

**Optical microscopy: Principles and applications
in neurosciences and developmental biology**

Organizers : Laurent Bourdieu, Andréa Dumoulin, Olivier Collin

Week 1 : Room 305 - 1st floor

Tuesday 11/12	9h00 - 10H30 Introduction to optical microscopy I : resolution and image formation - Laurent Bourdieu - IBENS	14h00 -15h30 Introduction to Fourier Optics - Emiliano Ronzitti - Institut de la Vision
	10h45 -12h15 Introduction to optical microscopy II : optical sectioning - Laurent Bourdieu - IBENS	16h00 - 17h30 Super-resolution fluorescence microscopies - Guillaume Dupuis - ISMO
Wednesday 11/13 Thursday 11/14	Workshop 1 : “Basic principles of geometrical optics” Laurent Bourdieu (IBENS)	
Friday 11/15	9H00 - 10H30 Non-linear scanning microscopies - Laurent Bourdieu - IBENS	14h00 -15h30 Optogenetic tools from a chemical perspective - Vincent Vilette - IBENS
	10h45 -12h15 Nonlinear imaging: How to go faster? - Laurent Bourdieu - IBENS	16h30 - 17h30 Nonlinear imaging: How to go deeper? - Laurent Bourdieu - IBENS

Week 2 : Room 305 - 1st floor

Monday 11/18	9H00 - 10H30 Methods for photo-modulation of neuronal activity - Emiliano Ronzitti - Institut de la Vision	14h00 - 15h30 Optical recording and modulation of neuronal activity in freely - behaving rodents - Cathie Ventalon -IBENS
	10h45 -12h15 Imaging and analysis of large-scale neural populations - Brice Bathelier - Institut de la Vision.	16h00 - 17h30 1-photon mesoscopic imaging and photometry - Isabelle Ferezou - Paris-Saclay Institute of Neuroscience
Tuesday 11/19	9h00 - 10h30 Data analysis 1/2: Calcium data processing - Sébastien Wolf - IBENS	14h - 16h00 Bioimage informatics for neuroimaging - Anatole Chessel - Ecole Polytechnique
	10h45 -12h15 Data analysis 2/2: Dimensionality reduction and network modeling - Sébastien Wolf - IBENS	16h30 -18h00 Light sheet microscopy - Willy Supatto – LOB
Wednesday 11/20	9h00 - 12h15 New methods for the meso-scale analysis of connectomics in the rodent brain - Nicolas Renier – ICM	Workshops 2,3,4
Thursday 11/21	Workshops 2,3,4	Workshops 2,3,4
Friday 11/22	Exam	

Workshop 2 : Light sheet imaging of whole brain activity, German Sumbre (IBENS)

Workshop 3 : Two-photon microscopy using acousto-optic deflectors, Vincent Vilette (IBENS)

Workshop 4 : Imaging of clarified tissues, Jonathan Bradley (IBENS)