

**preliminary OMIBS COURSE SCHEDULE 2024 as of July 1, 2024**

Location key: SW - Swope center; Lb - Loeb building; SA - Speck Auditorium

Time	Location	Event	Lecturer
<b>DAY 1</b>			<b>Tuesday</b>
			<b>August 13, 2024</b>
5:00 PM - 6:00 PM	SW	Walk around Woods Hole (optional; meet in front of Swope)	course staff
6:00 PM - 7:00 PM	SA	Welcome and orientation	Alison North, Joerg Bewersdorf
7:00 PM - 8:00 PM	Swope Terrace	Pizza Party	
8:00 PM - 9:00 PM	SA	Lecture: Grand overview of the course	Alison North
<b>DAY 2</b>			<b>Wednesday</b>
			<b>August 14, 2024</b>
8:15 AM - 9:30 AM	SA	Lecture: Foundations of microscopy 1 - geometrical optics	Joerg Bewersdorf
9:30 AM - 10:00 AM		Break	
10:00 AM - 11:00 AM	SA	Lecture: Foundations of microscopy 2 - lenses and optical systems	Joerg Bewersdorf
11:00 AM - 12:00 PM	Lb 2nd floor	Lab: Basic sample preparation	course staff
12:00 PM - 1:00 PM	SW	Lunch	
1:00 PM - 3:15 PM	Lb 2nd floor	Lab: Build basic microscopes	course staff
3:15 PM - 3:30 PM		Break	
3:30 PM - 6:30 PM	Lb 2nd floor	Lab: Practice with commercial microscope stands	course staff
6:30 PM - 7:30 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:30 PM - 9:00 PM	SA	Lecture: Foundations of microscopy 3 - wave optics	Joerg Bewersdorf
9:00 PM - 10:00 PM	Lb 2nd floor	Demonstration: Abbe diffraction apparatus	Chris Bjornsson
<b>DAY 3</b>			<b>Thursday</b>
			<b>August 15, 2024</b>
8:15 AM - 9:30 AM	SA	Lecture: Transmitted light 1	Sharon King
9:30 AM - 9:45 AM		Break	
9:45 AM - 11:15 AM	SA	Lecture: Cameras	Stephanie Fullerton
11:15 AM - 12:15 PM	Lb 2nd floor	Lab: Phase contrast microscopy	course staff
12:15 PM - 1:15 PM	SW	Lunch	
1:15 PM - 3:15 PM	Lb 2nd floor	Lab: ImageJ basics	Andrew McCall
3:15 PM - 4:15 PM	Lb 2nd floor	Lab: Use of cameras	Andrew McCall and course staff
4:15 PM - 5:30 PM	SA	Lecture: Transmitted light 2	Sharon King
5:30 PM - 6:30 PM	Lb 2nd floor	Lab: DIC and polarization (part 1)	Sharon King and course staff
6:30 PM - 7:30 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:30 PM - 10:30 PM	Lb 2nd floor	Lab: DIC and polarization (part 2)	Sharon King and course staff
<b>DAY 4</b>			<b>Friday</b>
			<b>August 16, 2024</b>
8:15 AM - 9:00 AM	SA	Discussion of lab exercises	Sharon King
9:00 AM - 9:45 AM	SA	Lecture: Photophysics of fluorescence and dye chemistry	Luke Lavis
9:45 AM - 10:45 AM	SA	Lecture: Introduction to the fluorescence microscope	Alison North
10:45 AM - 11:00 AM		Break	
11:00 AM - 12:30 PM	Lb 2nd floor	Lab: Fluorescence microscopy (part 1)	course staff
12:30 PM - 1:30 PM	SW	Lunch	
1:30 PM - 2:00 PM	SA	Lecture: Chemical tags for functional imaging	Luke Lavis
2:00 PM - 3:00 PM	SA	Lecture: Sample preparation techniques	Alison North
3:00 PM - 3:30 PM		Break	
3:30 PM - 4:00 PM	Lb 2nd floor	Lab: Cleaning optical filters	Mark Lessard
4:00 PM - 6:00 PM	Lb 2nd floor	Lab: Fluorescence microscopy (part 2)	course staff

