Live Cell Imaging Facility Microscopy course 30 Jan-17 Feb 2023

Schedule subject to last minute changes. Always check the updated schedule on this page.

### Week 1

**Tues 01/02**

09:00-10:00 Sylvie Le Guyader - Lecture: Objectives
10:00-11:00 Sylvie Le Guyader - Lecture: Objectives
11:00-12:00 Gabriela Imreh - Lecture: Point Spread Function and resolution
12:10-13:10 Lunch
13:00-14:00 Sylvie Le Guyader - Lecture: Saturation, undersaturation, and resolution
14:30-14:45 Break
14:45-15:45 Workshop: Image noise reduction
15:45-16:30 Sylvie Le Guyader - Lecture: Anatomy of a microscope
16:45-17:00 Wrapping up Week 1 and assignments

**Wed 02/02**

09:00-10:00 Sylvie Le Guyader - Lecture: Objectives
10:10-10:30 Sylvie Le Guyader - Lecture: Point Spread Function and resolution
10:30-10:45 Sylvie Le Guyader - Lecture: Refraction index mismatch
10:45-12:10 Sylvie Le Guyader - Workshop: The art of bleaching the sample
12:10-13:10 Lunch
13:00-17:00 Workshop: Anatomy of a microscope

**Thurs 03/02**

09:00-10:00 Sylvie Le Guyader - Lecture: Sensors, Background and noise
10:10-10:20 Break
10:20-11:10 Sylvie Le Guyader - Lecture: Sensors, Introduction to pixel size
11:10-12:00 Gabriela Imreh - Lecture: Signal to noise ratio
12:10-13:10 Lunch
13:00-14:00 Sylvie Le Guyader - Lecture: Saturation, undersaturation, bit depth and image display
14:30-14:45 Break
14:45-15:45 Workshop: Filter-based vs spectral imaging and linear unmixing
15:45-16:30 Sylvie Le Guyader - Discussion and quiz Week 1
16:45-17:00 Wrapping up Week 1 and assignments

### Week 2

**Wed 08/02**

09:00-10:00 Sylvie Le Guyader - Lecture: Bridging concepts, Imaging parameters, High throughput, Colocalization
10:10-10:20 Break
10:20-11:15 Sylvie Le Guyader - Lecture: Setting parameters on confocal and widefield systems
11:15-12:00 Victoria Menendez Benito - Lecture: High throughput/content imaging
12:10-13:10 Lunch
13:00-14:30 Jeremy Adler - Lecture: Colocalization
14:30-14:45 Break
14:45-15:45 Workshop: Camera
15:45-17:35 Workshop: Objectives and Refraction Index

**Thurs 09/02**

09:00-10:00 Sylvie Le Guyader - Lecture: Volume imaging, live cell imaging, Super resolution
10:10-10:20 Break
11:11-12:10 Hans Blom - Lecture: Sample preparation tips
12:10-13:10 Lunch
13:00-14:00 Gabriela Imreh - Lecture: Introduction to super resolution microscopy
14:00-15:00 Sylvie Le Guyader - Workshop: Widefield vs confocal
15:00-15:15 Break
15:15-16:45 Sylvie Le Guyader - Discussion and quiz Week 2
16:45-17:00 Wrapping up Week 2 and assignments

**Fri 10/02**

Assignments and Workshop: Student imaging challenge

### Week 3

**Tues 14/02**

09:00-10:00 Sylvie Le Guyader - Lecture: Introduction to Fourier space and Fourier transforms
10:10-10:20 Break
10:20-11:10 Gabriela Imreh - Lecture: Artifical intelligence in microscopy
11:12-12:00 Sylvie Le Guyader - Lecture: How to deal with images for publications, Image formats
12:10-13:10 Lunch
13:10-14:10 Philipp Strunts, Nikon Europe - Workshop: Super resolution STORM (public workshop)
14:10-15:00 Sylvie Le Guyader - Lecture: Live cell imaging, Label free imaging
15:00-15:15 Break
15:15-16:00 Sylvie Le Guyader - Workshop: Multiphoton microscopy
16:00-17:00 Sylvie Le Guyader - Discussion and quiz Week 3
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<tr>
<th>Day</th>
<th>Time</th>
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<th>Activity</th>
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<tr>
<td>Wed 15/02</td>
<td>09:00-10:00</td>
<td>Petr Walczysko</td>
<td>Demo: How to easily make figures for publication with OMERO.Figure</td>
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<td>11:10-12:10</td>
<td>Sylvie Le Guyader</td>
<td>Workshop: Light sheet</td>
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<td>Sylvie Le Guyader</td>
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<td>Thurs 16/02</td>
<td>09:00-10:00</td>
<td>Gisele Miranda</td>
<td>Image processing and analysis</td>
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<td>G. Miranda/C. Avenel/A. Klemm</td>
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<td>15:00-15:30</td>
<td>Sylvie Le Guyader</td>
<td>Conclusion, questions and feedback</td>
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<td>Fri 17/02</td>
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<td>Examination</td>
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