETY, TOLERABILITY, PHARMACOKINETICS, PHARMACODYNAMICS AND PHARMACOGENETICS OF CC-220 IN SUBJECTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS</td>
<td>Celgene</td>
<td>$500</td>
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<tr>
<td>A PHASE II MULTICENTER, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, DOSE-RANGE FINDING STUDY TO EVALUATE SAFETY AND EFFICACY OF ALX-0061 (STUDY DRUG) ADMINISTERED SUBCUTANEOUSLY IN SUBJECTS WITH MODERATE TO SEVERE ACTIVE SYSTEMIC LUPUS ERYTHEMATOSUS</td>
<td>Ablynx</td>
<td>$32,699</td>
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<tr>
<td>A RANDOMIZED, CONTROLLED STUDY OF SARILUMAB AND METHOTREXATE (MTX) VERSUS ETANERCEPT AND MTX IN PATIENTS WITH RHEUMATOID ARTHRITIS (RA) AND AN INADEQUATE RESPONSE TO 4 MONTHS OF TREATMENT WITH ADALIMUMAB AND MTX</td>
<td>Sanofi</td>
<td>$808</td>
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<tr>
<td>A PHASE 3/4, MULTI-CENTER, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, 52-WEEK STUDY TO EVALUATE THE EFFICACY AND SAFETY OF BELIMUMAB (HGS1006) IN ADULT SUBJECTS OF BLACK RACE WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)</td>
<td>Human Genome Sciences</td>
<td>$1,373</td>
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<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
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<td>HWANG, YONG GIL</td>
<td>PILOT STUDY USING PAINDETECT IN RHEUMATOID ARTHRITIS</td>
<td>PFIZER INC.</td>
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<tr>
<td>LAFYATIS, ROBERT</td>
<td>ELPIDERA PHASE 1 STUDY: TESTING THERAPEUTIC APPROACH (ANTI-LOXL2) EFFICACY IN MURINE MODELS OF SYSTEMIC SCLEROSIS (SSC)</td>
<td>MODERNA, INC.</td>
</tr>
<tr>
<td>LEVESQUE, MARC C.</td>
<td>A PHASE III, MULTI-CENTER, OPEN-LABEL, EXTENSION STUDY TO ASSESS THE SAFETY AND TOLERABILITY OF EPRATUZUMAB TREATMENT IN SYSTEMIC LUPUS ERYTHEMATOSUS SUBJECTS (EMBODY 4).</td>
<td>UCB, INC.</td>
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<tr>
<td>MORELAND, LARRY W.</td>
<td>PROSPECTIVE, OBSERVATIONAL SAFETY STUDY OF PATIENTS WITH GRANULOMATOSIS WITH POLYANGIITIS (WEGENER'S) OR MICROSCOPIC POLYANGIITIS TREATED WITH RITUXIMAB</td>
<td>GENENTECH, INC. IN COLLABORATION WITH BIOGEN IDEC, INC.</td>
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<tr>
<td>MORELAND, LARRY W.</td>
<td>RHEUMATOID ARTHRITIS COMPARATIVE EFFECTIVENESS RESEARCH (RACER) LONGITUDINAL EXTENSION STUDY</td>
<td>GENENTECH, INC.</td>
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<tr>
<td>MORELAND, LARRY W.</td>
<td>MECHANISTIC STUDIES OF B- AND T-CELL FUNCTION IN RHEUMATOID ARTHRITIS PATIENTS TREATED WITH TGF-β ANTAGONISTS, TOCILIZUMAB OR ABATAcept (MAZERATI), AMENDMENT 1</td>
<td>BRISTOL MEYERS-SQUIBB</td>
</tr>
<tr>
<td>ODDIS, CHESTER V.</td>
<td>TOCILIZUMAB IN THE TREATMENT OF REFRACTORY POLYMYOSITIS AND DERMATOMYOSITIS</td>
<td>GENENTECH, INC.</td>
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<td>REGUEIRO, MIGUEL</td>
<td>A RANDOMIZED, DOUBLE-BLIND, MULTICENTER STUDY OF VISILIZUMAB VERSUS PLACEBO IN SUBJECTS WITH INTRAVENOUS STEROID-REFRACTORY UCERATIVE COLITIS PREVIOUSLY RESPONSIVE IN A VISILIZUMAB STUDY</td>
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**TOTAL INDUSTRY**                                                                                               $1,993,188  $633,594

**PUBLIC HEALTH SERVICE**                                                                                       $2,229,353  $1,153,712

**SOCIETY AND FOUNDATIONS**                                                                                       $479,928    $31,996

**INDUSTRY**                                                                                                     $1,993,188  $633,594

**TOTAL**                                                                                                        $4,702,469  $1,819,302
TEACHING

Division faculty members have extensive teaching responsibilities, both in the Department of Medicine (DOM) and in the School of Medicine. Faculty members are involved at all levels of the educational process, from directing first-year courses to having medical students participate in a four-week Rheumatology elective. Interns and more senior Internal Medicine residents rotate on the Rheumatology Service for two to four weeks. Faculty and fellows teach residents in the Rheumatology Clinics during their ambulatory medicine block. Faculty members also lecture at the annual DOM Update in Internal Medicine conference series.

Our clinical training for fellows includes a comprehensive didactic curriculum involving the Summer Didactic Lecture Series, Immunology Lecture Series, monthly Journal Club, monthly radiology conferences, and weekly Grand Rounds. All of these activities have direct faculty supervision and, thus, encourage contact between fellows in training and academic faculty. We currently have six clinical fellows in either their first or second year of fellowship.

Teaching Activities

Rohit Aggarwal MD
• Sub-Specialty Education Coordinator, 2013-present
• Lecturer, Immunology in Health and Disease, 2014-present
• Clinicopathological Correlation of ILD elective, 2013-present
• Course Director, Medical Student, Senior Rheumatology Elective, 2012-present
• Course Director, Medical Student, Senior Research Elective, 2012-present
• Course Coordinator, Advance Physical Examination, 2011-present
• Course Coordinator, Introduction to Physical Examination, 2011-present
• Small Group Facilitator, Musculoskeletal and Skin Diseases, 2011-present
• Medical Student Clinical Experiences, Rheumatology, 2010-present
• MSK Physical Exam Skills, first- and second-year medical students, 2009-present
• Small Group Facilitator, Immunology in Health and Disease, 2010-present
• Rheumatology Course Curriculum, residents, 2013-present
• Muscle Examination Workshop, 2013-present
• Practice Management Conference, Rheumatology, 2013-present
• Musculoskeletal Ultrasound Clinic, 2012-present
• Rheumatology Ultrasound Workshop, 2011-present
• Resident Rotation Director, Outpatient Rheumatology, 2010-present
• Resident Rotation Director, Rheumatology Consults, 2010-present
• Resident & Fellow Clinical Rheumatology Lectures, 2010-present
• Clinical Case Conference, Rheumatology, 2009-present
• Radiology Conference, Rheumatology, 2009-present
• Rheumatology Grand Rounds, 2009-present
• Lecturer, Rheumatology Didactic, Rheumatology Drugs, 2012-present
• Lecturer, Rheumatology Didactic, Biological Drugs, 2015-present
• Clinical Preceptor for Fellows, resident and medical students, 2009-present
• Journal Club, Rheumatology, 2009-present

Mehret Birru Talabi MD PhD
• Lecturer, Scleroderma sine Scleroderma Discovered in Young Patient Diagnosed with Idiopathic Pulmonary Fibrosis, Interstitial Lung Disease Conference, Simmons Center, University of Pittsburgh Division of Pulmonary, Allergy, and Critical Care Medicine, 2016
- Lecturer, Mesenteric Vasculitis in a Patient with Systemic Lupus Erythematosus, Clinical Case Conference, Division of Rheumatology, University of Pittsburgh, 2016
- Lecturer, Methotrexate Pneumonitis, Clinical Case Conference, Division of Rheumatology and Clinical Immunology, University of Pittsburgh, 2016
- Presenter, Chemotherapy-Induced Inflammatory Arthritis: Pathogenesis and Treatment, Clinical Case Conference, Division of Rheumatology and Clinical Immunology, University of Pittsburgh, 2016
- Lecturer, Family Planning and Contraceptive Counseling for Women with Rheumatic Diseases, Grand Rounds, Division of Rheumatology and Clinical Immunology, University of Pittsburgh, 2016
- Presenter, Women’s Health Seminar Series, UPMC Division of General Internal Medicine. Contraceptive Method Selection for Women with Rheumatic Diseases 2017
- Lecturer, Family Planning and Reproductive Health Care Services for Women with Rheumatic Diseases, Career Education and Enhancement for Health Care Diversity, University of Pittsburgh, 2017
- Presenter, Management of Sjogren’s Syndrome and Idiopathic Inflammatory Myopathies During Pregnancy: A Rheumatologist’s Perspective, Maternal-Fetal Medicine Seminar Series, UPMC Department of Obstetrics-Gynecology, 2017

Partha Biswas PhD
- Lecturer, Immunology and Human Disease, MS-1, 2015-present
- Lecturer, Immunology/Basic Autoimmunity Core Didactic Series, Division of Rheumatology and Clinical Immunology, UPMC, 2015-present
- Lecturer, Experimental Basis of Immunology, 2016-present
- Lecturer, Comprehensive Immunology, 2016-present
- Lecturer, Immunology in Health and Disease, 2016-present
- Lecturer, Course in Cellular Physiology of the Kidney, 2016-present
- Lecturer, Course in Innate Immunity, 2015-present
- Lecturer, Immunology/Basic Autoimmunity Core Didactic Series, Division of Rheumatology and Clinical Immunology, UPMC, 2015-present
- PhD Thesis Committee Member, Kritika Ramani, PhD Candidate in Interdisciplinary Biomedical Graduate Program (Immunology), University of Pittsburgh, 2012-2016
- PhD Thesis Committee Member, Jeremy Gale, PhD Candidate in Interdisciplinary Biomedical Graduate Program (Immunology), University of Pittsburgh, 2014-2016
- PhD Comprehensive Exam Committee Member, Patricia Castilla, PhD candidate in Medical Science Training Program (Immunology), University of Pittsburgh, 2016

Robyn Domsic MD MPH
- Facilitator, Physical Exam Skills, first- and second-year medical students, 2005-present
- Small Group Facilitator, Methods and Logic in Medicine, 2011-present
- Small Group Facilitator, Musculoskeletal and Skin Diseases, 2011-present
- Fellowship/Medical Student Mentoring: Brandi Stevens, 2015-present; Shannon Zalewski, 2015-present

Patrizia Fuschiotti PhD
- Course Director, Comprehensive Immunology, graduate students, 2016
- Lecturer, GS-Comprehensive Immunology: Introduction to Immunology, 2016
- Lecturer, GS-Comprehensive Immunology: CTL Effector Mechanisms, 2016
- Lecturer, GS-Comprehensive Immunology: Immunopathology/Autoimmunity, 2016
- Lecturer, GS-Immune Systems Health & Disease: Autoimmune Connective Tissue Disease: Systemic Sclerosis, 2016
- Lecturer, first- and second-year medical students, Small Groups: PBL, 2016
Sarah Gaffen PhD
- Invited Speaker, Aberdeen Fungal Group Reading Party Retreat, Scotland, UK, January 2016
- Invited Speaker, American Society of Microbiology (ASM) Conference on Candida and Candidiasis, Session on Recognition and Host Resistance, Seattle, WA, 2016
- Invited Speaker, American Society of Microbiology (ASM) Conference on Candida and Candidiasis, Session on Recognition and Host Resistance, Seattle, WA, 2016
- Session Chair, Components of Innate Immunity to Fungi, Gordon Conference on Immunology of Fungal Infections, Galveston, TX, 2015
- Discussion Leader, Gordon Research Seminar on Immunology of Fungal Infections, Galveston, TX, 2015
- Co-Chair, ICIS Guest Society Symposium, American Association of Immunologists Annual Meeting, New Orleans, LA, 2015
- International Advisory Board, 3rd Annual Meeting of the International Cytokine and Interferon Society, Bamberg, Germany, 2015
- Chair, Block Symposium, Molecular Regulation of Cytokine/Chemokine and Receptor Function, New Orleans LA, 2015
- International Advisory Board, 4th Annual Meeting of the International Cytokine & Interferon Society (ICIS), San Francisco, CA, 2016
- Plenary Session Chair, Immune Biology and Host Response, 12th ASM Meeting on Candida and Candidiasis, Seattle, WA, 2016
- Mentor, PhD Candidate J. Agustin Cruz, 2013-present
- Mentor, PhD Candidate Nilesh Amatya, 2014-present
- Mentor, PhD Candidate Felix Enam Yao Aggor, 2016-present
- Mentor, Postdoctoral Fellow Akash Verma, 2014-present
- Mentor, Postdoctoral Fellow Leticia Monin, 2015-present
- PhD Thesis Committee member, Fernando Benavent, 2013-2016
- PhD Thesis Committee member, Avraham Bayer, 2013-2016
- PhD Thesis Committee member, Kritika Ramani, 2014-present
- PhD Thesis Committee member, Qianxia (Sherry) Zhang, 2014-present
- PhD Thesis Committee member, Stephanie Ander, 2016-present
- Postdoctoral/Medical Fellow Advisory Committees, Benjamin Matta PhD, 2012-present
- Postdoctoral/Medical Fellow Advisory Committees, Paschalis Vergidis MD, 2013-present
- Postdoctoral/Medical Fellow Advisory Committees, Pawan Kumar PhD, 2014-present
- Postdoctoral/Medical Fellow Advisory Committees, William Hawes PhD, 2014-present
- Postdoctoral/Medical Fellow Advisory Committees, Siamak Moghadam-Kia, 2014-present