6:00 PM - 7:00 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:00 PM - 9:30 PM	Lb 2nd floor	Lab: Build widefield fluorescence microscope	course staff
9:30 PM - 11:00 PM	Lb 2nd floor	Commercial faculty appreciation event	

DAY 5	Saturday	August 17, 2024
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8:15 AM - 8:30 AM	SA	Discussion of lab exercises	Alison North, Joerg Bewersdorf
8:30 AM - 9:30 AM	SA	Lecture: Fluorescent proteins	Alison Tebo
9:30 AM - 10:00 AM		Break	
10:00 AM - 11:00 AM	SA	Lecture: Imaging dynamics (incl. FRET, FLIM, FCS)	Mathew Tantama
11:00 AM - 12:00 PM	SA	Lecture: Biosensors	Alison Tebo
12:00 PM - 1:00 PM	SW	Lunch	
1:00 PM - 3:15 PM	Lb 2nd floor	Lab: FRET & FLIM	Alison Tebo, Mathew Tantama, course staff
3:15 PM - 4:00 PM	SA	Discussion of FRET & FLIM lab exercises	Alison Tebo, Mathew Tantama, course staff
4:00 PM - 5:00 PM	SA	Lecture: Tissue Clearing	Doug Richardson
5:00 PM - 5:15 PM		Break	
5:15 PM - 6:00 PM	SA	Lecture: Principles of digital imaging 1	Patrick La Riviere
6:00 PM - 7:00 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:00 PM - 8:00 PM	SA	Lecture: Principles of digital imaging 2	Patrick La Riviere
8:00 PM - 9:30 PM	SA	Lab: Digital imaging	Patrick La Riviere and course staff

**SUNDAY IS FALMOUTH ROAD RACE - EXPECT ROAD CLOSURES!**

DAY 6	Sunday	August 18, 2024
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8:15 AM - 9:00 AM	SA	Discussion of lab exercises	Patrick La Riviere, Joerg Bewersdorf
9:00 AM - 9:45 AM	SA	Lecture: Evaluating optical performance using PSFs	Lynne Turnbull
9:45 AM - 10:00 AM		Break	
10:00 AM - 12:00 PM	Lb 2nd floor	Lab: Resolution measurements	Joerg Bewersdorf
12:00 PM - 12:30 PM	Lb courtyard	Group Photo (followed by meeting for vendors)	Mark Lessard
12:30 PM - 1:00 PM		Lunch	
1:00 PM - 5:00 PM		Afternoon off	
5:00 PM - 6:00 PM	SA	Lecture: Deconvolution	Sid Shaw
6:00 PM - 7:00 PM	SW	Dinner (NO vendor meeting)	
7:00 PM - 8:30 PM	SA	Lecture: Confocal microscopy	Sid Shaw
8:30 PM - 8:45 PM		Break	
8:45 PM - 9:45 PM	SA	Discussion of lab exercises	Sid Shaw

DAY 7	Monday	August 19, 2024
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8:15 AM - 9:15 AM	SA	Lecture: Multiphoton microscopy	Cristina Rodriguez
9:15 AM - 12:15 PM	Lb 2nd floor	Lab: Deconvolution, confocal, multiphoton (part 1)	Sid Shaw, Doug Richardson, Cristina Rodriguez, course staff
12:15 PM - 1:15 PM	SW	Lunch	
1:15 PM - 4:15 PM	Lb 2nd floor	Lab: Deconvolution, confocal, multiphoton (part 2)	Sid Shaw, Doug Richardson, Cristina Rodriguez, course staff
4:15 PM - 4:45 PM		Break	
4:45 PM - 5:15 PM	SA	Lecture: ImageJ tutorial on quantitative analysis	Sid Shaw
5:15 PM - 6:15 PM	SA	Lab: Quantification & analysis (part 1)	Sid Shaw

