

OMIBS COURSE 2019 - Schedule as of August 9, 2019

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

Time	Location	Event	Lecturer
DAY 0		Monday	August 19, 2019
5:00 PM - 6:00 PM	SW	Walk around Woods Hole (optional; meet in front of Swope)	Jacqueline Leung
6:00 PM - 7:00 PM	Lb G70	Welcome and orientation	Alison North, Joerg Bewersdorf
7:00 PM - 8:00 PM	Swope Cafe	Pizza party	
8:00 PM - 9:00 PM	Lb G70	Grand Overview of the Course	Alison North, Joerg Bewersdorf
DAY 1		Tuesday	August 20, 2019
8:15 AM - 9:00 AM	Lb G70	Welcome and Orientation by MBL staff	MBL staff
9:00 AM - 10:00 AM	Lb G70	Lecture: Foundations of microscopy 1 - geometrical optics	Joerg Bewersdorf
10:00 AM - 10:30 AM	Lb 2nd floor	Break	
10:30 AM - 11:30 AM	Lb G70	Lecture: Foundations of microscopy 2 - lenses and optical systems	Joerg Bewersdorf
11:30 AM - 12:30 PM	Lb 2nd floor	Lab: Basic sample preparation	Alison North, Jacqueline Leung, Seth Winfree
12:30 PM - 1:30 PM	SW	Lunch	
1:30 PM - 3:30 PM	Lb 2nd floor	Lab: Build basic microscope	Mark Lessard, Akanksha Thawani, Andrew McCall
3:30 PM - 6:30 PM	Lb 2nd floor	Lab: Practice with commercial microscope stands	Commercial faculty and Andrew McCall
6:30 PM - 7:30 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:30 PM - 9:00 PM	Lb G70	Lecture: Foundations of microscopy 3 - wave optics	Joerg Bewersdorf
9:00 PM - 10:00 PM	Lb 2nd floor	Demonstration: Abbe diffraction apparatus	Jim McIlvain
DAY 2		Wednesday	August 21, 2019
8:15 AM - 9:45 AM	Lb G70	Lecture: Cameras	Stephanie Fullerton
9:45 AM - 10:00 AM	Lb 2nd floor	Break	
10:00 AM - 12:00 PM	Lb 2nd floor	Lab: ImageJ Basics	Andrew McCall
12:00 PM - 1:00 PM	SW	Lunch	
1:00 PM - 2:15 PM	Lb G70	Lecture: Transmitted light 1	Sharon King
2:15 PM - 3:15 PM	Lb 2nd floor	Lab: Use of Cameras	Seth Winfree
3:15 PM - 4:15 PM	Lb 2nd floor	Lab: Phase Contrast	Sharon King, Jacqueline Leung
4:15 PM - 5:30 PM	Lb G70	Lecture: Transmitted light 2	Sharon King
5:30 PM - 6:30 PM	Lb 2nd floor	Lab: DIC and polarization (first part)	Sharon King, Jacqueline Leung
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 (continued)	Sharon King, Jacqueline Leung
DAY 3		Thursday	August 22, 2019

8:15 AM - 9:00 AM	Lb G70	Discussion of Lab Exercises	
9:00 AM - 9:45 AM	Lb G70	Lecture: Photophysics of Fluorescence and Dye Chemistry	Luke Lavis
9:45 AM - 10:45 AM	Lb G70	Lecture: Introduction to the Fluorescence Microscope	Alison North
10:45 AM - 11:30 AM	Lb 2nd floor	Break and Lab: Cleaning optical filters	Mark Lessard
11:30 AM - 1:00 PM	Lb 2nd floor	Lab: Fluorescence microscopy	Alison North, Seth Winfree
1:00 PM - 2:00 PM	SW	Lunch	
2:00 PM - 3:00 PM	Lb G70	Lecture: Live-cell imaging and colocalization	Alison North
3:00 PM - 3:30 PM	Lb G70	Lecture: Fluorescence 2 - Chemical tags for functional imaging	Luke Lavis
3:30 PM - 3:50 PM	Lb G70	Tech bites I	Alison North, commercial faculty
3:50 PM - 4:00 PM	Lb 2nd floor	Break	
4:00 PM - 6:00 PM	Lb 2nd floor	Lab: Fluorescence microscopy continued	Alison North, Seth Winfree
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	Mark Lessard, Akanksha Thawani, Andrew McCall
9:30 PM - 11:00 PM	Lb courtyard	Commercial Faculty Appreciation Event	