Yong Gil Hwang MD
- Preceptor, Introduction of Physical Exam Course, 2015-present
- Preceptor, Rheumatology Fellow in Continuity Clinic, 2015-present

Robert Lafyatis MD
- Invited Lecture, oral abstract, Inhibition of Myeloid-Associated Gene Expression in Skin Biopsy Samples of Systemic Sclerosis Patients Treated with Tocilizumab, 4th Systemic Sclerosis World Congress, 2016
- Chair, Keystone Symposium, Fibrosis: From Basic Mechanisms to Targeted Therapies, Keystone, CO, 2016
Kimberly Liang MD
- Lecturer, Vasculitis: Granulomatosis with Polyangiitis, Immunology in Health & Disease Course, first-year medical students, University of Pittsburgh, 2013-present
- Small Group Teacher/Facilitator, second-year medical students, Musculoskeletal (and Skin) Course, University of Pittsburgh, 2013-present
- Facilitator, Physical Examination, first-year medical students, 2011-present
- Lecturer, Vasculitis, Rheumatology Didactic Series Lecture, University of Pittsburgh, 2014-present
- Faculty Mentor, Rheumatology Fellows’ Grand Rounds and Clinical Case Conference presentations, 2010-present
- Lecturer, Rosuvastatin-Induced Carotid Plaque Regression in Patients with Inflammatory Joint Diseases: The RORA-AS Study, Rheumatology Journal Club lecture, University of Pittsburgh, 2015
- Problem-Based Learning Session Facilitator, first-year medical students, Immunology Course, University of Pittsburgh, 2009-present
- Co-Mentor, Rheumatology Fellow’s research/scholarly project, Temporal Artery Biopsies: Clinicopathologic Correlation at a Single Institution, 2015-2016
- Mentor, Rheumatology Fellows’ Grand Rounds and Clinical Case Conference presentations, 2010-present

Douglas Lienesch MD
- Director, UPMC Rheumatology Fellowship Program, 2011-present
- Member, UPMC Health Plan Pharmacy and Therapeutics Committee, 2011-present
- Lecturer, Chairman’s Conference, 2007-present
- Attending/Teaching Rounds, Rheumatology Consultation Service, 2007-present
- Outpatient Preceptorship, Consultative Rheumatology Practice, 2007-present
- Lecture, Spondyloarthritis Lecture, MS1 Immunology, 2007-present
- Lecture, MS1 Musculoskeletal Exam Workshop, 2007-present
- Lecture, MS2 Rheumatology Workshop, 2007-present
- Lecturer, UPMC Presbyterian IM Residency, 2007-present
- Lecturer, Internal Medicine Conference Series, 2007-present
- Lecturer, UPMC Rheumatology Fellowship Didactics, 2007-present

Mandy McGeachy PhD
- Division Representative, Department of Medicine PhD Community Committee, 2015-2016
- Member, Division of Rheumatology Lupus Center Search Committee, 2015-present
- Lecturer, Immunology in Health Disease: Multiple Sclerosis Lecture (IBGRP Grant Program), 2014-present
- Lecturer, Approaches to Cell Imagining and Immunology: Developing and Using in Vivo Model Systems/Genetics Approach to Immunology, CLRES Fundamentals of Bench Research, 2015-2016
- Mentoring Pediatric Rheumatology Fellow, Deepika Singh, 2014-2016
- Mentoring, IBGRP Graduate Student, Gerard Hernandez-Mir, 2013-2017
- Mentoring, Post-Doctoral Fellow Associate, Saikat Majumber, 2016-present
- Mentoring, Post-Doctoral Fellow Associate, Itay Raphael, 2016-present
- Mentoring, Post-Doctoral Fellow Associate, Shankar Revu, 2016-present
- Mentoring, Graduate Thesis Committee, Taylor Eddens, MSTP, 2014-2016
- Mentoring, Graduate Thesis Committee, Patricia Castillo, MSTP, 2016-present

Siamak Moghadam-Kia MD MPH
- Lecturer, Skin and Musculoskeletal Disease Workshop, University of Pittsburgh, 2015-present
- Lecturer, Intro to Physical Examination Course, University of Pittsburgh, 2015-present
Niveditha Mohan MD
- Member, Education Committee, Division of Rheumatology, 2011-present
- Lecturer, Didactic Lectures for fellows, 2003-present
- Preceptor, Physical Exam Course, first- and second-year medical students, 2003-present
- Clinic Preceptor, medical students, residents rotating through rheumatology, 2003-present
- Preceptor, fellows in community clinic and on the floors; in musculoskeletal ultrasound, organizer and instructor in annual interdepartmental (between rheumatology and PM&R) MSK USG workshop, 2010-present
- Preceptor, MSK USG procedure clinic for fellows, 2013-present

Larry Moreland MD
- Lecturer, MS 1, MS 2
- Lecturer, Lecture on RA, Immunology in Health and Disease, first-year students
- Lecturer, Lecture on Immunotherapies in Autoimmune Disease, Immunology in Health and Disease, first-year students
- Lecturer, Rheumatology Didactic, Biologics, University of Pittsburgh
- Lecturer, Rheumatology Didactic, Rheumatoid Arthritis, University of Pittsburgh
- Co-Course Director, Update in Internal Medicine, Department of Medicine, University of Pittsburgh, 2013-present
- Mentoring, University of Pittsburgh Assistant Professor of Medicine Kim Liang, MD, 2010-present
- Mentoring, University of Pittsburgh Assistant Professor of Medicine Ghaith Noaiseh, MD, 2012-present
- Mentoring, University of Pittsburgh Assistant Professor of Medicine Young Gil Hwang, MD, 2013-present
- Mentoring, Medical Student, Tyler Sevco, 2014-present

Ghaith Noaiseh MD
- Attending, Rheumatology Inpatient Consult Service, supervising UPMC Rheumatology Fellows, 2012-present
- Facilitator, MSK Examination Workshop for Medical Student, University of Pittsburgh, 2012-present
- Lecturer, Summer Didactic Series: Sjogren’s Syndrome, Division of Rheumatology & Clinical Immunology, University of Pittsburgh Medical Center, 2013-present
- Lecturer, Sjogren’s Syndrome, Division of Rheumatology Grand Rounds, 2013-present
- Lecturer, Sjogren’s Syndrome, Immunology in Health and Disease, first-year students, 2014-present
- Invited presentation, A Year in Review, Rheumatology: 2016, UPMC Medical Grand Rounds, UPMC Presbyterian and Shadyside campuses, June 2017
- Invited speaker, Sjogren’s Syndrome: An Overview, Drexel University Medical Grand Round, April 2017

Chester Oddis MD
- Associate Director, Fellowship Program, 1996-2002, 2011-present
- Lecturer, MS 1, Immunology in Health and Disease, 150 medical students, FOUR lectures (Introduction to the Connective Tissue Diseases; Idiopathic Inflammatory Myopathy; Glucocorticoids and NSAIDs; Crystalline Arthropathy) 2005-present
- Course Co-Director, Skin and Musculoskeletal Diseases, MS-2, 2011-present
- Course Co-Director, Immunology in Health and Disease, MS-1, 2014-present
- Member, Division of Rheumatology Education Committee, 2006-present
- Member, Academic Search Committee, Lupus Center Director, 2014-present
- Clinic Preceptor, Outpatient Rheumatology, 1987-present
- Mentor: Faculty Advisor, University of Pittsburgh School of Medicine, 1996-present
- Lecturer, The Assessment and Management of Myositis, Harvard Rheumatology Grand Rounds, Boston, MA, 2016
- Inflammatory and Non-Inflammatory Myopathies, 24th Annual Rheumatology Board Review and Clinical Update, University of California, San Francisco, Aug. 18, 2016
- Myositis Autoantibodies, Update on the Treatment of Myositis, Myositis Mimics and Statin Myopathy, 61st Annual Lowe Conference on Rheumatic Diseases, University of Alabama School of Medicine, Birmingham, Sept. 23-25, 2016
- Treatment Approaches to Myositis, American College of Rheumatology Annual Scientific Meeting, Washington, D.C., Nov. 14, 2016
- The Many Faces of Myopathy, Medical Grand Rounds, University of Miami, Jan. 10, 2017
- Clinical Relevance of Myositis Associated Autoantibodies, American College of Rheumatology Winter Rheumatology Symposium (Snowmass), Jan. 26, 2017
- Treatment of Myositis and Its Systemic Complications, merican College of Rheumatology Winter Rheumatology Symposium (Snowmass), Jan. 27, 2017
- Myositis Autoantibodies in Clinical Care, CR State of Art Clinical Symposium, April 29, 2017
- Clinical Relevance of Myositis Associated Autoantibodies: Treatment Implications, Oregon Health Sciences University, TMA Visiting Professorship, May 24, 2017
- Update on Clinical Relevance of Myositis Autoantibodies, Hospital for Special Surgery, Rheumatology Grand Rounds, July 12, 2017

John Steuart Richards MD
- Lecturer, MS I and II Intro Physical Exam, Basic Musculoskeletal Exams, 2015, 2016
- Lecturer, MS II Skin and Musculoskeletal Diseases, 2015, 2016
- Lecturer, Annual Didactic SLE, University of Pittsburgh Rheumatology Fellows, 2015, 2017
- Lecturer, Annual Didactic Osteoporosis, University of Pittsburgh Rheumatology Fellows, 2016
- Lecturer, University of Pittsburgh Fetal and Maternal Health Fellows, 2015
- Lecturer, Rheumatology Teaching Rounds, 2015-present
- Lecturer, Chronic Renal Disease and Rheumatoid Arthritis, 8th Annual Caribbean Association for Rheumatology Meeting, Port-of-Spain, Trinidad, 2017
- Didactics to Rheumatology Fellows: Osteoporosis, 2016
- Didactics to Rheumatology Fellows: Systemic Lupus Erythematosus, 2016

Jeremy Tilstra MD PhD
- Facilitator, MS-1 Immunology PBL
- Course Facilitator, Introduction to Physical Exam
- Co-Director, MSTP Journal Club, second-year students
**Fellowship Program**

<table>
<thead>
<tr>
<th>Current Fellow</th>
<th>Medical School</th>
<th>Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aye Myo-Pale'</td>
<td>American University of the Caribbean School of Medicine</td>
<td>Staten Island University Hospital</td>
</tr>
<tr>
<td>Brunner Emily</td>
<td>Philadelphia College of Osteopathic Medicine</td>
<td>Geisinger Medical Center</td>
</tr>
<tr>
<td>Charlton Devon</td>
<td>Trinity School of Medicine, Saint Vincent and the Grenadines</td>
<td>Danbury Hospital</td>
</tr>
<tr>
<td>Herath Kanchana</td>
<td>Pennsylvania State University College of Medicine</td>
<td>Medical College of Wisconsin Affiliated Hospitals</td>
</tr>
<tr>
<td>Kocoloski Amanda</td>
<td>Ohio University Heritage College of Osteopathic Medicine</td>
<td>Carolinas Medical Center</td>
</tr>
<tr>
<td>O'Connor Anna</td>
<td>Royal College of Surgeons in Ireland School of Medicine</td>
<td>University of Western Ontario</td>
</tr>
</tbody>
</table>

**Departing Fellow**

<table>
<thead>
<tr>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aye Myo-Pale' Private practice out of country</td>
</tr>
<tr>
<td>Brunner Emily Continues to UPMC Adult/Pediatric Rheumatology Fellowship Program</td>
</tr>
<tr>
<td>Charlton Devon Pending private practice</td>
</tr>
</tbody>
</table>

**Fellow Abstracts**

**Charlton D**, Laffoon M, Medsger TA, Domsic RT. Long-Term Survival and Follow-Up of Anti-Th/To Antibody Positive Systemic Sclerosis, American College of Rheumatology Annual Meeting, San Diego, CA, Nov. 3-8, 2017 (Submitted)


**Fellow Presentations**

**Aye MP.** Poster Presentation, Atypical Optic Neuritis in ANCA-Associated Vasculitis, Pennsylvania Society Scientific Meeting, Sept. 16-17, 2016


**Kocoloski A.** Poster Presentation, But Was It Really Sjogren's Syndrome?, Pennsylvania Society Scientific Meeting, Sept. 16-17, 2016
Fellow Publications


Awards

Brunner E. Cure JM Foundation, $40,000
CLINICAL CARE

Twelve division faculty members are actively involved in seeing outpatients at the UPMC Arthritis and Autoimmunity Center at Falk Clinic, UPMC Mercy, the Oakland Veterans Affairs Medical Center Arthritis Clinic, and the UPMC Lupus Center of Excellence. In addition, the Division includes 11 community physicians at six outpatient practice locations in Western Pennsylvania. Locations include Downtown Pittsburgh, Aspinwall, Bethel Park, Monroeville, Shadyside, and Wexford. In FY17, the total number of outpatient visits (new and return visits) to Division facilities last year totaled 41,538.

