Cryo-EM Course

at the Laboratory for BioMolecular Structure (LBMS)

This course will be held as a virtual event.
June 20-23, 2023

Day 1 - Tuesday 20 June 2023

Time (EDT)	Speaker	Topic
10:00-10:15	Liguo Wang (BNL)	Introduction to LBMS
10:15-11:00	David DeRosier (Brandeis)	The evolution, deficiencies, and promise of cryo-electron microscopy
11:00-12:30	Chen Xu (Umass)	Introduction to electron microscopes and cameras
12:30-13:30		Lunch break
13:30-14:30	Liguo Wang (BNL)	Introduction to negative staining and cryo-electron microscopy
14:30-16:00	Guobin Hu (BNL)	Single-particle sample preparation tutorial and demonstration (negative staining and cryogenic vitrification)

Day 2 - Wednesday 21 June 2023

Time (EDT)	Speaker	Topic
10:00-11:30	Gabriel Lander (Scripps)	EM image formation and single particle reconstruction
11:30-12:30	Oliver Clarke (Columbia)	Model building, refinement, and validation.
12:30-13:00		Lunch break
13:00-15:00	Dongyan Tan (SBU)	Single-particle data analysis workflow tutorial and demonstration
15:00-15:10		Coffee break
15:10-17:00	Guobin Hu (BNL)	EPU single particle data collection tutorial and demonstration

Day 3 - Thursday 22 June 2023

Time (EDT)	Speaker	Topic
10:00-11:00	Jun Liu (Yale)	Introduction to Cryo-electron tomography
11:00-12:00	Digvijay Singh (UCSD)	cryo-FIB to prepare cryo-FIB samples
12:00-13:00		Lunch break
13:00-14:50	Jianfeng Lin (Yale)	Cryo-ET sample preparation tutorial and demonstration
14:50-15:00		Coffee break
15:00-17:00	Jun Liu (Yale)	Cryo-ET data collection and reconstruction tutorial and demonstration

Day 4 - Friday 23 June 2023

Time (EDT)	Speaker	Topic
10:00-11:00	Raphael Park (Yale)	Tomographic data segmentation tutorial and demonstration.
11:00-13:00	Muyuan Chen (Stanford)	Subtomography averaging tutorial and demonstration in EMAN2
13:00-13:30		Lunch break
13:30-14:30	Tamir Gonen (UCLA)	MicroED: theory, application and available software
14:30-15:30	Qun Liu (BNL) Yong Xiong (Yale)	Discussion