DAY 4	Friday	August 23, 2019
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8:15 AM - 9:15 AM	Lb G70	Lecture: Fluorescent proteins	Rich Day
9:15 AM - 9:30 AM	Lb G70	Lecture: Fluorescent protein artifacts	John Allen
9:30 AM - 10:00 AM	Lb 2nd floor	Break	
10:00 AM - 11:00 AM	Lb G70	Lecture: Imaging dynamics (incl. FRET, FLIM, FCS)	Rich Day
11:00 AM - 12:00 PM	Lb G70	Lecture: Biosensors	Gary Yellen
12:00 PM - 1:00 PM	SW	Lunch	
1:00 PM - 4:00 PM	Lb 2nd floor	Demo: FRET & FLIM	Rich Day, Seth Winfree
4:00 PM - 5:00 PM	Lb G70	Lecture: Sample preparation techniques	Alison North
5:00 PM - 5:15 PM	Lb 2nd floor	Break	
5:15 PM - 6:15 PM	Lb G70	Lecture: Principles of digital imaging 1	Patrick La Riviere
6:15 PM - 7:15 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:15 PM - 8:15 PM	Lb G70	Lecture: Principles of digital imaging 2	Patrick La Riviere
8:15 PM - 10:15 PM	Lb G70	Lab: digital imaging	Patrick La Riviere

DAY 5	Saturday	August 24, 2019
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8:15 AM - 9:00 AM	Lb G70	Discussion of Lab Exercises	
9:00 AM - 9:45 AM	Lb G70	Lecture: Evaluating optical performance using PSFs	Leanna Ferrand
9:45 AM - 10:45 AM	Lb G70	Lecture: Deconvolution	Sid Shaw
10:45 AM - 11:00 AM	Lb 2nd floor	Break	
11:00 AM - 12:30 PM	Lb G70	Lecture: Confocal microscopy	Sid Shaw
12:30 PM - 1:00 PM	Lb courtyard	Group Photo	
1:00 PM - 2:00 PM	SW	Lunch	
2:00 PM - 6:30 PM		Afternoon off	

6:30 PM - 7:30 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:30 PM - 8:30 PM	Lb G70	Lecture: Multiphoton microscopy	Bojana Gligorijevic
8:30 PM - 11:30 PM	Lb 2nd floor	Lab: Resolution measurements	Joerg Bewersdorf

DAY 6	Sunday	August 25, 2019
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8:15 AM - 9:00 AM	Lb G70	Discussion of Lab Exercises	
9:00 AM - 12:00 PM	Lb 2nd floor	Lab: Deconvolution, confocal, multiphoton	Sid Shaw, Bojana Gligorijevic, Jacqueline Leung
12:00 PM - 1:00 PM	SW	Lunch	
1:00 PM - 4:00 PM	Lb 2nd floor	Lab continued	Sid Shaw, Bojana Gligorijevic, Jacqueline Leung
4:00 PM - 4:30 PM	Lb 2nd floor	Break	
4:30 PM - 5:00 PM	Lb G70	Lab: ImageJ tutorial on quantitative analysis	Sid Shaw
5:00 PM - 6:30 PM	Lb G70	Lab: Quantification & analysis	Sid Shaw
6:30 PM - 7:30 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:30 PM - 8:30 PM	Lb G70	Lab: Quantification & analysis continued	Sid Shaw
8:30 PM - 10:00 PM	Lb G70	Discussion of Lab Exercises	