The Division’s faculty members assume a consultative and tertiary care role, as well as provide ongoing care to patients with all types of rheumatic diseases. There are several subspecialists who serve as regional and national consultants for patients in the following areas:

**Rheumatoid Arthritis**
The UPMC Rheumatoid Arthritis Center is devoted to the management of rheumatoid arthritis and related disorders. The physicians at the center use a multidisciplinary approach to diagnose and manage patients with rheumatoid arthritis. The center also participates in clinical and research trials to offer patients innovative therapies. The director of the UPMC Rheumatoid Arthritis Center is Larry Moreland, MD. Other leaders in the center include Yong Gil Hwang, MD, and Mandy McGeachy, PhD.

The Accelerating Medicines Partnership (AMP) is a collaboration between the NIH, biopharmaceutical companies, and nonprofit organizations. Patients undergoing a medical procedure involving the removal or collection of biological specimens, such as tissues from a joint, are asked as part of their medical care for permission to include samples of these specimens in the Arthritis and Autoimmunity Tissue Bank. Dr. Moreland and Mandy McGeachy PhD serve as this study’s PIs.

Another NIH-sponsored initiative includes the Treatments Against RA and Effect on FDG PET-CT (TARGET) Trial, which examines the effect of RA disease modifying drugs (DMARDs) on vascular inflammation. Another NIH-sponsored study in which investigators at the University of Pittsburgh participate is the Strategy to Prevent the Onset of Clinically-Apparent Rheumatoid Arthritis (StopRA), which uses blood tests to identify healthy individuals who may be at high risk for developing rheumatoid arthritis (RA).
Lupus
The UPMC Lupus Center of Excellence is devoted to the management of systemic lupus and related disorders. The center’s physicians use a multidisciplinary approach to diagnose and manage patients with these diseases. The center also participates in clinical trials to offer patients innovative therapeutics. The center is located in the Medical Arts Building on the UPMC/University of Pittsburgh’s campus. The director of the Lupus Center of Excellence is Thomas A. Medsger, MD. Other faculty members include Kimberly Liang, MD, Ghaith Noaiseh, MD, Yong Gil Hwang, MD, Jeremy Tilstra, MD, PhD, and Dr. Moreland (co-Medical Director), all of whom are active in clinical and research activities. The Lupus Center also has a nephrologist, Dr. Kelly Liang, who sees patients with Lupus, as well as a pediatric rheumatologist, Dr. Daniel Kietz. Each of these doctors provide comprehensive evaluation and care. In addition, the UPMC Lupus Center of Excellence conducts clinical research and has a number of NIH-funded and industry-sponsored studies actively enrolling patients.

Myositis
The goal of the University of Pittsburgh Myositis Center is to provide state-of-the-art diagnosis and treatment for all aspects of immune-mediated muscle disorders and related diseases—and to lead the way in clinical and basic science research in the inflammatory myopathies. Chester V. Oddis, MD, Siamak Moghadam-Kia, MD, and Rohit Aggarwal, MD, MSc, currently see patients from all over the country, referred specifically for evaluation and treatment of rare disorders related to myositis.

Vasculitis
Larry Moreland MD is the Director of the UPMC Center for Vasculitis. Other Rheumatology physicians at the Vasculitis Center include Kimberly Liang, MD, Douglas Lienesch, MD, and Niveditha Mohan, MD. The center focuses on providing the best possible care to patients, education and support for families, and access to new treatment options for those suffering from vasculitis, a disease characterized by the inflammation of blood vessels. The University of Pittsburgh is one of 11 academic sites involved with the NIH-funded Vasculitis Clinical Research Consortium (VCRC).

Scleroderma
The University of Pittsburgh and UPMC Center for Scleroderma supports clinical and basic science research, patient care, fellow training, and patient education on systemic sclerosis, localized scleroderma, related fibrosing conditions, and Raynaud phenomenon. Robert Lafyatis, MD, leads the Scleroderma Center. Patients from the United States and foreign countries are referred to the center for evaluation and multidisciplinary treatment of systemic sclerosis and other related disorders. Clinic patients are evaluated by Thomas A. Medsger Jr., MD, and Robyn T Domsic, MD, MPH. Patrizia Fuschiotti, PhD, conducts basic science research in collaboration with the scleroderma faculty.

Telemedicine
Rohit Aggarwal MD, MSc, and Christine Peoples, MD, provide Tele-rheumatology services outside the greater Pittsburgh area at the following locations: UPMC Bedford, UPMC Northwest and UPMC Hermitage. Through videoconferencing, our physicians are able to 1) identify rheumatologic diseases early; 2) manage chronic rheumatologic diseases; and 3) provide follow-up care as needed. Dr. Peoples provides Tele-rheumatology services and has been recognized as one of the top providers of Telehealth services. Rheumatology performs 18.8% of all consults across the three Telehealth locations. Our telemedicine physicians have performed over 372 telemedicine outpatient visits. In FY17, we participated in the Empower 3 Center for Health program, an innovative direct pay practice where patients pay one fee and receive unlimited health care. Dr. Peoples provides rheumatology consultation for Empower 3 patients.
### Clinic Locations

<table>
<thead>
<tr>
<th>Number</th>
<th>Location</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>UPMC Arthritis and Autoimmunity Center</td>
<td>Falk Medical Building, 3601 Fifth Avenue, Suite 2B, Pittsburgh, PA 15213, USA</td>
</tr>
<tr>
<td>2</td>
<td>Arthritis and Internal Medicine - UPMC</td>
<td>Shadyside Place, 580 South Aiken Avenue, Suite 430, Pittsburgh, PA 15232, USA</td>
</tr>
<tr>
<td>3</td>
<td>UPMC Arthritis and Autoimmunity Center at UPMC Mercy</td>
<td>UPMC Mercy, 1400 Locust Street, Suite 2100, Building D, Pittsburgh, PA 15219, USA</td>
</tr>
<tr>
<td>4</td>
<td>Margolis Rheumatology - UPMC</td>
<td>Heinz 57 Center, 339 Sixth Avenue, Fifth Floor, Pittsburgh, PA 15222, USA</td>
</tr>
<tr>
<td>5</td>
<td>Pediatric Rheumatology</td>
<td>Medical Arts Building, 3708 Fifth Avenue, Suite 501, Pittsburgh, PA, USA</td>
</tr>
<tr>
<td>6</td>
<td>UPMC Lupus Center of Excellence, Multispecialty Clinic</td>
<td>Medical Arts Building, 3708 Fifth Avenue, Suite 501, Pittsburgh, PA, USA</td>
</tr>
</tbody>
</table>
CLINICAL QUALITY IMPROVEMENT INITIATIVES

The Division’s focus on quality is evidenced by its work with rheumatic disease patients on parenteral biologic modifier therapies and other immunosuppressive medications. Additionally, our physician-researchers have successfully developed methods of improving patient education and safety monitoring for those patients requiring immunosuppressive medications. Our practices consistently surpass quality standards set for the care of such common rheumatoid diseases as osteoarthritis, rheumatoid arthritis, and osteoporosis. We expanded our immunization initiative to include herpes zoster, influenza, and hepatitis B as well as pneumococcola vaccination, influenza and herpes zoster.
FACULTY

Faculty in Core Divisions
Fiscal Year 2015-2017

<table>
<thead>
<tr>
<th>Division</th>
<th>FY 2003 (Base Year)</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
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<tbody>
<tr>
<td>Rheumatology</td>
<td>12</td>
<td>33</td>
<td>31</td>
<td>31</td>
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</table>

Note: Includes University of Pittsburgh full-time faculty and volunteer faculty who have a UPP appointment and excludes research associates, adjunct faculty and emeritus faculty.

Current Rheumatology and Clinical Immunology Faculty

Full-Time Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Degree</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggarwal</td>
<td>Rohit</td>
<td>MD</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Biswas</td>
<td>Partha</td>
<td>PhD</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Chew</td>
<td>Douglas</td>
<td>BS</td>
<td>Instructor in Medicine</td>
</tr>
<tr>
<td>Domsic</td>
<td>Robyn</td>
<td>MD</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Fuschiotti</td>
<td>Patrizia</td>
<td>PhD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Gaffen</td>
<td>Sarah</td>
<td>PhD</td>
<td>Professor of Medicine</td>
</tr>
<tr>
<td>Hwang</td>
<td>Yong</td>
<td>MD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Lafyatis</td>
<td>Robert</td>
<td>MD</td>
<td>Visiting Professor of Medicine</td>
</tr>
<tr>
<td>Liang</td>
<td>Kimberly</td>
<td>MD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Lienesch</td>
<td>Douglas</td>
<td>MD</td>
<td>Visiting Associate Professor of Medicine</td>
</tr>
<tr>
<td>McGechy</td>
<td>Mandy</td>
<td>PhD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Medsger</td>
<td>Thomas</td>
<td>MD</td>
<td>Emeritus Professor</td>
</tr>
<tr>
<td>Moghadam-Kia</td>
<td>Siamak</td>
<td>MD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Moreland</td>
<td>Larry</td>
<td>MD</td>
<td>Professor of Medicine</td>
</tr>
<tr>
<td>Noaiseh</td>
<td>Ghaith</td>
<td>MD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Oddis</td>
<td>Chester</td>
<td>MD</td>
<td>Professor of Medicine</td>
</tr>
</tbody>
</table>

Affiliated Faculty with UPP Appointments

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Degree</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achkar</td>
<td>Antonio</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Bass</td>
<td>Noah</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Berg</td>
<td>Alan</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Bhusal</td>
<td>Santosh</td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
</tr>
<tr>
<td>Co</td>
<td>Deborah</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>DeLo</td>
<td>Daniel</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Dhillon</td>
<td>Namrata</td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
</tr>
<tr>
<td>Gold</td>
<td>Kenneth</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Helfrich</td>
<td>David</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Mohan</td>
<td>Niveditha</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Osial, Jr</td>
<td>Thaddeus</td>
<td>MD</td>
<td>Clinical Associate Professor of Medicine</td>
</tr>
<tr>
<td>Peoples</td>
<td>Christine</td>
<td>MD</td>
<td>Clinical Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Richards</td>
<td>John</td>
<td>MD</td>
<td>Clinical Associate Professor of Medicine</td>
</tr>
<tr>
<td>Starz</td>
<td>Terence</td>
<td>MD</td>
<td>Clinical Professor of Medicine</td>
</tr>
<tr>
<td>Talabi</td>
<td>Mehret</td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
</tr>
</tbody>
</table>
Tilstra  |  Jeremy  |  S.  |  MD  |  Clinical Instructor in Medicine

**Affiliated Faculty without UPP Appointments**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kwoh C. Kent</td>
<td>Adjunct Professor of Medicine</td>
<td>Department of Medicine</td>
</tr>
<tr>
<td>Benedek Thomas G. MD</td>
<td>Clinical Professor of Medicine</td>
<td>Department of Medicine</td>
</tr>
<tr>
<td>Ottonello Domingo G. MD</td>
<td>Clinical Assistant Professor of Medicine</td>
<td>Department of Medicine</td>
</tr>
<tr>
<td>Stolzer Bertrand L. MD</td>
<td>Clinical Associate Professor of Medicine</td>
<td>Department of Medicine</td>
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</table>

**New Faculty Hires**

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>MI</th>
<th>Degree</th>
<th>Primary Title</th>
<th>Division</th>
<th>Previous Position</th>
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<tbody>
<tr>
<td>Bhusal</td>
<td>Santosh</td>
<td></td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
<td>Rheumatology</td>
<td>Rheumatology Fellow, Case Western Reserve</td>
</tr>
<tr>
<td>Dhillon</td>
<td>Namrata</td>
<td></td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
<td>Rheumatology</td>
<td>Rheumatology Fellow, UPMC</td>
</tr>
<tr>
<td>Talabi</td>
<td>Mehret</td>
<td>A.</td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
<td>Rheumatology</td>
<td>Rheumatology Fellow, UPMC</td>
</tr>
<tr>
<td>Tilstra</td>
<td>Jeremy</td>
<td>S.</td>
<td>MD</td>
<td>Clinical Instructor in Medicine</td>
<td>Rheumatology</td>
<td>Postdoctoral Scholar, Rheumatology, U of Pittsburgh</td>
</tr>
</tbody>
</table>

**Research Associates**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Degree</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garg Abhishek</td>
<td>PhD</td>
<td>Research Associate</td>
<td></td>
</tr>
</tbody>
</table>
## POST DOCS