6:15 PM - 7:15 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:15 PM - 8:45 PM	SA	Lab: Quantification & analysis (part 2)	Sid Shaw
8:45 PM - 10:00 PM	SA	Discussion of Lab Exercises	Sid Shaw

DAY 8	Tuesday	August 20, 2024
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8:30 AM - 9:00 AM	SA	Lecture: Instrumentation for live-cell imaging	Michelle Itano
9:00 AM - 10:00 AM	SA	Lecture: Imaging live specimens without killing them	Binyam Mogessie
10:00 AM - 10:15 AM		Break	
10:15 AM - 11:15 AM	SA	Lecture: Light sheet microscopy	Wes Legant
11:15 AM - 11:30 AM		Break	
11:30 AM - 12:30 PM	SA	Lecture: Adaptive optics	Cristina Rodriguez
12:30 PM - 1:30 PM	SW	Lunch	
1:30 PM - 2:30 PM	SA	Lecture: Super-resolution 1 - SIM methods	Alison North, Joerg Bewersdorf
2:30 PM - 5:30 PM	Lb 2nd floor	Lab: Light-sheet microscopes, SIM, iSIM (part 1)	course staff
5:30 PM - 6:00 PM	SA	Lecture: Super-resolution 2 - Expansion Microscopy	Joerg Bewersdorf
6:00 PM - 7:00 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:00 PM - 9:00 PM	Lb 2nd floor	Lab: Light-sheet microscopes, SIM, iSIM (part 2)	course staff
9:00 PM - 10:30 PM	SA	Tech bites	Alison North, commercial faculty

DAY 9	Wednesday	August 21, 2024
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8:30 AM - 9:30 AM	SA	Lecture: Spatial Omics	Jacqueline Leung
9:30 AM - 10:15 AM	SA	Lecture: Super-resolution 3 - STED	Joerg Bewersdorf
10:15 AM - 10:30 AM		Break	
10:30 AM - 11:30 AM	SA	Lecture: Super-resolution 4 - Single-molecule localization techniques	Joerg Bewersdorf
11:30 AM - 12:15 PM	Lb 2nd floor	Lab: STED & single-molecule localization (part 1)	course staff
12:15 PM - 1:15 PM	SW	Lunch	
1:15 PM - 2:00 PM	Lb 2nd floor	Lab: STED & single-molecule localization (part 2)	course staff
2:00 PM - 2:15 PM	SW	Break	
2:15 PM - 3:00 PM	SA	Lecture: Colocalization	Alison North
3:00 PM - 6:00 PM	Lb 2nd floor	Lab: Rotations on specialized instruments/demos	course staff
6:00 PM - 7:00 PM	SW	Dinner (NO vendor meeting)	
7:00 PM - 10:00 PM	Lb 2nd floor	Lab: Time on instruments/demos (part 1)	course staff

DAY 10	Thursday	August 22, 2024
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8:30 AM - 12:00 PM	Lb 2nd floor	Lab: Time on instruments/demos (part 2)	course staff
12:00 PM - 1:00 PM	SW	Lunch	
1:00 PM - 2:00 PM	SA	Discussion of super-resolution	Alison North, Joerg Bewersdorf
2:00 PM - 2:45 PM	SA	Lecture: Ethics and good practices in microscopy	Michelle Itano
2:45 PM - 3:45 PM	SA	Career Panel	Alison North, Joerg Bewersdorf
3:45 PM - 4:45 PM	SA	Final Discussion	Alison North, Joerg Bewersdorf
4:45 PM - 5:00 PM		Break	
5:00 PM - 6:00 PM	SA	Horizons Lecture	Florian Jug
6:00 PM - 6:30 PM		Break	
6:30 PM - 9:00 PM	Swope Terrace	Banquet	

**DAY 11**

**Friday**

**August 23, 2024**

Morning

Check-out after Breakfast