



The KCCI 2018 Open House

www.kcci.virginia.edu/uvamicroscopy2018

The W.M. Keck Center for Cellular Imaging
A University of Virginia Imaging Center

Wednesday, October 3, 2018

KCCI Location (just opposite to AFC): Entrance at B041 or B049 (basement level), the physical and life science building (PLSB), 90 Geldard Drive, Charlottesville, VA 22904

Scheduled Demos

TIME	INSTRUMENTS		
10-11AM	Lightsheet (Zeiss)	FLIM-2P (Zeiss 780) (2-Photon NADH FLIM)	Confocal (Leica SP5X; Zeiss510) (White Light Laser & FRET)
11-12PM	Lightsheet (Zeiss)	TIRF (Olympus)	
12-1PM	LUNCH BREAK		
1-2PM	FLIM-2P (Zeiss 780) (2-Photon NADH FLIM)	FCS/lifetime (ISS) FLIM Spectrofluorometry	Confocal (Leica SP5X, Zeiss510) (White Light Laser & FRET)
2-3PM	Lightsheet (Zeiss)	TIRF (Olympus)	
3-4PM	Lightsheet (Zeiss)	Spectrofluorometry /ISS	

- **Two-photon (2p) Fluorescence Lifetime Imaging Microscopy (FLIM).** Lifetime is independent of fluorophore concentration & laser power, perfect for FRET measurements, significant focal depth (300-800 μ m) - ideal for tissue sections, intrinsic autofluorescence measurements (NADH, FAD, trp). Our 3-detector system offers cutting-edge simultaneous imaging options. Transmission of fluorescence intensity is from 300-1100 nm.
- **Confocal FRET Microscopy Imaging.** Mainstream confocal applications (time-lapse, 3-D) plus spectral and FRET imaging with fixed lasers and the flexible White Light Laser (WLL), tunable to any excitation wavelength 470-670 nm in 1nm increments with tunable emission wavelengths on 6 detectors, allowing fine-tuning for optimal excitation and multiple fluorophores.
- **Lightsheet Microscopy.** High-resolution, three-dimensional imaging for whole organisms (*Drosophila*, *zebrafish*, *C. elegans*, embryos, clarity tissue and plant applications). The specimen (max 3 mm size) dimension can be imaged live at 360 degrees.
- **Total Internal Reflection Fluorescence (TIRF) Microscopy Imaging.** Ideal application for cellular membrane imaging or specimens where only 100-200 nm in 'z' are investigated. Excellent signal-to-noise ratio, low background noise
- **Fluorescence Correlation Spectroscopy (FCS) Imaging.** Analytical assaying of nano- to picomolar concentrations in small volumes ($\sim 1 \mu\text{m}^3$). Other applications include quantitative analysis of diffusions and molecular kinetics in live specimens.
- **Spectrofluorometry.** This can be used for intensity and lifetime measurements for samples in solution (Cuvette).

Tours of the Keck Center will be conducted during 'Open House' 10 am to 4 pm
3 hours of free imaging voucher for Open House guests - any instrument - next 6 months