

## Bench Research Summer Course – July 15-19, 2024

<b>AM VIRTUAL</b>	<b>Mon – 7/15</b> <i>Fundamentals of DNA</i>	<b>Tues – 7/16</b> <i>Fundamentals of DNA</i>	<b>Wed – 7/17</b> <i>Fundamentals of RNA</i>	<b>Thurs – 7/18</b> <i>Fundamentals of Protein</i>	<b>Fri – 7/19</b> <i>Fundamentals of Cell Biology</i>
9:00 am - 10:00 am	<b>Introduction to Bench Research and Terminology</b> <i>Mark Snyder, MD</i>	<b>Principles of Genetics: Tools &amp; Technology</b> <i>Amanda Poholek, PhD</i>	<b>Non-coding RNA and RNA Modifications</b> <i>Andrea Berman, PhD</i>	<b>Protein-protein Interaction</b> <i>Yusuke Sekine, PhD</i>	<b>Brief Overview of Cell Biology</b> <i>Iain Scott, PhD</i>
10:00 am - 11:00 am	<b>Principles of Molecular Biology</b> <i>Jonathan Alder, PhD</i>	<b>Genome Sequencing and Practical Applications</b> <i>Jonathan Alder, PhD</i>	<b>Epigenetics</b> <i>Wan-Yee Tang, PhD</i>	<b>Introduction to Signal Transduction</b> <i>Kristen Veraldi, MD, PhD</i>	<b>Extracellular Matrix and Cell Atlases</b> <i>Oliver Eickelberg, MD</i>
11:00 am - 12:00 pm	<b>CRISPR/Cas9 Genome Editing Techniques</b> <b>TBD</b>	<b>Animal Models and Mouse Genetics</b> <i>Jonathan Alder, PhD</i>	<b>Transcriptomics and Gene Expression</b> <i>Eleanor Valenzi, MD, PhD</i>	<b>Ubiquitination, Degradation, Proteasome</b> <i>John Evankovich, MD</i>	<b>Cell Fate</b> <i>Melanie Königshoff, MD, PhD</i>
<b>BREAK</b>					
<b>PM IN-PERSON (as marked)</b>	<b>Western Blot Analysis</b> <i>Hari Bahudhanapati, PhD, MSc</i>	<b>Genomic DNA Extraction &amp; SNP Analysis</b> <i>Travis Lear, PhD</i>	<b>Tissue Staining</b> <i>Adriana Estrada-Bernal, PhD</i>	<b>Biostatistics Overview</b> <i>S. Mehdi Nouraie MD, PhD</i>	<b>Redox Biology</b> <i>Marco Fazzari, PhD</i>
1:00 pm - 4:00 pm	<i>Scaife Hall Teaching Lab-Room 7700</i>	<i>Scaife Hall Teaching Lab-Room 7700</i>	<i>Scaife Hall Teaching Lab-Room 7700</i>	<i>Virtual</i>	<i>Virtual</i>

## Bench Research Summer Course – July 22-25, 2024

<b>AM VIRTUAL</b>	<b>Mon – 7/22</b> <i>Imaging &amp; Mass Spectrometry</i>	<b>Tues – 7/23</b> <i>OMICS &amp; Systems Biology</i>	<b>Wed – 7/24</b> <i>Translational Research</i>	<b>Thurs – 7/25</b>
9:00 am - 10:00 am	<b>Molecular Techniques of in vivo Imaging</b> <i>Geoffrey Camirand, PhD</i>	<b>What is Systems Biology?</b> <i>Wayne Stallaert, PhD</i>	<b>Biomarker Analysis</b> <i>Georgios Kitsios, MD, PhD</i>	<b>FINAL EXAM</b>
10:00 am - 11:00 am	<b>Flow Cytometry, ImageStream, and Mass Cytometry</b> <i>Mark Snyder, MD</i>	<b>Metagenomics</b> <i>Barbara Methé, PhD</i>	<b>Building a Cohort for Translational Research</b> <i>Allison Kuipers, PhD</i>	
11:00am - 12:00 pm	<b>Biological Imaging: Show and Tell</b> <i>Alan Watson, PhD</i>	<b>Integrating Multi Omics Datasets</b> <i>Jishnu Das, PhD</i>	<b>Case Studies: Rigor, Reproducibility, Replicability</b> <i>Corrine Kliment, MD, PhD</i>	
<b>BREAK</b>				
<b>PM IN-PERSON (as marked)</b>	<b>Pathway and Omics Analysis</b> <i>Ansuman Chattopadhyay, PhD</i>	<b>Literature Search and Overview of Resources at Falk</b> <i>Ansuman Chattopadhyay, PhD</i>	<b>Biostatistics: Case Studies in Bench Research</b> <i>S. Mehdi Nouraie MD, PhD</i>	
1:00 pm - 4:00 pm	<i>Scaife Hall- West Wing Library Classroom*</i>	<i>Scaife Hall- West Wing Library Classroom*</i>	<i>Virtual</i>	