



# Analytical & Quantitative Light Microscopy

# AQLM

## 2009 LECTURE SCHEDULE

<p><b>Wednesday, May 6</b> 3:00 pm</p> <p>3:30 pm</p> <p>7:00 pm</p>	<p>Gary Borisy, MBL Director Lenny Dawidowicz, MBL Director of Education Kip Sluder, UMASS Medical School</p> <p>David Wolf, Sensor Technologies Jason Swedlow, University of Dundee Kip Sluder, UMASS Medical School</p> <p>David Wolf, Sensor Technologies</p>	<p><i>Opening Address</i></p> <p><i>Welcome and Introduction of Academic Faculty</i></p> <p><i>Overview of Course</i></p> <p><i>Quantitative Microscopy</i></p> <p><i>Geometrical Optics, Image Formation, Koehler Illumination</i></p> <p><i>Wave Optics of Image Formation: Diffraction, Resolution</i></p>
<p><b>Thursday, May 7</b> 8:45 am 1:45 pm 4:00 pm 7:00 pm</p>	<p>David Wolf, Sensor Technologies Kip Sluder, UMASS Medical School Ted Salmon, Univ of North Carolina Jason Swedlow, University of Dundee</p>	<p><i>Overview</i></p> <p><i>Phase Contrast Microscopy</i></p> <p><i>Introduction to Polarized Light</i></p> <p><i>Introduction to Electronic Imaging / Basics of Image Processing</i></p>
<p><b>Friday, May 8</b> 8:45 am 1:00 pm 7:00 pm</p>	<p>Jason Swedlow, University of Dundee Ted Salmon, Univ of North Carolina Ted Salmon, Univ of North Carolina</p>	<p><i>Overview</i></p> <p><i>Polarized Microscopy</i></p> <p><i>Differential Interference Contrast (DIC) Microscopy</i></p>
<p><b>Saturday, May 9</b> 8:45 am 9:00 am 1:00 pm 7:00 pm</p>	<p>Kip Sluder, UMASS Medical School Ted Salmon, Univ of North Carolina Richard Cardullo, UC Riverside David Wolf, Sensor Technologies</p>	<p><i>Overview</i></p> <p><i>Video Enhanced DIC</i></p> <p><i>Image Processing</i></p> <p><i>Introduction to Atomic, Molecular, and Semiconductor Fluorescence</i></p>
<p><b>Sunday, May 10</b> 8:45 am 9:00 am 10:00 am 5:00 pm</p>	<p>David Wolf, Sensor Technologies Jennifer Waters, Harvard University Richard Cardullo, UC Riverside Rainer Heintzmann, Kings College London</p>	<p><i>Overview</i></p> <p><i>Fluorescence Microscopy</i></p> <p><i>Ratio Imaging/FRET</i></p> <p><i>Open Platforms for Image Processing</i></p>

***All lectures held in Speck Auditorium, unless otherwise noted.***



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<b>Monday, May 11</b> 8:45 am 9:00 am  10:30 am  7:00 pm	Jason Swedlow, University of Dundee Rainer Heintzmann, Kings College London  Rainer Heintzmann, Kings College London  Mary-Ann Mycek, Univ of Michigan	<i>Overview</i> <i>Structured Illumination and TIRF</i>  <i>Tools for High Resolution Imaging: Noise Models, Fitting, Fourier Transformation</i> <i>FRET, FLIM, and High-speed Imaging</i>
<b>Tuesday, May 12</b> 8:45 am 9:00 am 9:30 am  5:00 pm  7:00 pm	David Wolf / Jason Swedlow Swedlow / Waters / Wolf John Murray, Univ of Pennsylvania  Edward Hinchcliffe, Univ of Minnesota  Jason Swedlow, University of Dundee	<i>Overview</i> <i>Introduction to Spectral Conflict Scanning, Confocal, and Multiphoton Microscopy I</i> <i>The Use and Manipulation of Digital Image Data</i> <i>Introduction to Digital Image Deconvolution</i>
<b>Wednesday, May 13</b> 8:45 am 9:00 am  1:00 pm	Kip Sluder, UMASS Medical School John Murray, Univ of Pennsylvania  John Murray, Univ of Pennsylvania	<i>Overview</i> <i>Scanning, Confocal, and Multiphoton Microscopy II</i> <i>Quantitative Confocal Microscopy</i>
<b>Thursday, May 14</b> 8:45 am 9:00 am	David Wolf, Sensor Technologies Sidney Shaw, Indiana University	<i>Overview</i> <i>Green Fluorescent Proteins</i>
<b>Friday, May 15</b> 9:00 am 9:15 am 10:00 am	Jason Swedlow, University of Dundee Kip Sluder, UMASS Medical School Shinya Inoué, MBL	<i>Overview</i> <i>Live Cell Imaging</i> <i>Polarization-based Microscopy: Reality and Dreams</i>

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