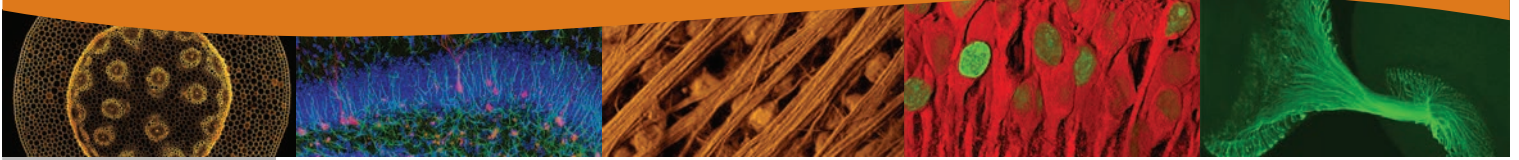


OHSU Research Cores and Shared Resources
Advanced Light Microscopy
@ The Jungers Center

OHSU cores are your campus technology partners dedicated to the success of your project. For optimal results, take advantage of the state-of-the-art scientific resources within the OHSU community.

www.ohsu.edu/cores



NEUS630

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Location
 BRB 405

The Fluorescence Microscopy Toolbox

For Cell Biologists

All welcome to attend - No registration required

Aug 20-24

9:30-11:30 am

Vollum M1441

Monday	The Basics	Basis principle of fluorescence and implementation in microscopy Basic parts of a modern light microscope The digital revolution - pros and cons of the different camera types
	Immunolabeling and Multiplexing	Indirect immunofluorescence Challenges in detecting more than one antigen at a time Challenges in separating fluorophores cleanly
Tuesday	Optical Sectioning	Blurring due to point-spreading The confocal principle Iterative deconvolution and structured illumination microscopy
	The GFP Revolution	History Expanding the color spectrum of fluorescent proteins Live cell imaging
Wednesday	Digital Images - Processing and Analysis	Intro into open-source Fiji/ImageJ image processing software Quantifying fluorescence - what is signal, what is background? Colocalization - what does it mean and how to quantify it Length and volume measurements
	Presentation and Publication	Rasterized images vs. vector graphics Presentation of black/white images in RGB and CMYK color spaces Presentation of dynamic events and the Microsoft/Apple battle
Thursday	Multi-Photon Microscopy	The principle of multi-photon microscopy Depth penetration and photomanipulation
	FRET, FLIM and FCS	The power of FRET sensors FLIM - a promising method for measuring physiological processes FCS - learning about single molecules through observation of many
Friday	Super-Resolution	The diffraction barrier and why it needs to be broken STED, SIM, AiryScan and single-molecule localization techniques Expansion microscopy
	Large Tissue Imaging	Tissue clearing Principal and applications of sheet illumination microscopy