### Current Post Docs Fiscal Year 2016-2017 (July 2016- August 2017)

<table>
<thead>
<tr>
<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree Code</th>
<th>Current Title</th>
<th>Summary of activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jawale</td>
<td>Chetan</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. Jawale is characterizing and isolating Th17 cells from human blood and synovial fluid and using in vivo mouse models to study the role of Th17 cells in autoimmune inflammation.</td>
</tr>
<tr>
<td>Majumder</td>
<td>Saikat</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. Majumder studies the role of integrins in autoimmune inflammation.</td>
</tr>
<tr>
<td>Ramani</td>
<td>Kritika</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. Ramani conducts data analysis to define cellular and signaling events involved in the immunity against extracellular pathogens and auto-inflammatory diseases.</td>
</tr>
<tr>
<td>Revu</td>
<td>Shankar</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Revu’s projects center on the study of TH17 and TFH cell regulation in humans, building on the novel findings and samples that the lab has generated.</td>
</tr>
<tr>
<td>Verma</td>
<td>Akash</td>
<td>PhD</td>
<td>International Postdoctoral Scholar</td>
<td>Dr. Verma is analyzing cellular requirements for IL-17-mediated immunity to fungi.</td>
</tr>
</tbody>
</table>

### Terminated Post Docs—Fiscal Year 2016-2017

<table>
<thead>
<tr>
<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree Code</th>
<th>Current Title</th>
<th>Summary of activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birru Talabi</td>
<td>Mehret</td>
<td>MD/PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Birru Talabi examines health care utilization, family planning, and reproductive health management of women with rheumatic diseases.</td>
</tr>
<tr>
<td>Monin</td>
<td>Leticia</td>
<td>PhD</td>
<td>International Postdoctoral Associate</td>
<td>Dr. Monin investigates IL-17 signal transduction in mouse models of autoimmunity, with an emphasis on psoriasis and the role of MCPIP1.</td>
</tr>
<tr>
<td>Simpson-Abelson</td>
<td>Michelle</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Simpson-Abelson is studying the regulation of C/EBP beta by IL-17 to determine the downstream signaling effects.</td>
</tr>
<tr>
<td>Tilstra</td>
<td>Jeremy</td>
<td>MD/PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Tilstra’s studies focus on innate immune signaling pathways and their relevance to lupus pathogenesis.</td>
</tr>
</tbody>
</table>
PUBLICATIONS

High-Impact Publications


  The shared epitope is one of the best-known genetic susceptibility loci associated with rheumatoid arthritis (RA). It also has a strong relationship with antibodies to cyclic citrullinated peptides (CCP), which confer more severe, inflammatory RA. Prior studies have suggested that the shared epitope, in turn, is associated with more aggressive RA in addition to excess cardiovascular morbidity and mortality. However, as many people with the shared epitope also have CCP antibodies, the true driver of the poor clinical outcomes has been somewhat unclear. Using a large sample of women from the Women’s Health Initiative Rheumatoid Arthritis Survey, we found that clinical outcomes (cardiovascular and malignancy) were enhanced among women who had one or two copies of shared epitope alleles but who did not have CCP positivity or clinical RA. Furthermore, women who had the shared epitope but did not have RA or CCP had more non-inflammatory, protective cytokines. In contrast, women who had CCP+ and clinical RA did have more inflammatory cytokines as expected, although this did not culminate in higher CVD mortality or cancer. In sum, our findings suggest that the shared epitope may actually be protective against malignancy and cardiovascular morbidity/mortality among women who do not have clinical RA. This was a novel finding, and indicates that the relationship between the shared epitope and poor clinical outcomes is more nuanced and complex than initially believed.


  *Candida albicans* is the causative agent of disseminated candidiasis, a major nosocomial infection resulting in significant mortality. Death is in part due to renal damage caused by hyphal invasion. Interleukin 17 (IL-17), a proinflammatory cytokine, is essential for immunity against systemic *C. albicans* infection. However, the mechanisms of IL-17 mediated renal protection is unknown. In this paper, we show for the first time that IL-17 regulates the expression of kidney protective Kallikrein-kinin system (KKS). Our discovery of an unanticipated link between IL-17 and the KKS may pave the avenue for the treatment of renal damage in disseminated candidiasis. These findings have important clinical relevance, as agonists of the KKS are in routine clinical use and can be potentially used as a novel therapeutic option to treat fatal infection in conjunction with current antifungal therapies.


  Systemic sclerosis (SSc) is an autoimmune disease characterized by T-cell infiltration in the skin that leads to fibrosis, which is life-limiting. Although T cells are important, it is not known which types mediate the fibrosis. In this article, we demonstrate that effector/memory cytotoxic CD8+ T cells isolated from the lesional skin of patients with active SSc mediate fibrosis via the secretion of the pro-fibrotic cytokine IL-13 and likely play a critical role in the SSc skin disease. Currently therapies to reverse or even slow progression of SSc lead to broad killing of immune cells and consequent toxicities. Identifying the precise
mechanism(s) driving SSc pathogenesis will help the development of novel and more specific therapeutic strategies in SSc.


The cytokine interleukin-17 (IL-17) drives pathogenesis of autoimmune disease, and biologic drugs targeting IL-17 have proven to be highly successful for treating psoriasis. Dr. Gaffen's group showed that IL-17 deficiency leads to opportunistic infections, particularly oral infections with the commensal fungus *Candida albicans* (oral thrush). The mechanisms by which IL-17 protects the host from thrush have remained unclear, in part because tools to interrogate biological activity in the oral mucosa have been lacking. By creating a new mouse strain lacking the IL-17 receptor only in oral epithelial cells, Conti et al. demonstrates that (i) essential antifungal activity of IL-17 is exquisitely restricted to keratin-13+ oral keratinocytes, and (ii) IL-17 induces these cells to produce the antimicrobial peptide beta-defensin 3, which is essential to control mucosal candidiasis.

**Peer-Reviewed Publications: 2015, 2016, 2017**


Rheumatology and Clinical Immunology


Ramani K, Biswas PS. Emerging Roles of the Th17/IL-17-Axis in Glomerulonephritis. Cytokine. 2016 Jan;77:238-44.


The Vascular Medicine Institute’s (VMI) vision is to harness inter-disciplinary teams of researchers to expand our understanding of the control of blood flow to organ systems and the development of novel therapies for diseases such as pulmonary hypertension, sickle cell vasculopathy, atherosclerosis, hypertension, and heart disease.

VMI has four goals as it pursues its mission and vision:

- Determine the molecular mechanisms underlying clinically important biomedical problems of hemostasis, thrombosis, transfusion medicine, and vascular biology.
- Develop novel, rationally designed therapies targeting diseases of hemostasis, thrombosis, transfusion medicine, and vascular biology to improve the quality of life for patients affected by related disorders.
- Foster the development of a multidisciplinary training environment for graduate and medical students, residents, and clinical and postdoctoral fellows, with an emphasis on hemostasis, thrombosis, transfusion medicine, and vascular biology.
- Enhance the reputation and recognition of Institute for Transfusion Medicine (ITxM) and Hemophilia Center of Western Pennsylvania (HCWP) regionally and nationally as active participants in laboratory-based basic and translational research.

VMI’s strategic goals for FY18 include the following:

- Continue to nurture and facilitate relationships of scientific leaders bridging VMI and HVI research groups.
- Continue to develop the Center for Experimental Hematology and Global Health (with Dr. Ofori-Acquah as Director).
- Recruit new faculty focused on hemophilia and hemostasis for 2018.
- Develop the VMI/ITxM Sickle Cell Center for Excellence (with Dr. Kato as Director); work with the DOM and ITxM/HCWP to develop a comprehensive heme center and medical home.
- Work with HCWP and ITxM to develop a benign hematology clinic to focus hematology care in Oakland, close to VMI research programs.
- Maintain the high training standards of the Pulmonary Vascular Translational T32 Program in the VMI. We currently have two fellows appointed, with additional fellows slated to start in July of this year. The five-year competitive renewal of the T32 received an impact score of 10 and is anticipated to start in April 2017 with an expansion from four to six training slots in 2018.
- Continue recruiting high-quality postdocs, fellows, and students for training in hemostasis, vascular biology, and blood-related research. Enhance post-doctoral program and mentoring, using pathways developed in T32. This year, we appointed a Director of Academic Affairs specifically for the VMI who is implementing additional training and development opportunities.
• Continue promoting the established cores in NO Metabolomics, ROS detection, Flow Cytometry, Animal Phenotyping, Small Animal Hemodynamics, Cell Processing and Hematopoietic Progenitor and Microvascular Physiology and partnering with allied and translational Centers in Vascular Clinical and Translational Research, Translational and International Hematology, Metabolism and Mitochondrial Medicine, Ultrasound Molecular Imaging and Therapeutics, and Center for Pulmonary Vascular Biology and Medicine.

• Utilize new mouse red cell hemolysis GWAS program.

• Continue REDSIII collaborations on red cell donor genetics study.

• Continue robust research in hemostasis, vascular and platelet biology, red cell and transfusion medicine, and mechanisms of vascular disease.

• Promote collaborative hemostasis and vascular science around the institution via conferences, VMI grants and membership, and collaborative research.

• Establish research and development partnerships with industry for translational hemostasis and vascular biology – current portfolio includes Gilead Sciences, Inc., Bayer Corporation, RiMed Foundation, and Aires Pharmaceuticals.

• Continue to secure R01 funding for young VMI investigators

• Utilize funding from the translational program project grant on pulmonary vascular disease to translate drugs into human clinical trials with an emphasis on leveraging the patient microbiome for maximum therapeutic benefit.

• Attract new investigators to the VMI’s areas of research in hemostasis through the P3HVB awards.

• Expand HHT (Hereditary Hemorrhagic Telangiectasia) Center of Excellence, under the research leadership of Beth Roman.

• Maximize collaborations among new VMI Cardiology principal investigators in the laboratory and office space on the 17th floor of the Biomedical Science Tower and facilitate relationships with already established VMI faculty.
RESEARCH

This year’s efforts to recruit Cardiology/VMI research faculty members concluded with the successful recruitment of Delphine Gomez, PhD. Following her arrival on the newly-renovated BST 17th floor in February, Dr. Gomez has focused on setting up her laboratory, recruiting lab members, and establishing her research program at Pitt. She comes from the University of Virginia Rombert M. Berne Cardiovascular Research Center where she completed her postdoctoral fellowship in 2015. Previously, she completed her Bachelor’s, Master’s, and Doctoral degrees at University Paris 7, France. Her current research projects include: control of smooth muscle cell differentiation and lineage memory; epigenetics/smooth muscle cell plasticity and atherosclerosis; and epigenetic and inflammation in atherosclerosis. She holds an AHA Scientific Development Grant and has publications in prominent journals, such as Circulation Research and Nature Medicine.

VMI faculty authored at least 84 peer-reviewed publications in the past year and contributed to a substantial increase in grant funding. A number of publications and grants are co-authored by other members of the VMI, highlighting the Institute’s effectiveness at creating a productive, collaborative environment. The robust research agenda and density of experts in vascular biology in Pittsburgh is a prominent strength of the VMI. In particular, it provides the Institute with a considerable opportunity to capitalize on the environment and local experts in a wide range of affiliated research.

In FY17, we continued our mission of attracting investigators who are new to the general areas of hemostasis and vascular biology by awarding eight new and one renewal grants from the Pilot Project Program in Hemostasis and Vascular Biology (P3HVB). The P3HVB is a competitive program aimed at encouraging investigators to focus on transfusion medicine, transfusion-related lung injury, hemostasis and platelet biology, and hemophilia and integrative vascular biology with emphasis on the role of red cells, platelets and hemostatic factors.

VMI/HVI Innovator Awards encourage and facilitate collaborations between VMI and HVI faculty members. The projects represent cutting-edge science and highlight how the synergy between VMI and HVI faculty will open new and exciting areas of research. Awardees for funding for FY18 include:

- Stephen Chan/Cecilia Lo: Investigating hereditary TBX5 haploinsufficiency as a genetic cause of PH in congenital heart disease
• Partha Dutta/Catalin Toma: Role of visceral adipose tissue macrophage apoptosis in insulin resistance after myocardial infarction
• Enrico Novelli/Flordeliza Villanueva: Novel imaging strategies of cerebrovascular dysfunction in sickle cell disease
• Adam Straub/Prem Soman: A pilot study to assess the prevalence and determinants of global myocardial flow reserve abnormalities, and its association with impaired vasoreactivity and the Cyb5R3 T117S gene variant in African-American women with chest pain referred for myocardial perfusion imaging.