DAY 7	Monday	August 26, 2019
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8:30 AM - 9:30 AM	Lb G70	Lecture: Light sheet microscopy	Wes Legant
9:30 AM - 10:30 AM	Lb G70	Lecture: Tissue clearing	Doug Richardson
10:30 AM - 11:00 AM	Lb 2nd floor	Break	
11:00 AM - 12:00 PM	Lb G70	Career Panel	Faculty, commercial faculty
12:00 PM - 1:00 PM	SW	Lunch	
1:00 PM - 4:00 PM	Lb 2nd floor	Lab Rotations: Light-sheet and TIRF microscopes	Amicia Elliott, Akansha Thawani
4:00 PM - 5:00 PM	Lb G70	Lecture: Super-resolution 1 - SIM methods	Hesper Rego
5:00 PM - 6:00 PM	Lb G70	Lecture: Super-resolution 2 - STED	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: 3D-SIM, Airy Scan, iSIM	Hesper Rego, Alison North
9:00 PM - 10:30 PM	Lb G70	Tech bites II	Alison North, commercial faculty

DAY 8	Tuesday	August 27, 2019
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8:30 AM - 9:30 AM	Lb G70	Lecture: Super-resolution 3 - (F)PALM/(d)STORM/GSD	Joerg Bewersdorf
9:30 AM - 10:00 AM	Lb G70	Tutorial: Single-molecule localization data processing	Amicia Elliott
10:00 AM - 12:00 PM	Lb 2nd floor	Lab: STED & single-molecule localization (part 1)	Mark Lessard, Amicia Elliott
12:00 PM - 1:00 PM	SW	Lunch	
1:00 PM - 2:00 PM	Lb 2nd floor	Lab: STED & single-molecule localization (part 2)	Mark Lessard, Amicia Elliott
2:00 PM - 3:00 PM	Lb G70	Lecture: Adaptive optics and PSF engineering	Joerg Bewersdorf

3:00 PM - 4:00 PM	Lb G70	Round-table: Pitfalls and artifacts in super-resolution	Alison North, Joerg Bewersdorf
4:00 PM - 6:00 PM	Lb 2nd floor	Lab: Rotations on specialized instruments/demos	Jacqueline Leung
6:00 PM - 7:00 PM	SW	Dinner (meeting for vendors: last 15 min of dinner)	
7:00 PM - 10:00 PM	Lb 2nd floor	Lab: Time on instruments/demos	Jacqueline Leung, Mark Lessard

DAY 9	Wednesday	August 28, 2019
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8:30 AM - 10:00 AM	Lb G70	Discussion: super-resolution labs and critique of images	Alison North, Joerg Bewersdorf
10:00 AM - 12:00 PM	Lb 2nd floor	Lab: Time on instruments/demos	Jacqueline Leung, Mark Lessard
12:00 PM - 1:00 PM	SW	Lunch	
1:00 PM - 3:00 PM	Lb 2nd floor	Lab: Time on instruments/demos	Jacqueline Leung, Mark Lessard
3:00 PM - 3:30 PM	Lb G70	Lecture: Ethics in Imaging	Alison North
3:30 PM - 4:00 PM	Lb G70	Lecture: Phototoxicity	Joerg Bewersdorf
4:00 PM - 5:00 PM	Lb G70	Lecture: Choosing the right microscope for an application	Alison North, Joerg Bewersdorf
5:00 PM - 5:15 PM	Lb 2nd floor	Break	
5:15 PM - 6:15 PM	SA	Horizons Lecture	Na Ji
6:15 PM - 6:30 PM		Break	
6:30 PM - 9:00 PM	SW-Meigs	Banquet	

DAY 10	Thursday	August 29, 2019
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Morning	Check-out after Breakfast
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