BWH NeuroTechnology Studio
Presents

Fall Visual Microscopy Workshop

This workshop focuses on some basic and popular topics in the optical imaging technology: resolution limit, super-resolution, confocal and digital image processing. Optical imaging is a very "hands-on" practice, which limits the number of participants for a live workshop.

To overcome this dilemma, the NeuroTechnology Studio is introducing "Visual Microscopy Workshop". Using remote control on multiple imaging systems in our core facility, we can live demo the actual imaging process in the classroom along with presentation to explain imaging principles. We call it "eyes-on" practice, which can provide an interactive microscope imaging environmental to a large number of participants.

This workshop mixes theory, practice, imaging tips and some history stories. Whether you are new to optical imaging or already have some experience, you may find this workshop helpful to enhanced and expand your knowledge of optical imaging technology.

This workshop is free, but requires registration. Please RVSP to Lai Ding
lding@bwh.harvard.edu

This is an in-person event. Detailed workshop information is below.

Instructor: Lai Ding, Ph.D, NeuroTechnology Studio.
Location: Hale BTM building Conference room 05010 (all dates)
Time: 11AM – 12PM (all dates)

Part I   "**Resolution: Know the limit and how to achieve it**"
Wednesday
Oct 13th 11AM

                    Introduce the Abbe limit formula.
                    How to achieve the best resolution
                    Live demo on difference of point scan confocal and CCD-based
                    widefield imaging systems

Part II
Wednesday
Oct 20th 11AM

"**Principle of Confocal Microscopy**"

Introduce principle of confocal and multiphoton imaging.
Understanding how the modern confocal system works.
Live demo of point scan confocal.

Part III
Wednesday
Oct 27th 11AM

"**Practical guidelines for acquiring a confocal image**"

Live demo of guidelines to acquire better confocal image.
Topic covers laser setting, detector adjustment, image format,
average method, avoiding crosstalk …

Part IV
Wednesday
Nov 3rd 11AM

"**Introduction to Digital Image Processing with ImageJ**"

Introduce basics of digital image processing and Ethics of image
manipulation. FIJI ImageJ will be used as the platform.