Research awards and other activities included:

• Mark Gladwin was awarded renewal of the T32 from the NHLBI entitled “Training in Translational Research and Entrepreneurship in Pulmonary Vascular Biology”, and a research award from the Department of Defense with the University of Colorado entitled “Four New Ideas to Protect Special Forces from the Stress of High Altitude”.
• Greg Kato received an award from the Bayer Corporation for a study entitled “Riociguat Study in Sickle Cell Disease”.
• Brett Kaufman received an award from the Bayer Corporation for the study, “Cyb5R3 and cGMP Signaling”.
• Charly Lai received a research award from United Therapeutics Corp. to study “Effect of Remodulin in Pulmonary Hypertension Associated with Heart Failure with Preserved Ejection Fraction (PH-HFpEF)”. She also received a research award from the American Heart Association for a study entitled “Role of Skeletal Muscle SIRT3 in Modulating Pulmonary Hypertension Associated with Heart Failure with Preserved Ejection Fraction (PH-HFpEF)”.
• Quyen Nguyen was awarded an F32 from the NHLBI entitled “Mitochondrial Dysfunction Underlies Right Ventricular Failure in Pulmonary Hypertension”.
• Solomon Ofori-Acquah was awarded an R25 from the NHLBI entitled “Pittsburgh Undergraduate Research Diversity Program (PURDIP)” and an industry award from Shire Pharmaceuticals entitled “Heme-Oxygenase-1 Infusion Therapy for Sickle Cell Disease”.
• Iain Scott was awarded an R01 from the NHLBI entitled “Regulation of Fuel Utilization by Lysine Acetylation in the Failing Heart”, and he received an award from the American Diabetes Association for the study “Regulation of Hepatic Mitochondrial Homeostasis and Fuel Metabolism by Acetylation”.
• Sruti Shiva received an R01 from the NHLBI entitled “Hemolysis-induced Platelet mtROS Drives TSP1 Release to Accelerate PH Pathogenesis”. Prithu Sundd, Patrick Pagano and Enrico Novelli are collaborators on the award. Sruti Shiva was also awarded an R01 from the NHLBI entitled “Dual Role of HMGB1 in Pathogenic Platelet Biology in Pulmonary Hypertension” on which Mark Gladwin is a collaborator.
• Cynthia St. Hilaire received a research award from the Samuel and Emma Winters Foundation for a study entitled “Mechanical Stress in Calcific Aortic Valve Disease: The Role of Ectonucleotidase Activity and Adenosine Receptor Signaling in Disease Initiation”.
• Adam Straub received an R01 from the NHLBI entitled “Vascular Smooth Muscle and Blood Pressure Regulation by Cyb5R3” and an R01 from the NHLBI entitled “Novel Role of Smooth Muscle B5 Reductase in Sickle Cell Disease”.
• Jesus Tejero Bravo received an R21 from the NIEHS entitled “Countermeasure Therapeutics for Acute Lung Injury”.
**Faculty Research & Other Scholarly Activities**

**Mark T Gladwin MD**
- Member, American Society of Clinical Investigations (ASCI), 2006-present
- Fellow, American College of Physicians, 2008-present
- Member, 3CPR Scientific Sessions Programming (CSSP) Committee, American Heart Association, 2016
- Member, Science & Clinical Education Lifelong Learning Committee (SCILL), American Heart Association, 2016-2018
- American Heart Association/American Stroke Association Research Committee, 2015-2016
- Associate Editor, American Journal of Respiratory and Critical Care Medicine, 2015-2020
- Associate Editor, Pulmonary Circulation, 2015-2016
- Beckwith Institute, Board of Directors, 2016-present
- Society for Free Radical Biology and Medicine, 2002-present
- Editorial Board Member, Journal of Hematology, 2007-present
- Editorial Board Member, Society for Free Radical Biology and Medicine, 2007-present
- Fellow, Pulmonary Vascular Research Institute (PVRI), 2013-present
- Member, LiveLikeLou.Org Advisory Council, 2013-Present
- Member, American Thoracic Society, 1998-present
- Member, American Society of Hematology, 2002-present
- Member, Association of American Physicians (AAP), 2009
- Member, American Association for the Advancement of Science (AAAS), 2012-present
- Member, American Association of Blood Banks (AABB), 2012-present
- Member, American Society for Pharmacology and Experimental Therapeutics (ASPET), 2013-present
- Member, Pulmonary Hypertension Association (PHA), 2013-present
- Professional Member, American Heart Association, 2008-present
- Reviewer, Institute for Precision Cardiovascular Medicine, American Heart Association, 2016
- Chancellor’s Distinguished Research Award (Senior Scholar), University of Pittsburgh, 2017
- Member, UPSOM Distinguished Professor Nominating Committee, 2016-present
- Chair, Director Search Committee, University of Pittsburgh Cancer Institute (UPCI), 2016-present
- Member, University of Pittsburgh Senior Vice Chancellor for Research Search Committee, 2016-present
- American Heart Association/American Stroke Association, Science Advisory and Coordinating Committee, July 1, 2017 - June 30, 2019
- External Advisory Board, University of Pittsburgh Healthy Lifestyle Institute, 2017-present
- NIH MIM Study Section, 2015

**Imad Al-Ghouleh PhD**
- Reviewer, American Journal of Hypertension, 2010-present
- Reviewer, Journal of Cardiovascular Medicine, 2011-present
- Reviewer, Arteriosclerosis, Thrombosis, and Vascular Biology, 2012-present
- Reviewer, American Journal of Physiology-Heart and Circulatory Physiology; International Journal of Molecular Sciences; Antioxidants and Redox Signaling, 2013-present
- Poster Judge, Postdoctoral Data & Dine Symposium, University of Pittsburgh, 2015, 2016
- Member, American Heart Association, 2010-present
**Dennis Bruemmer MD PhD**
- Physician Scientist and Clinical Scholars Committee Member, University of Kentucky, 2010-present
- Committee Chair, Gill Heart Institute Seminar and Research Day Executive Planning Committee, University of Kentucky, 2010-present
- National Committee Member, American Diabetes Association, 2003-present
- Permanent Grant Review Panel Member (Basic Research), American Diabetes Association, 2003-present
- Great Rivers Affiliate Research Committee Member, American Heart Association, 2015-present
- Permanent Member, Region I Vascular Wall Biology Peer Review Committee, American Heart Association, 2008-present
- Editorial Board Member, Molecular Metabolism, Arteriosclerosis, Thrombosis, and Vascular Biology, 2012-present
- Member, American Heart Association, 2001-present
- Member, American Society of Hypertension, 2004-present
- Member, American College of Endocrinology, 2008-present
- Member, Endocrine Society, 2011-present
- Member, American College of Cardiology, 2013-present
- Editorial Board Member, Clinical Sciences, 2009-present

**Grant C Bullock MD PhD**
- College of American Pathologists, 2002-present
- International Academy of Pathology, 2004-present
- United States and Canadian Academy of Pathology, 2004-present
- Academy of Clinical Laboratory Physician Scientists, 2004-present
- Editorial Board Member, American Journal of Clinical Pathology, 2008-present
- International BioIron Society, 2008-present
- American Society of Hematology, 2009-present
- Fellow, College of American Pathologists, 2010-present
- UPP/UPMC Academic Foundation Award, UPP/UPMC, 2015-2016
- Ad Hoc Reviewer, FEBS Journal, 2016
- Invited Speaker, “The Role of Iron and Mitochondrial Metabolism in Erythropoiesis”, Department of Biochemistry and Molecular Biology, University of Kansas Medical Center, Kansas City, KS, 2016

**Stephen Y Chan MD PhD FAHA**
- Editorial Board Member, Scientific Reports, 2016-present
- Editorial Board Member, microRNA Diagnostics and Therapeutic, 2013-present
- Editorial Board Member, Pulmonary Circulation, 2015-present
- Editorial Board Member, Consulting Editor, JCI Insight, 2015-present
- Elected Member, American Society for Clinical Investigation, 2016
- 3CPR Early Career Committee, American Heart Association, 2016-present
- Advisory Board Member, Simpatica Medicine, 2016-present
- Member, American College of Cardiology, 2008-present
- Member, American Heart Association, 2008-present
- Fellow, American Heart Association, 2012-present
- Fellow, Pulmonary Vascular Research Institute, 2012-present
Partha Dutta DVM PhD
- K Grant Writing Workshop, Department of Medicine, University of Pittsburgh, 2015-2016
- Pilot Project Program in Hemostasis and Vascular Biology, Vascular Medicine Institute, University of Pittsburgh, 2016
- HVI/VMI Innovator Award, Vascular Medicine Institute, University of Pittsburgh, 2016
- Mentor, AHA Summer Undergraduate Research Program (SURP), University of Pittsburgh, 2016
- Mentor, First Experience in Research, University of Pittsburgh, 2016-2017

Delphine Gomez PhD
- Member, Awards and Membership Committee, Histochemical Society, 2014-present
- Member, New Horizons Travel Awards Review Committee, University of Virginia, 2015-2016
- Member, American Heart Association, 2009-present
- Member, North American Vascular Biology Organization, 2015-present
- Member, Histochemical Society, 2014-present

Elena Goncharova PhD
- Reviewer, NIH/NHLBI ZRG1 CVRS G (O2) M Pulmonary Diseases, 2016
- Scientist Reviewer, Department of Defense TSCRP Cell and Molecular Biology, 2016
- Co-Chair, Reviewer, NIH/NHLBI ZRG1 CVRS-L (O2) M Pulmonary Diseases, 2016
- Member, Pulmonary Circulation Assembly Program Committee, American Thoracic Society, 2016, 2017
- Reviewer, FWF Austrian Science Fund, 2017
- Reviewer, Medical Research Council (UK), 2017
- Moderator, Basic Science Posters Sessions, 11th PVRI Annual World Congress on PVD, Miami, FL, 2017
- Reviewer, American Journal of Respiratory and Critical Care Medicine, 2012-2017
- Reviewer, American Journal of Respiratory Cell and Molecular Biology, 2010-2016
- Reviewer, American Journal of Pathology, 2017
- Reviewer, American Journal of Physiology: Cell Physiology, 2015-2017
- Reviewer, Atherosclerosis, Thrombosis & Vascular Biology, 2016-2017
- Reviewer, British Journal of Pharmacology, 2017
- Reviewer, Scientific Reports, Cancer Research, 2016
- Reviewer, PlosOne, 2014-2017
Jeffrey Isenberg MD MPH
- North American Vascular Biology Organization, 2007-present
- AHA Fellows Research Day Task Force, 2013-present
- Reviewer, AHA Collaborative Science Award, 2016
- Expert Reviewer, Maryland Industrial Partnerships Program (MIPS), Fall 2016
- Associate Editor, America Journal Physiology-Cell Physiology, appointed July 2017
- Chair-Elect, 2019 Triennial FASEB SRM on Matricellular Proteins, 2016
- Guest Editor, Theme Issue on Gaseo-Transmitters, American Journal of Physiology-Cell Physiology, 2016-17
- Associate Editor, American Journal of Physiology, 2017
- Reviewer, AHA Vascular Wall Biology Bsc1 Committee, 2016
- Chair-Elect, FASEB Matricellular Protein Meetings 2019, July 2016
- Reviewer, BGSA Research Symposium, University of Pittsburgh, 2016
- Reviewer, NIH Special Emphasis Panels ZRG1 EMNR-P and ZRG1 CVRS G (03), 2016
- Abstract Reviewer, 23rd Annual SFRBM 2016 Meeting, 2016
- Reviewer, AHA Collaborative Science Award, 2016
- Reviewer, NIH Special Emphasis Panel 2017/05 ZRG1 CVRS-G (03), 2017
- Review Committee, Competitive Medical Research Fund (CMRF), 2017
- Co-Director, AHA Vascular Medicine Institute Summer Undergraduate Research Program, 2015-present
- Expert Reviewer, Michigan Nutrition Obesity Research Center (MNORC), University of Michigan, June 2017

Gregory Kato MD
- Sickle Cell Trait Literature Review Work Group, Social and Behavioral Research Branch, National Human Genome Research Institute, 2011-Present
- Medical Director, Children’s Sickle Cell Foundation, Pittsburgh, PA, 2014-present
- Steering Committee, Evaluation of Purified Poloxamer 188 in Vaso-Occlusive Crisis of Sickle Cell Disease (EPIC), 2014-present
- Editorial Board, Heliyon Journal, 2015-Present
- Consultant, CSL Behring, King of Prussia, PA, 2015-present
- NIH Study Section, P50 application in Stored Blood Toxicity in Trauma Patients, 2016
- NIH Study Section, Secondary Dataset Analyses, 2016
- Grant Application Reviewer, King’s Challenge Fund, King’s College London, 2016
- Abstract Reviewer and Session Moderator, American Society of Hematology Meeting, 2016
- Interviewer, Residency Research Track, Department of Medicine, University of Pittsburgh, 2016
- Advisory Board, Novartis, East Hanover, NJ, 2017
- Grant Application Reviewer, Thrasher Research Fund, Salt Lake City, UT, 2017

Brett Kaufman PhD
- Member, Mitochondria Research Society, 2009-present
- Member, American Society for Cell Biology, 2003-present
- Member, United Mitochondria Disease Foundation, 2009-present
- Member, American Heart Association: Basic Cardiovascular Sciences
- Review Editor, Frontiers in Genetics of Aging, 2011-present
- Grant Reviewer, Medical Research Council (United Kingdom), 2015
- Ad hoc Grant Reviewer, Natural Science and Engineering Research Council of Canada (NSERC), 2015, 2017
- Grant Review Committee, United Mitochondrial Disease Foundation, 2016-2020
- Grant Reviewer, Friedreich’s Ataxia Research Alliance (FARA), 2016
- Grant Reviewer, NIH/National Cancer Institute, 2016
- Grant Reviewer, Peer Reviewer, Medical Research Program, Department of Defense, 2016, 2017
- Ad Hoc Grant Reviewer, NIH Therapeutic Approaches to Genetic Diseases (TAG), 2017
- Grant Reviewer, Pilot Project Program in Hemostasis and Vascular Biology, Vascular Medicine Institute, 2016, 2017
- Grant Reviewer, Study Section Chair, Pitt VMI-HVI Innovator Awards, 2016, 2017

