

Date	Session	Time slot (ET)	Type	Venue	Lecturer	Topic
Monday, March 11, 2024	Morning	9:00-9:30	Registration	A level kitchen	SEMC staff	Check-in and coffee
Monday, March 11, 2024	Morning	9:30 - 10:45	Lecture 1 - Keynote	NYSBC seminar room	Joachim Frank (Columbia University)	Intro and overview of SPA
Monday, March 11, 2024	Morning	11:00 - 11:30	Welcome	NYSBC seminar room	SEMC staff	Orientation and formal welcome
Monday, March 11, 2024	Morning	11:30 - 12:00	Roundtable 1	NYSBC seminar room	<i>students</i>	Flashtalks from students
Monday, March 11, 2024	Lunch	12:00 - 13:00	Lunch	SEMC area	instructors, students and TAs	Lunch
Monday, March 11, 2024	Afternoon	13:00 - 14:00	Lecture 2	SEMC conference room	Victor Chen & Wen Jiang (Purdue University)	cryoVR for Virtual Reality Augmented CryoEM Training
Monday, March 11, 2024	Afternoon	14:00 - 17:30	Practical 1	SEMC area	SEMC staff	cryoEM sample prep and grid prep stations
Monday, March 11, 2024	Reception	17:30 - 17:45	Debrief	SEMC conference room	Review of the day	Day 1!
Monday, March 11, 2024	Reception	17:30 - 18:30	Reception	SEMC area	instructors, students and TAs	Reception
Tuesday, March 12, 2024	Morning	9:00 - 10:00	Lecture 3	NYSBC seminar room	SEMC staff	Microscopes, grids and tools of the trade
Tuesday, March 12, 2024	Morning	10:00 - 10:30	Roundtable 2	NYSBC seminar room	SEMC staff	Making use of local facilities and national centers
Tuesday, March 12, 2024	Lunch	12:30 - 13:30	Lunch	SEMC conference room	instructors, students and TAs	Lunch
Tuesday, March 12, 2024	Afternoon	10:30 - 17:30	Practical 2	SEMC area	SEMC staff	Support films, plunge freezing and TEM stations
Tuesday, March 12, 2024	Afternoon	17:30 - 17:45	Debrief	NCCAT control room	Review of the day	Day 2!
Wednesday, March 13, 2024	Morning	9:00 - 10:00	Lecture 4a	NYSBC seminar room	Fred Sigworth (Yale University)	Algorithms and foundational math PartI: derivation/explanation of the CTF, FTs.
Wednesday, March 13, 2024	Morning	10:10 - 11:05	Lecture 4b	NYSBC seminar room	Fred Sigworth (Yale University)	Algorithms and foundational math PartII: reconstruction, classification, maximum likelihood.
Wednesday, March 13, 2024	Morning	11:15 - 12:20	Lecture 5	NYSBC seminar room	Amedee des Georges/Reza Khayat (NYU/CUNY)	Data Analysis and reconstruction workflow
Wednesday, March 13, 2024	Lunch	12:20 - 13:30	Roundtable 3	NYSBC seminar room	Fred Sigworth & Amedee des Georges/Reza Khayat	Current and new algorithms to deal with SPA reconstruction
Wednesday, March 13, 2024	Lunch	13:50 - 14:00	Photo	Outside	Group photo	Sunny weather!
Wednesday, March 13, 2024	Afternoon	14:00 - 17:30	Practical 3	NYSBC seminar room	SEMC staff	Processing using cryoSPARC
Wednesday, March 13, 2024	Afternoon	17:30 - 17:45	Debrief	NYSBC seminar room	Review of the day	Day 3!
Thursday, March 14, 2024	Morning	9:00 - 10:00	Lecture 6	NYSBC seminar room	Rich Hite (Memorial Sloan Kettering Cancer Center)	Interpretation and Limitations of SPA
Thursday, March 14, 2024	Morning	10:30 - 11:30	Lecture 7	NYSBC seminar room	Sonya Hanson (Flatiron Institute)	AI/ML methods to deal with heterogeneity
Thursday, March 14, 2024	Lunch	12:00 - 12:45	Roundtable 4	NYSBC seminar room	Rich Hite & Sonya Hanson	EM challenges and new frontiers
Thursday, March 14, 2024	Afternoon	13:00 - 13:45	Lecture 8	NYSBC seminar room	Jack Turner	EMDB & EMPIAR: Archiving of Electron Microscopy Data
Thursday, March 14, 2024	Afternoon	14:00 - 16:45	Practical 4	NCCAT control room	SEMC staff	Autoloader TEMs and Krios data collection at a national center
Thursday, March 14, 2024	Afternoon	16:45 - 17:00	Debrief	SEMC conference room	Review of the day	Day 4!
Thursday, March 14, 2024	Dinner	17:30 - 19:30	Dinner	venue outside NYSBC	all instructors, students and TAs	Group dinner
Friday, March 15, 2024	Morning	9:00 - 9:45	Lecture 9	NYSBC seminar room	Oli Clarke (Columbia University)	Fitting Atomic Models
Friday, March 15, 2024	Morning	10:00 - 10:45	Lecture 10	NYSBC seminar room	Gira Bhabha & Damian Ekiert (John Hopkins University)	Coordinate Refinement and Validation
Friday, March 15, 2024	Morning	10:45 - 11:30	Roundtable 5	NYSBC seminar room	Oli Clarke, Gira Bhabha and Damian Ekiert	Making biological conclusions from cryoEM reconstructions.
Friday, March 15, 2024	Lunch	12:00 - onward	Lunch	NYSBC seminar room	instructors, students and TAs	Lunch concurrent with Coot practical
Friday, March 15, 2024	Afternoon	12:30 - 16:00	Practical 5	NYSBC seminar room	Oli Clarke	Coot and model building
Friday, March 15, 2024	Afternoon	16:00 - 16:30	Wrap up - debrief	NYSBC seminar room	SEMC staff	What we did this week
Friday, March 15, 2024	Afternoon	16:30 - 17:00	Wrap up and checkout (cor	SEMC conference room	SEMC staff	Farewell