



UNIVERSITY OF MINNESOTA



Cold Spring Harbor Laboratory
DNA LEARNING CENTER

Biomufacturing: Cell-free Gene Expression and Bacteriophage Production

University of Minnesota St. Paul Campus, Minnesota March 4-6, 2024

Monday March 4	8:30 AM		Coffee and Sign-In
	9:00 AM		Participant and Staff Introductions
	9:15 AM	LAB	Cell-free Expression of Reporter Genes (Fluorescent Proteins)
	11:00 AM	CONCEPT	Introduction to Cell-free Expression
	12:00 PM	LUNCH	
	1:00 PM	LAB	Cell-free Biomufacturing of T7 Phage: Infect Host Cells with Biommanufactured Phages
	3:00 PM	LAB	Results of Cell-free Expression of Reporter Genes
	4:00 PM	LAB	Cell-free Biomufacturing of T7 Phage: Set Up
5:00 PM	DISMISS		
Tuesday March 5	8:30 AM		Coffee
	9:00 AM	CONCEPT	Assays for Detecting Active Phage
	10:00 AM	LAB	Cell-free Biomufacturing of T7 Phage: Set up Spotting Assays
	11:00 AM	LAB	Cell-free Biomufacturing of T7 Phage: Assay Infection Kinetics on Plate Reader
	12:00 PM	LUNCH	
	1:00 PM	CONCEPT	Bacteriophage Biology
	2:00 PM	LAB	Cell-free Phage Reactions with Varying Parameters
	3:00 PM	LAB	Cell-free Biomufacturing of T7 Phage: Analyze Spotting Assays
5:00 PM	DISMISS		
Wednesday March 6	8:30 AM		Coffee
	9:00 AM	LAB	Cell-free Phage Reactions with Varying Parameters: Set up Spotting Assays
	10:00 AM	LAB	Cell-free Phage Reactions with Varying Parameters: Assay Infection Kinetics on Plate Reader
	12:00 PM	LUNCH	
	1:00 PM	CONCEPT	Oxford Nanopore Sequencing of Phage
	2:00 PM	LAB	Cell-free Phage Reactions with Varying Parameters: Analyze Spotting Assays
	3:00 PM	SURVEY	
4:00 PM	DISMISS		