Ana Mora PhD
- Member, American Thoracic Society, 2002-present
- Member, Editorial Board, PLoS ONE Journal, 2012-present
- Member, Aging Committee, American Thoracic Society, RCMB Assembly, 2012-present
- Member, Editorial Board, American Journal of Respiratory Cell and Molecular Biology, 2013-present
- Member, Society for Free Radical Biology and Medicine, 2013-present
- Member, Program Committee RCMB Assembly, American Thoracic Society, 2014-2016
- Aging Biology Center, Mechanisms in Geroscience Search Committee, 2015-present
- Member, Editorial Board, AJP Lung Cellular and Molecular Physiology, 2015-present
- Ad hoc Reviewer, NHLBI Study Section Member Conflict, National Institutes of Health, 2017
- Ad hoc Reviewer, NHLBI Program Project Grant Application, National Institutes of Health, 2017
- Ad hoc Reviewer, NHLBI LIRR Study Section, National Institutes of Health, 2017

Enrico Novelli MD
- Member, American Society of Hematology, 2005-present
- Member, Protocol Review Committee, Pittsburgh Cancer Institute, 2008-present
- Member, American Society of Tropical Medicine and Hygiene, 2008-present
- Study Section Member, American Heart Association (AHA), 2013-present
- Member, Editorial Advisory Board, American Journal of Hematology, 2015-present
- Member, Small Business Innovation Research (SBIR) / Small Business Technology Transfer (STTR) Study Section, NIH, 2015-present
- Group Leader, Global Health Sickle Cell Disease Work Group, Sickle Cell Disease Task Force, American Society of Hematology 2015-present
- Committee Member, Health Volunteers Overseas Hematology Steering Committee, 2015-present
- Peer Reviewer, UpToDate, 2016
- Coordinating Reviewer, American Society of Hematology Annual Meeting, 2016
- Member, International Members Committee and Metrics Subcommittee, American Society of Hematology (ASH), 2016-present
- Member, Scientific Committee on Thrombosis and Vascular Biology, American Society of Hematology, 2016-2020
- Health Volunteers Overseas Liaison, ASH International Members Committee, 2016-2017
- Member, European Hematology Association, 2017
Solomon Ofori-Acquah PhD
- Ghana Biomedical Convention, 2008-present
- Member, Medical Advisory Board, Parent's Guide to Cord Blood Foundation, 2009-present
- Member, Ad Hoc Grant Review Committee, Minority Medical Student Award, American Society of Hematology, 2010-present
- Chair, Minority Graduate Student Abstract Achievement Award Committee, American Society of Hematology, 2011-present
- Member, Respiratory Integrative Biology and Translational (RIBT) Science Study Section, NIH, 2013-2019
- Member, American Society of Hematology, 2004-present
- Member, American Society of Hematology, Committee on Promoting Diversity, 2010-2016
- Member, American Thoracic Society, 2004-present
- Member, American Association for Cancer Research, 2005-present
- Member, Medical Research Advisory Committee, Sickle Cell Disease Association of America, 2009-present
- Chair, Minority Graduate Student Abstract Achievement Award Committee, American Society of Hematology, 2011-present
- Member, Respiratory Integrative Biology and Translational (RIBT) Science Study Section, NIH, 2013-2019
- Member, American Society of Hematology, 2004-present
- Member, American Association for Cancer Research, 2005-present
- Member, Medical Research Advisory Committee, Sickle Cell Disease Association of America, 2009-present
- Member, Executive Planning Committee, Sickle Cell National Annual Symposium, 2009-present
- Consultant, Newborn Screening Quality Assurance Program, Centers for Disease Control and Prevention, 2010-present

Patrick Pagano PhD
- Distinguished Mentor Award, Biomedical Graduate Student Association, University of Pittsburgh, October 2016
- Standing Member, Hypertension & Microcirculation Study Section, NIH/NHLBI, 2011-2017
- Associate Editor, Clinical Science, 2012-present
- Board Member, Vascular Medicine Institute Internal Advisory Board, University of Pittsburgh Medical Center, 2008-present
- Member, Department of Pharmacology and Chemical Biology Executive Committee, University of Pittsburgh, 2009-present
- Member, Department of Pharmacology and Chemical Biology Promotions & Appointments Committee, University of Pittsburgh, 2009-present
- Member, Steering Committee, School of Medicine Interdisciplinary Biomedical Graduate Program, University of Pittsburgh, 2010-present
- School of Medicine Graduate Council, University of Pittsburgh, 2010-present
- Member, Basic Science, Circulation and High Blood Pressure Councils, American Heart Association, 1994-present
- Standing Member, Hypertension & Microcirculation Study Section, NIH/NHLBI, 2011-2017
- Programming Committee, AHA Council for High Blood Pressure Research Conference, 2015-present
- Ad hoc Reviewer, NIH Director’s Early Independence Award (DP5), ZRG1 RPHB-W 53 R, April 2016
- Member, Fall Conference Committee, Council on Hypertension, American Heart Association, 2015-2017
- Member, SURP Steering Committee Service, American Heart Association, 2015-present
- P3HVB Pilot Grant Proposal Review, Vascular Medicine Institute, University of Pittsburgh, May 2016
- External Advisory Committee, University of Louisville, NIGMS Training Grant (T32), “Cardiovascular Sciences Training Program at the University of Louisville”, 2016
- Director, Graduate Program, Molecular Pharmacology, School of Medicine, University of Pittsburgh, 2009-present
Iain Scott PhD  
- Reviewer, Vascular Medicine Institute Grant Review Core, University of Pittsburgh, 2016-present  
- Member, HVI/VMI Innovator Award Study Section, University of Pittsburgh, 2017-present  
- Member, P3HVB Award Study Section, University of Pittsburgh, 2017-present  
- Member, Cardiovascular Section Development Committee, American Physiological Society, 2016  
- Member, Competitive Medical Research Fund Study Section, University of Pittsburgh 2016-present  
- Member, Strategic Alliances Outreach Committee, Society for Redox Biology and Medicine, 2016  
- Member, United Mitochondrial Disease Foundation, 2011-present  
- Member, American Heart Association, 2014-present  
- Member, American Physiological Society, 2014-present  
- Member, International Society for Heart Research, 2015-present  
- Member, Society for Redox Biology and Medicine, 2015-present  
- Member, American Diabetes Association, 2016-present  

Sruti Shiva PhD  
- Member, Society for Redox Biology and Medicine Council, 2011-present  
- Member, Internal Advisory Board, Vascular Medicine Institute, University of Pittsburgh, 2009-present  
- Member, Graduate Executive Committee, Department of Pharmacology & Chemical Biology, 2009-present  
- Member, Membrane and Subcellular Organelle II Study Section, American Heart Association, 2009-present  
- Member, Fellows Research Day Task Force, American Heart Association Pittsburgh, 2011-present  
- Vice President of Finance, Society for Redox Biology and Medicine Council, 2012-present  
- Editorial Board Member, Redox Biology Journal, 2012-present  
- Elected Chair, Gordon Research Conference on Nitric Oxide, 2017-present  
- Member, Grant Review Panel, American Diabetes Association, 2014-present  
- Ad hoc Reviewer, Myocardial Ischemia and Metabolism, Vascular and Hematology Study Sections, NIH, 2016, 2017  
- Editorial Board, British Journal of Pharmacology, 2015-present  
- Standing Member, Vascular Cell and Molecular Biology Study Section, NIH, 2017-present  
- Elected Chair, 2017 APS National Meeting on Translational Bioenergetics, 2017  
- Elected Chair, TriMAD Regional Meeting, Translational Research on Mitochondria, Metabolism, Aging, and Disease Symposium, Pittsburgh, PA, 2017  
- Member, University of Pittsburgh Interdisciplinary Graduate Program Admissions Committee, 2015-present  

Cynthia St. Hilaire PhD  
- Member, Early Career Committee, Council on Arteriosclerosis, Thrombosis, and Vascular Biology, American Heart Association, 2014-present  
- PhD Security Task Force, Department of Medicine, University of Pittsburgh, 2015-present  
- Pilot Project Program in Hemostasis and Vascular Biology, Vascular Medicine Institute, University of Pittsburgh, 2016  
- Steering Committee, Summer Undergraduate Research Program (SURP) in Cardiovascular Sciences, American Heart Association, 2016
• Genomics Research Core Advisory Committee, 2016
• Co-Chair, Arteriosclerosis, Thrombosis and Vascular Biology / Peripheral Vascular Disease (ATVB|PVD) Scientific Sessions, Succeeding at Every Stage: Insights from the Early Career Committee – The Importance of Mentoring and being Mentored, 2016
• Liaison, Early Career Committee, ATVB (Arteriosclerosis, Thrombosis and Vascular Biology) Women’s Leadership Committee, 2016
• Member, ATVB (Arteriosclerosis, Thrombosis and Vascular Biology) Nomination and Awards Committee, 2016-2018
• Ad hoc Reviewer, Science Advances, JCI Insights, 2016
• Member, American Society for Biochemistry and Molecular Biology, 2014-2016
• Member, Women in Bio, Pittsburgh Chapter, 2015-present
• Member, International Society for Applied Cardiovascular Biology, 2016-present

Adam Straub PhD
• Member, American Physiological Society, 2009-present
• Member, Microcirculation Society, 2009-present
• Member, American Heart Association, ATVB (Arteriosclerosis, Thrombosis and Vascular Biology) and Hypertension councils, 2012-present
• Member, Nitric Oxide Society, 2012-present
• Member, North American Vascular Biology Organization, 2016-present
• Member, Grant Review, Vascular Wall Biology, Blood Pressure, American Heart Association, 2014-present
• Recipient, Harry Goldblatt Award for New Investigators: Council on Hypertension-American Heart Association, 2017
• Finalist Outstanding Early Career Investigator Award, Basic Cardiovascular Sciences-American Heart Association, 2017
• Grant Reviewer, HVI Innovator Awards, University of Pittsburgh, 2016
• Member, American Heart Association Summer Undergraduate Research Program Steering Committee, University of Pittsburgh, 2016, 2017
• Retreat Chair, Department of Pharmacology and Chemical Biology, University of Pittsburgh, 2015

Prithu Sundd PhD
• Member, Society for Leukocyte Biology, 2012-present
• Member, American Society for Hematology, 2014-present
• Member, American Thoracic Society, 2015-present
• Member, University of Pittsburgh Institutional Biosafety Committee, 2015-present
• Reviewer, American Heart Association-Immunology Basic Science Grants Committee, 2014-present
• Panelist, Physiology, Organismal & Developmental Biology Panel, National Science Foundation Graduate Research Fellowship Program, 2017
## GRANTS AND CONTRACTS AWARDED

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Department of Medicine

[www.vmi.pitt.edu](http://www.vmi.pitt.edu)
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<td>PROLONG PHARMACEUTICALS</td>
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<tr>
<td>TOTAL</td>
<td>$10,187,647</td>
<td>$3,321,105</td>
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TEACHING ACTIVITIES

Vascular Medicine Institute Research Conference Series

Held every week from noon to 1 pm, the VMI Research Conference Series features presentations from Cardiology and Vascular Medicine Institute faculty—as well as visiting Professors and faculty candidates—who present state-of-the-art cardiology and vascular research findings to a large, multidisciplinary audience of fellows and faculty from across the institution. This year, the VMI Research Conference Series featured talks from esteemed researchers such as William Sessa PhD (Alfred Gilman Professor of Pharmacology and Professor of Medicine, Cardiology; Vice Chairman, Pharmacology; Director, Vascular Biology & Therapeutics Program, Yale University); and Elena Aikawa MD PhD (Associate Professor of Medicine, Harvard Medical School; Director, Heart Valve Translational Research Program, Brigham and Women’s Hospital; Director, Vascular Biology Program, Center for Interdisciplinary Cardiovascular Sciences).

Postdoctoral Fellows Roundtable Discussion

A new addition to VMI Educational and Training initiatives during FY17, postdoctoral fellows are invited to exclusive roundtable discussions with visiting Professors following their VMI Research Conference presentations. Fellows gain valuable insight from these renowned professionals outside of the Pitt community by discussing scientific topics and career development.

VMI/HVI Research in Progress Conferences

Meeting weekly, the VMI/HVI Research in Progress Conference features two presentations given by either a fellow or junior faculty member. Presentations are approximately 20-25 minutes long, allowing 5-10 minutes for questions and discussion. With the opportunity to present two to three times each academic year, fellows are provided a forum in which they may not only improve their public speaking skills, but also elicit helpful questions and comments from more senior researchers who they may not interact with as frequently as their mentor. The experience has the potential to open new avenues of research and opportunities for collaboration.

VMI Journal Club

Held once a month, trainees lead a discussion with faculty and fellows about two published peer-reviewed articles per meeting, focusing on methodology and quality of research, as well as clinical or scientific impact.

VMI/HVI Fellows Research Retreat

This past February, the VMI, in conjunction with the Division of Cardiology, held its third annual fellows retreat, featuring a keynote presentation by Dr. Joseph Hill of UT Southwestern Medical Center. With focused presentations by research faculty, new fellows were exposed to potential areas of research while also afforded the opportunity to develop burgeoning mentor-mentee relationships outside of an academic setting. New cardiology trainees had the opportunity to formally present their work and interests, as well as informally socialize with other trainees and faculty during dinner, bowling, and skiing. The two-day retreat aimed to build a congenial atmosphere between VMI and HVI fellows and faculty, highlighting the general collaborative spirit of the medical community at the University of Pittsburgh. The retreat was held at Seven Springs from February 8-10, 2017.


