

Bench Research Summer Course – July 19-23, 2021

	Mon – 7/19	Tues – 7/20	Wed – 7/21	Thurs – 7/22	Fri – 7/23
	<i>Fundamentals of DNA</i>	<i>Fundamentals of DNA</i>	<i>Fundamentals of RNA</i>	<i>Fundamentals of Protein</i>	<i>Fundamentals of Cell Biology</i>
9:00 am - 10:00 am	Introduction to Bench Research and Terminology <i>Jonathan Alder, PhD</i>	Principles of Genetics: Tools & Technology <i>Janette Lamb, PhD</i>	Non-coding RNA and RNA Modifications <i>Andrea Berman, PhD</i>	Protein-protein Interaction <i>Yvonne Eisele, PhD</i>	Brief Overview of Cell Biology <i>Iain Scott, PhD</i>
10:00 am - 11:00 am	Principles of Molecular Biology <i>Janet Lee, MD</i>	Genome Sequencing and Practical Applications <i>Jonathan Alder, PhD</i>	Epigenetics <i>Ning Feng MD, PhD</i>	Ubiquitination, Degradation, Proteasome <i>Travis Lear</i>	Intracellular Trafficking <i>Steven Truschel, PhD</i>
11:00 am - 12:00 pm	CRISPR/Cas9 Genome Editing Techniques <i>Brett Kaufman, PhD</i>	Mouse Genetic Tools <i>TBD</i>	Transcriptomics and Gene Expression <i>Dennis Kostka, PhD</i>	Introduction to Signal Transduction <i>Kristen Veraldi, MD, PhD</i>	Cell Fate <i>Marijn Ford, PhD</i>
BREAK					
1:00 pm - 2:30 pm	Molecular Biology Workshop <i>Corrine Kliment, MD, PhD</i>	Animal Models and Mouse Genetics <i>Jonathan Alder, PhD</i>	Biostatistics Overview <i>S. Mehdi Nourai MD, PhD</i>	Pathway and Omics Analysis <i>Ansuman Chattopadhyay, PhD</i>	Mitochondrial Redox Biology <i>Patrick Pagano, PhD</i>

Bench Research Summer Course – July 26-30, 2021

	Mon – 7/26 <i>Imaging & Mass Spectrometry</i>	Tues – 7/27 <i>OMICS & Systems Biology</i>	Wed – 7/28 <i>Translational Research</i>	Thurs – 7/29
9:00 am - 10:00 am	Molecular Techniques of in vivo Imaging <i>Prithu Sundd, PhD</i>	What is Systems Biology? <i>Rachel Gottschalk, PhD</i>	Biomarker Analysis <i>Yingze Zhang, PhD</i>	FINAL EXAM
10:00 am - 11:00 am	In Vivo Model Systems/Genetic Approaches to Immunology <i>Mandy McGeachy, PhD</i>	Metagenomics <i>Barb Methé, PhD</i>	Building a Cohort for Translational Research <i>Allison Kuipers, PhD</i>	
11:00am - 12:00 pm	Biological Imaging: Show and Tell <i>Claudette St. Croix, PhD</i>	Integrating Multi Omics Datasets <i>Jishnu Das, PhD</i>	Case Studies: Rigor, Reproducibility, Replicability <i>Corrine Kliment, MD, PhD Jonathan Alder, PhD</i>	
BREAK				
1:00 pm - 2:30 pm	Flow Cytometry, ImageStream, and Mass Cytometry <i>Timothy Oriss, PhD</i>	Literature Search and Overview of Resources at Falk <i>Ansuman Chattopadhyay, PhD</i>	Biostatistics: Case Studies in Bench Research <i>S. Mehdi Nourai MD, PhD</i>	