Minnesota Partnership Microscopy Workshop

**Fundamentals of Super-resolution Microscopy**

Mayo Microscopy and Cell Analysis Core, Rochester
And
University Imaging Centers, University of MN, Mpls/StPaul
With
Bryant Chhun (Carl Zeiss Microscopy, LLC  Super Resolution Specialist)

**Description**

This 3-day lecture and hands-on workshop is aimed at microscopy users who would like to get the very best data out of their samples. Participants will come away with a thorough understanding of onsite research-grade microscopes and imaging using Super Resolution techniques.

- **Dates:** June 18-20
- **Location:** Mayo Clinic, Guggenheim Building 14th Floor
- **Intended audience:** Novice to Experienced
- **Lectures (part 1) open to all**
- **Hands-On Workshop Spots:** 10 Individuals for Hands-On Preparative Techniques Lab and Time On the Microscope

**Fee:** No admission fee (attend after class Happy hour)
Part 1) will be lecture-based. We will focus on the theoretical and practical aspects of microscopy including the proper design of microscopy-based experiments. We will cover basic microscope anatomy, image formation and point-spread functions (PSFs) of the microscope. Then we will concentrate on structured illumination and localization modes of super resolution microscopy. Widefield, spinning disk, point scanning and, multi-photon confocal microscopies will also be discussed.

Part 2) will be a practical sample preparation methodology workshop where students will learn the optimal sample preparations and detection methodologies.

Part 3) will involve hands-on sessions using the microscopes where students will integrate the theoretical and practical knowledge learned. The use of participant-generated biological samples is encouraged!

We encourage all levels of users to participate in this workshop. Enrollment will be limited to 10 students in the hands-on sections with the lectures being open based on room limitations.

**Online sign-up form**

Go to the sign-up form to RSVP and register for microscope time

[Click Here to Register!](#)

As mentioned above, registration for hands-on sessions will be limited to 10 students with the lecture components being open to all.

### Program Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Tuesday June 18, 2013</th>
<th>Wednesday June 19, 2013</th>
<th>Thursday June 20, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 AM</td>
<td>Welcome and Introduction Mark Sanders and Jeffrey Salisbury</td>
<td>Hands On Wet Lab Continue Specimen Preparation Lab G1437</td>
<td>Individual Registered Participant Microscope Time</td>
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<tr>
<td>10:00 AM</td>
<td>Lecture 2 Practical Aspects: Fixation, Specimen Prep.</td>
<td>Individual Registered Participant Microscope Time</td>
<td>Individual Registered Participant Microscope Time</td>
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<tr>
<td>Noon</td>
<td>Lunch Break</td>
<td>Lunch Break</td>
<td>Lunch Break</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>Hands On Wet Lab Specimen Preparation Lab Gugg 1437</td>
<td>Individual Registered Participant Microscope Time</td>
<td>Individual Registered Participant Microscope Time</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>Lecture 3 Practical Aspects: Selection of Detectors/Fluorochromes</td>
<td>Individual Registered Participant Microscope Time</td>
<td>Individual Registered Participant Microscope Time</td>
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<td>3:30</td>
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<td>Individual Registered Participant Microscope Time</td>
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<tr>
<td>5:00 PM</td>
<td>Happy Hour - Conference Room D</td>
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