Grant Writing Workshop

We continue to offer a formalized, highly successful, and popular grant writing workshop for our postdoctoral fellows, preparing them for either NRSA or K award applications to the NIH. Fellows meet monthly with a group of senior T32 faculty to discuss all aspects of grant writing strategy and to have drafts of their Specific Aims pages and other components of their applications critiqued by the group. We have experienced T32 faculty, all R01-funded and serving on NIH study sections, to guide the workshop. Exposure of the fellows to each other’s projects in a supportive and nurturing environment produces rapid acquisition of grant-writing skills and contributes to the high success rates of our fellows at the NIH level.

Physician-Scientist Survival Skills Conferences

Drs. Christopher O’Donnell (Professor of Medicine in the Division of Pulmonary, Allergy and Critical Care Medicine, Department of Medicine, University of Pittsburgh School of Medicine), Dan Buysse (Professor of Psychiatry and Clinical and Translational Science and Director of the Neuroscience Clinical and Translational Research Center at the University of Pittsburgh School of Medicine), and Bryan McVerry (Associate Professor of Medicine and Environmental and Occupational Health and Director of the PACCM Fellowship Program) have developed a series of interactive presentations that serve as a core resource for multiple T32 programs focused on academic physicians with a focus on translational science. The series’ primary objective is to expose beginning physician-scientists to the essential skills of academic life in an informal interactive environment, with topics ranging from how to set up a lab to interviewing skills and negotiation.

K-to-R Workshops

Organized to precede junior faculty’s R01 submissions, the function of these workshops is to provide assistance with grant proposals, ultimately leading to a greater percentage of R01-funded faculty across the Division. Interested junior faculty are given the opportunity to present their ideas and concepts for R-level proposals to a small team of highly experienced faculty with significant NIH study section portfolios and in-depth scientific knowledge related to the proposal.

Editorial Grant Review Core

Under the direction of Dr. Christopher O’Donnell, Dr. Gladwin has initiated and provided resources for payment of grant reviews for trainees during their career development phase. Reviewers must be experienced mid- to senior-level faculty from outside the mentorship training team who have previous study section experience and who provide a highly detailed critique of the science, training plan, mentorship plan, RCR and institutional support. Trainees submit their entire grant proposal three weeks prior to the NIH deadline and reviewers spend a minimum of five hours critiquing the application and completing the required NIH review form (with a significant focus on weaknesses). The grant review process is mandatory for all trainees/junior faculty participating in the career development grant writing and K-to-R workshops and is a significant factor in the high funding success rates of our programs detailed above.
### FACULTY

<table>
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<tr>
<th>Division</th>
<th>FY 2003 (Base Year)</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
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<td>Vascular Medicine Institute</td>
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#### Current Vascular Medicine Institute Faculty

**Full-Time Faculty**

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
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</tr>
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<tbody>
<tr>
<td>Bueno Fernandez</td>
<td>PhD</td>
<td>Research Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Corti Paola</td>
<td>PhD</td>
<td>Research Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Ghosh Samit</td>
<td>PhD</td>
<td>Research Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Isenberg Jeffrey</td>
<td>S. MD</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Kanias Tamir</td>
<td>M. PhD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Kapetanaki Maria</td>
<td>PhD</td>
<td>Research Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Kato Gregory</td>
<td>J. MD</td>
<td>Visiting Professor of Medicine</td>
</tr>
<tr>
<td>Lai Yen Chun</td>
<td>PhD</td>
<td>Research Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Mora Ana L.</td>
<td>MD</td>
<td>Visiting Associate Professor of Medicine</td>
</tr>
<tr>
<td>Ofori-Acquah</td>
<td>PhD</td>
<td>Associate Professor of Medicine</td>
</tr>
<tr>
<td>Sun Bin</td>
<td>MD</td>
<td>Research Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Sundd Prithu</td>
<td>PhD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Tejero Bravo Jesus</td>
<td>PhD</td>
<td>Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Walker Aisha</td>
<td>L. PhD</td>
<td>Research Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Wang Ling</td>
<td>MD, PhD</td>
<td>Research Assistant Professor of Medicine</td>
</tr>
<tr>
<td>Watkins Courtney</td>
<td>E. PhD</td>
<td>Research Assistant Professor of Medicine</td>
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**Research Associates**

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<tr>
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<tbody>
<tr>
<td>Hazra Rimi</td>
<td>PhD</td>
<td>Research Associate</td>
</tr>
<tr>
<td>Ho Renee</td>
<td>PhD</td>
<td>Research Associate</td>
</tr>
<tr>
<td>Hu Jian</td>
<td>MD</td>
<td>Research Associate</td>
</tr>
<tr>
<td>Sanker Subramaniam</td>
<td>PhD</td>
<td>Visiting Research Associate</td>
</tr>
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</table>

Department of Medicine  www.vmi.pitt.edu
## POST DOCS

### Current Post Docs in FY 2016-2017

<table>
<thead>
<tr>
<th>Employee Last Name</th>
<th>Employee First Name</th>
<th>Degree Code</th>
<th>Current Title</th>
<th>Summary of activities</th>
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<tr>
<td>Bennewitz</td>
<td>Maggie</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Bennewitz uses in vivo two-photon excitation microscopy to study the cellular and molecular mechanism driving pulmonary vaso-occlusion in sickle cell disease mice.</td>
</tr>
<tr>
<td>Belmonte</td>
<td>Frances</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Belmonte is studying the role of the G-quadruplex helicase PIF1 in the maintenance of mitochondrial function and weight control.</td>
</tr>
<tr>
<td>Braganza</td>
<td>Andrea</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Braganza researches the changes in protein turnover and proteosomal degradation in platelets during healthy aging.</td>
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<tr>
<td>Brzoska</td>
<td>Tomasz</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Brzoska is using in vivo Multi-Photon Excitation enabled intravital fluorescence microscopy to identify the cellular and molecular cues that promote thrombosis and subsequent lung injury in transgenic SCD mice.</td>
</tr>
<tr>
<td>Chiba</td>
<td>Takuto</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Chiba investigates novel matricellular protein signaling interactions in renal development and injury.</td>
</tr>
<tr>
<td>Coppin</td>
<td>Emilie</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Coppin is investigating the change Hematopoietic Stem and Progenitor Cells HSPC activation and differentiation and functions of inflammatory cells in cardiovascular diseases.</td>
</tr>
<tr>
<td>DeJesus</td>
<td>Daniel</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. DeJesus applies bioinformatics to investigate new redox-sensitive mechanisms by which NADPH oxidase 1 modulates pulmonary arterial hypertension.</td>
</tr>
<tr>
<td>Fallabella</td>
<td>Micol</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Fallabella is studying the role of G-quadruplex structures in the regulation of mitochondrial function.</td>
</tr>
<tr>
<td>Florentin</td>
<td>Jonathan</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Florentin researches the role and relevance of lung infiltrated pro-inflammatory monocytes in the expansion of lung interstitial macrophages in the context of pulmonary arterial hypertension.</td>
</tr>
<tr>
<td>Gbotosho</td>
<td>Bukola</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Gbotosho is studying the molecular pathways of heme entry and response to heme-induced expression of PLGF in bone marrow cells and how PLGF mediate vascular pathophysiology of pulmonary hypertension in sickle cell mouse. She is also investigating the Nrf2 oxidant stress response pathway in sensing excess intracellular heme-bound iron in cultured erythroid cells.</td>
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<tr>
<td>Ghimire</td>
<td>Kedar</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Ghimire is investigating the role of TSP1 to promote pathologic ROS production in response to blood flow changes and also consequent to advanced age.</td>
</tr>
<tr>
<td>Guimares</td>
<td>Danielle</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Guimares studies a mechanism that nitrite activates PKA and mediates mitochondrial function and cytoprotection in normoxic conditions.</td>
</tr>
<tr>
<td>Hortells</td>
<td>Luis</td>
<td>DVM, PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Hortells researches the role of aging and telomerase in cardiovascular calcification.</td>
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<tr>
<td>Kang</td>
<td>Inhae</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Kang is researching protein post-translational modification regulating the mitochondrial genome.</td>
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</table>
### Kelly Neil PhD Postdoctoral Fellow
Dr. Kelly's research interests include the use of genomics-and network-based methods to identify novel pathways involved in the pathogenesis of pulmonary hypertension.

### Li Yao PhD Postdoctoral Associate
Dr. Li is exploring the interplay of endothelial senescence and self-renewal genes in compromised peripheral vascular flow with aging.

### Manning Janet PhD Postdoctoral Scholar
Dr. Manning studies the impact of mitochondrial acetyltransferase GCN5L1 activity on the recovery of the heart from ischemia-reperfusion injury, focusing on the downstream acetylation targets that regulate cardiomyocyte metabolism, function, and survival.

### Negi Vinny PhD Postdoctoral Associate
Dr. Negi is exploring the role of miRNAs and novel drug targets in pulmonary hypertension.

### Pulgarin J. Andres PhD Postdoctoral Associate
Dr. Pulgarin is studying the role of Line-1 element in atherosclerotic and senescent cells.

### Rochon Elizabeth PhD Postdoctoral Associate
Dr. Rochon is researching globin proteins and their role in cardiac development and regeneration using zebrafish as a model.

### Sur Swastika PhD Postdoctoral Associate
Dr. Sur’s research focuses on the mechanisms underlying ACDC pathogenesis: identifying the transcription factors that upregulate transcription of Alkaline Phosphatase and exploring the role of autophagy in this pathology.

### Thapa Dharendra PhD Postdoctoral Associate
Dr. Thapa is investigating the novel role of GCN5L1 in controlling fatty acid oxidation and regulatory acetyl modifications of mitochondrial fuel utilization enzymes in normal and failing hearts.

### Vasametti Sathish PhD Postdoctoral Associate
Dr. Vasametti studies macrophages and their role in myocardial infarction triggered insulin resistance.

### Yu Qiujun MD, PhD Postdoctoral Associate
Dr. Yu is working on novel roles of long-noncoding RNA in pulmonary hypertension and molecular mechanics of mitochondrial metabolism in pulmonary vascular biology.

### Terminated Post Docs–Fiscal Year 2016-2017

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<th>Employee Last Name</th>
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<tr>
<td>Czajka</td>
<td>Caitlin</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Czajka researches the role of extracellular matrix and ROS in tissue engineering and wound healing.</td>
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<tr>
<td>Ihunnah</td>
<td>Chibueze A.</td>
<td>PhD</td>
<td>Postdoctoral Scholar</td>
<td>Dr. Ihunnah’s focus is on trying to understand the pharmacogenomic role of NRF2 agonists in hematopoietic and endothelial cells in the context of Sickle Cell Disease(SCD). We hope that these compounds show efficacy in the treatment of SCD patients suffering from pulmonary vascular dysfunction.</td>
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<td>Sahoo</td>
<td>Sanghamitra</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Sahoo’s interests center on the epigenetic role of micro-RNAs (miRs) in regulating Nox-dependent ROS generation and lung vascular remodeling in PAH.</td>
</tr>
<tr>
<td>Valli</td>
<td>Hanna</td>
<td>PhD</td>
<td>Postdoctoral Associate</td>
<td>Dr. Valli is using in vitro disease models to understand the role of CD73 and adenosine signaling in mechanisms regulating vascular calcification and vessel remodeling.</td>
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<tr>
<td>Vanderpool</td>
<td>Rebecca</td>
<td>PhD</td>
<td>Postdoctoral Fellow</td>
<td>Dr. Vanderpool is conducting studies related to the pathobiology of the coupling between the right ventricle and the pulmonary circulation and engaging in studies in human subjects as well as in preclinical models of cardiopulmonary disease.</td>
</tr>
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High-Impact Publications


Despite numerous reports implicating NADPH oxidases (Nox) in the pathogenesis of many diseases, precise regulation of this family of professional reactive oxygen species (ROS) producers remains unclear. A unique member of this family, Nox1 oxidase, functions as either a canonical or hybrid system using Nox organizing subunit 1 (NoxO1) or p47(phox), respectively, the latter of which is functional in vascular smooth muscle cells (VSMC). In this manuscript, we identify critical requirement of ezrin-radixin-moesin-binding phosphoprotein 50 (EBP50; aka NHERF1) for Nox1 activation and downstream responses. Superoxide (O2 (•-)) production induced by angiotensin II (AngII) was absent in mouse EBP50 KO VSMC vs. WT. Moreover, ex vivo incubation of aortas with AngII showed a significant increase in O2 (•-) in WT but not EBP50 or Nox1 nulls. Similarly, lipopolysaccharide (LPS)-induced oxidative stress was attenuated in femoral arteries from EBP50 KO vs. WT. In silico analyses confirmed by confocal microscopy, immunoprecipitation, proximity ligation assay, FRET, and gain-/loss-of-function mutagenesis revealed binding of EBP50, via its PDZ domains, to a specific motif in p47(phox) Functional studies revealed AngII-induced hypertrophy was absent in EBP50 KO VSMC vs. WT. Moreover, ex vivo incubation of aortas with AngII showed a significant increase in O2 (•-) in WT but not EBP50 or Nox1 nulls. Similarly, lipopolysaccharide (LPS)-induced oxidative stress was attenuated in femoral arteries from EBP50 KO vs. WT. Taken together, our data identify EBP50 as a previously unidentified regulator of Nox1 and support that it promotes Nox1 activity by binding p47(phox) This interaction is pivotal for agonist-induced smooth muscle ROS, hypertrophy, and vasoconstriction and has implications for ROS-mediated pathological and pathophysiological processes.


