About the Microscopy CORE

The ISMMS Microscopy CORE provides access to high-end instrumentation for generating light and electron microscopy images, and to workstations for image processing, deconvolution, and analysis.

Equipment:

Confocal and Multiphoton Microscopes:
- Leica SP5 DM
- Leica SP5 DMI
- Zeiss LSM 880 with Airyscan
- Zeiss LSM 780
- Yokogawa Spinning Disk
- Olympus FV1000 Multiphoton

Widefield Microscopes:
- Zeiss Axioplan 2
- Olympus MVX10 Stereomicroscope (with new dual chip camera)
- Olympus IX70 Livecell
- Olympus IX71

Transmitted Electron Microscopes:
- Hitachi 7000
- Hitachi 7800

Image Analysis Software:
- AutoQuantX3 Deconvolution
- MetaMorph
- Volocity 3D
- Amira 3D

Services:
- Free training on all systems
- Consultation, guidance, and assistance
- Accessible 24/7
- Demonstrations
- Seminars

Capabilities:
- Second Harmonic Imaging
- Spectral Separation
- Extended Focus Imaging
- Tile Scanning
- Polarized Light
- FRET, FRAP, FURA
- Live Cell Imaging
- Intravital Imaging

Who we are:

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First Annual Light Microscopy Course

New York, June 14-16, 2016

Location:
Lectures: Annenberg Building, Room, 5-210 A/B
Hands-on sessions: Hess Building, Room S.203, 10th Floor

Organized by the Microscopy CORE, ISMMS and Leica Microsystems
Lecture Series

Tuesday June 14, 2016
9am: Continental Breakfast

• 9:45am-10:00am
Welcome:
Deanna Benson, PhD, Director, Microscopy CORE; Professor, Neuroscience, ISMMS

Opening remarks:
Reginald Miller, DVM, Dean for Research Operations and Infrastructure, ISMMS

Session Chair: J. Javier Bravo-Cordero, PhD, Scientific Advisor, Microscopy CORE; Assistant Professor, Dept. of Hematology and Oncology, ISMMS

• 10am-10:40am
Louis Hodgson, PhD. Associate Professor, Albert Einstein College of Medicine
“New Windows on Living Cells: Spatiotemporal Dynamics of Rho GTPases Regulate Cancer Invasion”

Keynote address:
• 10:40-11:30am
Suzanne Scarlata, PhD. Professor, Worcester Polytechnic Institute
“Caveolae Connect Mechanical Deformation to Calcium Signals Generated through Gαq”

• 11:30-12:10pm
Margarida Barroso, PhD. Associate Professor, Albany Medical College
“FRET and FLIM Imaging”

Wednesday June 15, 2016
9am: Continental Breakfast

Session Chair: Deanna Benson, PhD.
Microscopy CORE and Dept. of Neuroscience, ISMMS

• 10-10:40am
Julie Canman, PhD. Assistant Professor, Columbia University
“The Molecular Choreography of Cell Division”

• 10:40-11:20am
Jennifer Zallen, PhD. HHMI Investigator, Memorial Sloan Kettering
“Signals and Forces that Control the Dynamics of Multicellular Systems”

Keynote address:
• 11:20-12:10pm
Wenbiao Gan, PhD. Professor, New York University
“Experience-dependent Dendritic Spine Plasticity in the Cortex”

Hands-on Sessions

12:30-1:30pm: Lunch (workshop participants only) Hess building, 10th floor
Sessions 1 - 3 have three rotations. Rotations will be repeated every 1.5 hours for different groups of students. You must have a ticket and attend the session and rotation you reserved.

June 14th: Session 1 (1:30pm - 6pm)
• Microscope and Fluorescence Basics
• Live Imaging on a Microscope
• Live Cell Cinematography

June 15th: Session 2 (1:30 - 6pm)
• Optical Sectioning with Confocal Microscopy
• Long Term Timelapse Imaging, Multi-position, Focus and Environment
• Fast, Dynamic, and Molecular Imaging, FRET and Ion Concentrations

June 16th: Session 3 (9:30am - 6pm)
• Photomanipulation
• Live Data Analysis
• Additional Topic TBD

June 16th: Session 4
• 2:30 pm: Digital Light Sheet
• 3:30 pm: Multiphoton Imaging (Annenberg 18-250)

Special Thanks to Our Instructors:
Leica Microsystems
Lauren O’Rourke, Robert Fasulka, Paul Carman, Jessica Shivitz
ISMMS
J. Javier Bravo-Cordero, Nikos Tzavaras, Crystal Pristell

Instruments Featured:
Leica TCS SP8 with Digital Light Sheet Technology
Leica DMi8 Modular Inverted Microscope
Okolab Incubators
Olympus FV1000 Multiphoton

Thank you to our partner: