

Time	Sunday March 1st	Monday March 2nd	Tuesday March 3rd	Wednesday March 4th	Thursday March 5th	Friday March 6th
		Basics of Microscopy	Fluorescence Microscopy	Optical Sectioning and enhancing resolution	Single/Few Molecule Techniques	High-Content, High-Throughput Microscopy
9.00 – 10.30		Faculty: Ernst Stelzer and Rudolf Oldenbourg Basics of microscopy: microscope light path, diffraction/resolution, phase and polarization (ES)	Faculty: Atsushi Miyawaki and Nico Stuurmann Principles of fluorescence and optical sensors (AM)	Faculty: Stephen Smith, Sudipta Maiti and Jennifer Lippincott-Schwartz 9.00 – 10.00 Optical sectioning techniques- confocal and 2 photon (SS)	Faculty: Roop Mallik, Ron Vale, Clare Waterman and Satyajit Mayor 9.00 – 10.00 Optical Trapping, (RM) 9:45 – 10:15 Single molecule fluorescence (RV)	Faculty: Jan Ellenberg, Research Lecture and Didactic Training on High-Content, High-Throughput Microscopy
10.30 – 10.45		Break	Break	Break	Break	Break
10.45 – 1.00		Lab: Identify parts of a microscope and light paths. Koehler illumination on stained histology slides. Exercise to look at resolution/diffraction with diatoms.	Lab: Examine fluorescence light path, dichroics and filters. Take images of fluorescence fixed specimens. Fluorescence beads for psf and pixel shift.	10.00 – 11.00 FRAP, FLIM and PALM (JL-S) 11.00 – 11.30 Break 11.30 – 12.30 FCS (SM)	10:15 – 11:15 Speckling, Tracking and other live cell approaches (CW) 11:30 – 12:30 FRET (SM)	Vendor Didactic Workshops
1.00 – 2.00		Lunch	Lunch	Lunch	Lunch	Lunch
2.00 – 3.00		Lecture: phase contrast (ES)	Lecture: Optical Detectors and Digital Image Processing (NS)	Lab: confocal microscopy (point scanning, spinning disc, photobleaching and FCS)	Specialized techniques/ Small group demos FRET, polarization Speckle microscopy Physical manipulations with magnets, optical traps Laser ablation methods Imaging fluorescence in brain slices Integrating microscope systems	Vendor Demos and Elective Time on Microscopes
3.00 – 4.00		Lecture: DIC (RO)	Lecture: contd			
4.00 – 6.00	4.00 – 5.00 Ron Vale Opening Remarks and Research Lecture 5.00 – 7.00 Poster Session	Lab: Contrast enhancement, Phase and DIC	Lab: Multiwavelength time-lapse live cell imaging	Lab contd.		
6.00 – 8.00	7.30 – 9.00	Dinner	Dinner	Dinner	Dinner	Dinner in town
8.00 – 9.30	Social Dinner	Lecture: Principles of polarization and research on polarizing microscopes, Rudolf Oldenbourg	Lecture: Atshushi Miyawaki and Jennifer Lippincott-Schwartz	Lecture: Ernst Stelzer and Stephen Smith	Lecture: Clare Waterman and Jim Spudich	
9.30 – 11.00	Free time on microscopes with faculty/vendors					