Dysregulation of vascular stiffness and cellular metabolism occurs early in pulmonary hypertension (PH). However, the mechanisms by which biophysical properties of the vascular extracellular matrix (ECM) relate to metabolic processes important in PH remain undefined. In this work, we examined cultured pulmonary vascular cells and various types of PH-diseased lung tissue and determined that ECM stiffening resulted in mechanoactivation of the transcriptional coactivators YAPand TAZ (WWTR1). YAP/TAZ activation modulated metabolic enzymes, including glutaminase (GLS1), to coordinate glutaminolysis and glycolysis. Glutaminolysis, an anaplerotic pathway, replenished aspartate for anabolic biosynthesis, which was critical for sustaining proliferation and migration within stiff ECM. In vitro, GLS1 inhibition blocked aspartate production and reprogrammed cellular proliferation pathways, while application of aspartate restored proliferation. In the monocrotaline rat model of PH, pharmacologic modulation of pulmonary vascular stiffness and YAP-dependent mechanotransduction altered glutaminolysis, pulmonary vascular proliferation, and manifestations of PH. Additionally, pharmacologic targeting of GLS1 in this model ameliorated disease progression. Notably, evaluation of simian immunodeficiency virus-infected nonhuman primates and HIV-infected subjects revealed a correlation between YAP/TAZ-GLS activation and PH. These results indicate that ECM stiffening sustains vascular cell growth and migration through YAP/TAZ-dependent glutaminolysis and anaplerosis, and thereby link mechanical stimuli to dysregulated vascular metabolism. Furthermore, this study identifies potential metabolic drug targets for therapeutic development in PH.

Pulmonary hypertension (PH) is a complex pulmonary vascular condition with increasing global prevalence and with particularly severe forms, such as pulmonary arterial hypertension (PAH), that are often fatal. In PAH, remodeling in diseased pulmonary arteries places an increasing hemodynamic burden on the right ventricle, leading to right ventricular failure, multiorgan dysfunction, and death. Current PH medications primarily target three major vasodilatory pathways (nitric oxide, endothelin, and prostacyclin signaling) but do not target the elusive upstream molecular origins of PH. Thus, they neither prevent nor reverse disease. Hence, there is a great need to identify the upstream molecular triggers of disease and apply those discoveries to clinical benefit.


Accumulating evidence suggests that altered cellular metabolism is systemic in pulmonary hypertension (PH) and central to disease pathogenesis. However, bioenergetic changes in PH patients and their association with disease severity remain unclear. Here, we hypothesize that alteration in bioenergetic function is present in platelets from PH patients and correlates with clinical parameters of PH. Platelets isolated from controls and PH patients (n = 28) were subjected to extracellular flux analysis to determine oxygen consumption and glycolytic rates. Platelets from PH patients showed greater glycolytic rates than controls. Surprisingly, this was accompanied by significant increases in the maximal capacity for oxygen consumption, leading to enhanced respiratory reserve capacity in PH platelets. This increased platelet reserve capacity correlated with mean pulmonary artery pressure, pulmonary vascular resistance, and right ventricular stroke work index in PH patients and was abolished by the inhibition of fatty acid oxidation (FAO). Consistent with a shift to FAO, PH platelets showed augmented enzymatic activity of carnitine palmitoyltransferase-1 and electron transport chain complex II. These data extend the observation of a metabolic alteration in PH from the pulmonary vascular axis to the hematologic compartment and suggest that measurement of platelet bioenergetics is potentially useful in assessment of disease progression and severity.


RATIONALE: Soluble guanylate cyclase (sGC) heme iron, in its oxidized state (Fe\textsuperscript{3+}), is desensitized to NO and limits cGMP production needed for downstream activation of protein kinase G-dependent signaling and blood vessel dilation. OBJECTIVE: Although reactive oxygen species are known to oxidize the sGC heme iron, the basic mechanism(s) governing sGC heme iron recycling to its NO-sensitive, reduced state remain poorly understood. METHODS AND RESULTS: Oxidant challenge studies show that vascular smooth muscle cells have an intrinsic ability to reduce oxidized sGC heme iron and form protein-protein complexes between cytochrome b5 reductase 3, also known as methemoglobin reductase, and oxidized sGC. Genetic knockdown and pharmacological inhibition in vascular smooth muscle cells reveal that cytochrome b5 reductase 3 expression and activity is critical for NO-stimulated cGMP production and vasodilation. Mechanistically, we show that cytochrome b5 reductase 3 directly reduces oxidized sGC required for NO sensitization as assessed by biochemical, cellular, and ex vivo assays. CONCLUSIONS: Together, these findings identify new insights into NO-sGC-cGMP signaling and reveal cytochrome b5 reductase 3 as the first identified physiological sGC heme iron reductase in vascular smooth muscle cells, serving as a critical regulator of cGMP production and protein kinase G-dependent signaling.

Pulmonary hypertension (PH) is associated with poor outcomes, yet specific treatments only exist for a small subset of patients. The most common form of PH is that associated with left heart disease (Group 2), for which there is no approved therapy. Nitrite has shown efficacy in preclinical animal models of Group 1 and 2 PH, as well as in patients with left heart failure with preserved ejection fraction (HFrEF). We evaluated the safety and efficacy of a potentially novel inhaled formulation of nitrite in PH-HFpEF patients as compared with Group 1 and 3 PH.

Cardiopulmonary hemodynamics were recorded after acute administration of inhaled nitrite at 2 doses, 45 and 90 mg. Safety endpoints included change in systemic blood pressure and methemoglobin levels. Responses were also compared with those administered inhaled nitric oxide.

Thirty-six patients were enrolled (10 PH-HFpEF, 20 Group 1 pulmonary arterial hypertension patients on background PH-specific therapy, and 6 Group 3 PH). Drug administration was well tolerated. Nitrite inhalation significantly lowered pulmonary, right atrial, and pulmonary capillary wedge pressures, most pronounced in patients with PH-HFpEF. There was a modest decrease in cardiac output and systemic blood pressure. Pulmonary vascular resistance decreased only in Group 3 PH patients. There was substantial increase in pulmonary artery compliance, most pronounced in patients with PH-HFpEF.

The study concluded that inhaled nitrite is safe in PH patients and may be efficacious in PH-HFpEF and Group 3 PH primarily via improvements in left and right ventricular filling pressures and pulmonary artery compliance. The lack of change in pulmonary-vascular resistance likely may limit efficacy for Group 1 patients.


The discovery of novel globins in diverse organisms has stimulated intense interest in their evolved function, beyond oxygen binding. Globin X (GbX) is a protein found in fish, amphibians, and reptiles that diverged from a common ancestor of mammalian hemoglobins and myoglobins. Like mammalian neuroglobin, GbX was first designated as a neuronal globin in fish and exhibits six-coordinate heme geometry, suggesting a role in intracellular electron transfer reactions rather than oxygen binding. Here, we report that GbX, to our knowledge, is the first six-coordinate globin and the first globin protein apart from hemoglobin, found in vertebrate RBCs. GbX is present in fish erythrocytes and exhibits a nitrite reduction rate up to 200-fold faster than human hemoglobin and up to 50-fold higher than neuroglobin or cytoglobin. Deoxygenated GbX reduces nitrite to form nitric oxide (NO) and potently inhibits platelet activation in vitro, to a greater extent than hemoglobin. Fish RBCs also reduce nitrite to NO and inhibit platelet activation to a greater extent than human RBCs, whereas GbX knockdown inhibits this nitrite-dependent NO signaling. The description of a novel, six-coordinate globin in RBCs with dominant electron transfer and nitrite reduction functionality provides new insights into the evolved signaling properties of ancestral heme-globins.
In patients with sickle cell disease (SCD), the polymerization of intraerythrocytic hemoglobin S promotes downstream vaso-occlusive events in the microvasculature. While vaso-occlusion is known to occur in the lung, often in the context of systemic vaso-occlusive crisis and the acute chest syndrome, the pathophysiological mechanisms that incite lung injury are unknown. We used intravital microscopy of the lung in transgenic humanized SCD mice to monitor acute vaso-occlusive events following an acute dose of systemic lipopolysaccharide sufficient to trigger events in SCD but not control mice. We observed cellular microembolism of precapillary pulmonary arteriolar bottlenecks by neutrophil-platelet aggregates. Blood from SCD patients was next studied under flow in an in vitro microfluidic system. Similar to the pulmonary circulation, circulating platelets nucleated around arrested neutrophils, translating to a greater number and duration of neutrophil-platelet interactions compared with normal human blood. Inhibition of platelet P-selectin with function-blocking antibody attenuated the neutrophil-platelet interactions in SCD patient blood in vitro and resolved pulmonary arteriole microembolism in SCD mice in vivo. These results establish the relevance of neutrophil-platelet aggregate formation in lung arterioles in promoting lung vaso-occlusion in SCD and highlight the therapeutic potential of targeting platelet adhesion molecules to prevent acute chest syndrome.


RATIONALE: Enhanced proliferation and impaired apoptosis of pulmonary arterial vascular smooth muscle cells (PAVSMCs) are key pathophysiologic components of pulmonary vascular remodeling in pulmonary arterial hypertension (PAH). OBJECTIVES: To determine the role and therapeutic relevance of HIPPO signaling in PAVSMC proliferation/apoptosis imbalance in PAH. METHODS: Primary distal PAVSMCs, lung tissue sections from unused donor (control) and idiopathic PAH lungs, and rat and mouse models of SU5416/hypoxia-induced pulmonary hypertension (PH) were used. Immunohistochemical, immunocytochemical, and immunoblot analyses and transfection, infection, DNA synthesis, apoptosis, migration, cell count, and protein activity assays were performed in this study. MEASUREMENTS AND MAIN RESULTS: Immunohistochemical and immunoblot analyses demonstrated that the HIPPO central component large tumor suppressor 1 (LATS1) is inactivated in small remodeled pulmonary arteries (PAs) and distal PAVSMCs in idiopathic PAH. Molecular- and pharmacology-based analyses revealed that LATS1 inactivation and consequent up-regulation of its reciprocal effector Yes-associated protein (Yap) were required for activation of mammalian target of rapamycin (mTOR)-Akt, accumulation of HIF1α, Notch3 intracellular domain and β-catenin, deficiency of proapoptotic Bim, increased proliferation, and survival of human PAH PAVSMCs. LATS1 inactivation and up-regulation of Yap increased production and secretion of fibronectin that up-regulated integrin-linked kinase 1 (ILK1). ILK1 supported LATS1 inactivation, and its inhibition reactivated LATS1, down-regulated Yap, suppressed proliferation, and promoted apoptosis in PAH, but not control PAVSMCs. PAVSM in small remodeled PAs from rats and mice with SU5416/hypoxia-induced PH showed down-regulation of LATS1 and overexpression of ILK1. Treatment of mice with selective ILK inhibitor Cpd22 at Days 22–35 of SU5416/hypoxia exposure restored LATS1 signaling and reduced established pulmonary vascular remodeling and PH. CONCLUSIONS: These data report inactivation of HIPPO/LATS1, self-supported via Yap–fibronectin–ILK1 signaling loop, as a novel mechanism of self-sustaining proliferation and apoptosis resistance of PAVSMCs in PAH and suggest a new potential target for therapeutic intervention.

Carbon monoxide (CO) is a leading cause of poisoning deaths worldwide, with no available antidotal therapy. We introduce a potential treatment paradigm for CO poisoning, based on near-irreversible binding of CO by an engineered human neuroglobin (Ngb). Ngb is a six-coordinate hemoprotein, with the heme iron coordinated by two histidine residues. We mutated the distal histidine to glutamine (H64Q) and substituted three surface cysteines with less reactive amino acids to form a five-coordinate heme protein (Ngb-H64Q-CCC). This molecule exhibited an unusually high affinity for gaseous ligands, with a P50 (partial pressure of O2 at which hemoglobin is half-saturated) value for oxygen of 0.015 mmHg. Ngb-H64Q-CCC bound CO about 500 times more strongly than did hemoglobin. Incubation of Ngb-H64Q-CCC with 100% CO-saturated hemoglobin, either cell-free or encapsulated in human red blood cells, reduced the half-life of carboxyhemoglobin to 0.11 and 0.41 min, respectively, from ≥200 min when the hemoglobin or red blood cells were exposed only to air. Infusion of Ngb-H64Q-CCC to CO-poisoned mice enhanced CO removal from red blood cells, restored heart rate and blood pressure, increased survival, and was followed by rapid renal elimination of CO-bound Ngb-H64Q-CCC. Heme-based scavenger molecules with very high CO binding affinity, such as our mutant five-coordinate Ngb, are potential antidotes for CO poisoning by virtue of their ability to bind and eliminate CO.

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