

Bench Research Summer Course – July 21-25, 2025

AM VIRTUAL	Mon – 7/21 <i>Fundamentals of DNA</i>	Tues – 7/22 <i>Fundamentals of DNA</i>	Wed – 7/23 <i>Fundamentals of RNA</i>	Thurs – 7/24 <i>Fundamentals of Protein</i>	Fri – 7/25 <i>Fundamentals of Cell Biology</i>
9:00 am - 10:00 am	Introduction to Bench Research and Terminology <i>Mark Snyder, MD</i>	Principles of Genetics: Tools & Technology <i>Jonathan Alder, PhD</i>	Non-coding RNA and RNA Modifications <i>Andrea Berman, PhD</i>	Protein-protein Interaction <i>Yuan Liu, PhD</i>	Brief Overview of Cell Biology <i>Iain Scott, PhD</i>
10:00 am - 11:00 am	Principles of Molecular Biology <i>Jonathan Alder, PhD</i>	Genome Sequencing and Practical Applications <i>Amanda Poholek, PhD</i>	Epigenetics <i>Delphine Gomez, PhD</i>	Introduction to Signal Transduction <i>Kristen Veraldi, MD, PhD</i>	Extracellular Matrix and Cell Atlases <i>Alicia Rizzo, MD, PhD</i>
11:00 am - 12:00 pm	CRISPR/Cas9 Genome Editing Techniques <i>Jonathan Alder, PhD</i>	Animal Models and Mouse Genetics <i>Anat Kohn, MD, PhD</i>	Transcriptomics and Gene Expression <i>Eleanor Valenzi, MD</i>	Ubiquitination, Degradation, Proteasome <i>John Evankovich, MD</i>	Cell Fate <i>Kassandra Allbright, MD</i>
BREAK					
PM IN-PERSON (as marked)	Western Blot Analysis <i>Hari Bahudhanapati, PhD, MSc</i> <i>Scaife Hall Teaching Lab-Room 7700</i>	Genomic DNA Extraction & SNP Analysis <i>Ricardo Pineda, PhD</i> <i>Scaife Hall Teaching Lab-Room 7700</i>	Tissue Staining <i>Adriana Estrada-Bernal, PhD</i> <i>Scaife Hall Teaching Lab-Room 7700</i>	Biostatistics Overview <i>S. Mehdi Nouraiie MD, PhD</i> <i>Virtual</i>	1:00 – 2:00 pm Immunology Review <i>Lokesh Sharma, PhD</i> <i>Virtual</i>
1:00 pm - 4:00 pm					2:00 – 3:00 pm Redox Biology <i>Marco Fazzari, PhD</i> <i>Virtual</i>

Bench Research Summer Course – July 28-31, 2025

AM VIRTUAL	Mon – 7/28 <i>Imaging & Mass Spectrometry</i>	Tues – 7/29 <i>OMICS & Systems Biology</i>	Wed – 7/30 <i>Translational Research</i>	Thurs – 7/31
9:00 am - 10:00 am	Molecular Techniques of in vivo Imaging <i>Geoffrey Camirand, PhD</i>	What is Systems Biology? <i>Wayne Stallaert, PhD</i>	Biomarker Analysis <i>Georgios Kitsios, MD, PhD</i>	FINAL EXAM
10:00 am - 11:00 am	Flow Cytometry, ImageStream, and Mass Cytometry <i>Mark Snyder, MD</i>	Metagenomics <i>Barbara Methé, PhD</i>	Building a Cohort for Translational Research <i>Will Bain, MD</i>	
11:00am - 12:00 pm	Biological Imaging: Show and Tell <i>Alan Watson, PhD</i>	Integrating Multi Omics Datasets <i>Jishnu Das, PhD</i>	Case Studies: Rigor, Reproducibility, Replicability <i>Mark Snyder, MD Jonathan Alder, PhD</i>	
BREAK				
PM IN-PERSON <i>(as marked)</i>	Pathway and Omics Analysis <i>Ansuman Chattopadhyay, PhD</i>	Literature Search and Overview of Resources at Falk <i>Ansuman Chattopadhyay, PhD</i>	Biostatistics: Case Studies in Bench Research <i>S. Mehdi Nouraie MD, PhD</i> <i>Virtual</i>	
1:00 pm - 4:00 pm	<i>Scaife Hall- West Wing Library Classroom*</i>	<i>Scaife Hall- West Wing Library Classroom*</i>		