



FAU Cell Imaging Core

Workshop on Light Microscopy & Cellular Imaging in Life Sciences

Where: Florida Atlantic University, **Jupiter** Campus, FAU Cell Imaging Core

When: **December 16th-18th 2019** (Monday-Wednesday, 9 am - 5 pm)

Course Description

An intensive, three-day workshop in light microscopy for graduate students and postdocs in the life sciences. The course will help students understand the theory of image formation and give an introduction to different fluorescent and laser scanning techniques. Practical sessions will include demonstration of imaging systems available in the FAU Cell Imaging Core.

The course will consist of lectures in the morning and practical demonstrations in the afternoon. During the practical sessions, different microscope techniques will be demonstrated using sample preparations.

Lectures

- Image formation (lenses and image formation, objectives, diffraction, point spread function, resolution)
- Fluorescence microscopy (fluorescent probes and proteins, laser, confocal microscopy, two-photon microscopy, super-resolution microscopes)
- Detection and image analysis (cameras and detectors, digital images, image analysis, deconvolution)

Practical Sessions and Demonstrations

- DIC/Wide-field/Fluorescent microscopy
- Confocal microscope, image acquisition of fixed samples (Z-stacks, multi-channel)
- Confocal microscope, live cell imaging (time-lapse, FRAP, calcium imaging)
- Multi-Photon microscope (laser ablation)
- Image and data analysis in NIS Elements, ImageJ, Amira, and NeuroLucida
- Students are encouraged to bring their own samples for imaging

Special Demonstrations

Representatives from NanoLive, Keyence, and Mizar Imaging will join us for special demonstrations of their newest technology.

- NanoLive: 3D Cell Explorer-fluo
- Keyence: BZ-X800
- Mizar Imaging: Tilt - High-Resolution Light Sheet Imaging

Course Sign-up

Space will be limited to 12 students. If you would like to participate in the imaging workshop send us an email by **December 6th 2019**

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