

**6th Charleston Workshop on
LIGHT MICROSCOPY FOR BIOSCIENCES
June 4-9, 2017**

LECTURE AND LAB OUTLINE

Sunday, June 4, 2017

12:00 p.m.	Registration – 5 th Floor Drug Discovery (DD) Building
1:00 p.m.	Course Introduction – DD512
1:30 p.m.	Lecture 1: Imaging and Illumination Light Paths in the Microscope, John J. Lemasters
3:00 p.m.	Lab 1: Wide Field Microscopy: Protocols 1-6 – DD112 (Pharmacy Lab)
6:00 p.m.	Pizza party and introductions – DD512 (GE Healthcare)

Monday, June 5

8:30 a.m.	Lecture 2: Image Formation, Phase Contrast, Polarization and DIC, John J. Lemasters
9:30 a.m.	Break
10:00 a.m.	Lab 2: Wide field microscopy: Protocols 7-10
12:00 p.m.	Lunch (on your own)
1:00 p.m.	Lecture 3: Principles of Fluorescence Microscopy, Anna-Liisa Nieminen
2:00 p.m.	Break
2:30 p.m.	Lab 3: Wide field microscopy: Protocols 11-13
4:00 p.m.	Lecture 4: Immunochemistry and Duolink, Monika Gooz
5:00 p.m.	Lecture 5: Filters for Fluorescence Microscopy, Mike Stanley, Chroma Technology
5:30 pm	Lecture 6: High content imaging, Rob Peterson, GE Healthcare
6:00 p.m.	Dinner (own your own)

Tuesday, June 6

8:30 a.m. Lecture 7: Digital cameras, Butch Granada, Hamamatsu
9:30 a.m. Lecture 8: Fluorescence Probes, Mike Janes, ThermoFisher
10:30 a.m. Break
11 a.m. Lab 4: Fluorescence Microscopy Labs: Protocols 14-17
12:30 p.m. Group Photo
12:45 p.m. Lunch (on your own)
1:30 p.m. Lecture 9: Introduction to Confocal/Multiphoton
Microscopy - Basic Principles, John J. Lemasters
2:30 p.m. Break
3:00 p.m. Lab5: Confocal Labs: Protocols 18-20
6:00 p.m. Dinner (on your own)

Wednesday, June 7

8:30 a.m. Lecture 10: Optimizing Confocal Performance, John J.
Lemasters
9:30 a.m. Break
10:00 a.m. Lab 6: Confocal Lab: Protocols 21-22
12:00 p.m. Lunch (on your own)
1:00 p.m. Lab 7: Immunocytochemistry 1
2:00 p.m. Vendors Show - Open to the Public
6:00 p.m. Picnic Banquet

Thursday, June 8

8:30 a.m.	Lecture 13: Probing Living Cells and Tissues with Multiphoton Microscopy, Andy Shih
9:30 a.m.	Break
10:00 a.m.	Lab 8: Immunocytochemistry 2
12:00 p.m.	Lunch (on your own)
1:00 p.m.	Lecture 14: FRET, FLIM and Advanced Fluorescence Techniques, Monika Goos
2:00 p.m.	Break
2:15 p.m.	Lecture 15: Basics of Image Processing and Analysis, Lemasters
3:15 p.m.	Lab 9: Multiphoton Microscopy: Protocols 24-26
5:00 p.m.	Break
5:15 p.m.	Lectures 16-17: Vendors presentation Micro-Environmental Control Techniques for Live Cell Imaging, Dan Focht, Bioptechs TBD, Oliver Tress, Zeiss
6:00 p.m.	Dinner (on your own)

Friday, June 9

8:30 a.m.	Lecture 18: Super-resolution microscopy – Joerg Bewersdorf
9:30-10:00 a.m.	Break
10:00 a.m.	Lab 10: Intravital Imaging: Protocol 23 (intravital demos)
12:00 p.m.	Lunch (on your own)
1:00 p.m.	Keynote - Joerg Bewersdorf
2:30 p.m.	Lecture 19: I have an image, what if? – When ethics come into play – Eduardo Maldonado
3:00 p.m.	Certificates of Attendance and End of Course