

The Live Cell Imaging Facility Microscopy course - 21 Jan- 13 Feb 2026

Schedule subject to last minute changes. Always check the latest update on this page.

In Blue: These activities are publicly broadcasted. No registration is needed. Zoom link on the LCI website.

When	Who	What
Throughout January		Preparation of own sample and presentation, survey, collecting information, etc
Week 1	Wed 21/01 09:00-09:20 09:20-10:35 11:00-12:15 13:15-14:30 15:00-16:15 16:15-16:30 16:30-17:00 17:00-17:15	Module 1: Student imaging challenges Introduction Student Imaging Challenge Presentations Student Imaging Challenge Presentations Student Imaging Challenge Presentations Student Imaging Challenge Presentations Student Imaging Challenge Presentations Group discussion: New ideas Group discussion: Which metrics does your scientific question require? Questions
	Thu 22/01 09:00-09:10 09:10-09:15 09:15-09:45 09:45-10:15 10:45-11:00 11:00-11:15 11:15-11:25 11:25-11:50 11:50-12:00 13:00-15:00 15:15-17:10 17:10-17:15	Module 2: Working with light and fluorophores Feedback, questions, Learning Objectives and portfolios Lecture: Key concepts of light microscopy 1 Lecture: Nature of light Lecture: Basic optics for light microscopy Lecture: Image formation Lecture: Key concepts of light microscopy 2 Group quiz: Image formation Lecture: Fluorescence and fluorophores Workshop: Imaging efficiency and bleedthrough Workshop: Imaging efficiency and bleedthrough Workshop: Imaging efficiency and bleedthrough peer review and quizzes Questions
	Fri 23/01	Assignments
Week 2	Mon 26/01 09:00-09:10 09:10-10:10 10:10-10:20 10:30-11:10 11:10-11:30 11:30-12:00 13:00-13:40 13:40-14:40 14:55-17:10 17:10-17:15	Module 3: Anatomy of a microscope Feedback, questions, Learning Objectives and portfolios Lecture: Anatomy of a microscope: architecture, transmitted light versus fluorescence Group quizzes Lecture: Anatomy of a microscope: wide field and single-point confocals Group quizzes Lecture: Anatomy of a microscope: multipoint confocals and light sheet systems Quizzes and group discussion Workshop: Anatomy of your microscope: video and survey demo Workshop: Anatomy of your microscope Questions
	Tue 27/01	Assignments
	Wed 28/01 09:00-09:10 09:10-10:10 10:20-10:40 10:40-11:00 11:00-12:00 13:00-13:25 13:25-14:25 14:25-15:00 15:15-15:50 15:50-16:20 16:20-16:50 16:50-17:00	Module 4: Working with objectives Feedback, questions, Learning Objectives and portfolios Lecture: Objectives Lecture: Point Spread Function and resolution Quiz: Objectives, PSF and resolution Group discussion: The optical resolution of the objectives on YOUR microscope Lecture: Refraction index mismatch and optical aberrations Workshop: Refraction Index mismatch Group quizzes Lecture: Efficient strategies to find the area of interest: large FOV, tiling and autofocus Group discussion: Focus strategy Group quizzes Questions
	Thu 29/01	Assignments
	Fri 30/01	Assignments, Student Imaging Challenge Workshop
Week 3	Mon 02/02 09:00-09:20 09:20-09:40 09:40-10:05 10:15-11:30 11:30-12:00 13:00-14:10 14:10-14:40 14:40-15:25 15:40-16:40	Module 5: Sample preparation Feedback, questions, Learning Objectives and portfolios Group discussion: Preparing and imaging live samples Teacher Imaging Challenge: What did I see in your samples this week? Lecture: Sample preparation tips Group discussion: How can you improve your sample preparation? Lecture: Immunostaining troubleshooting Group discussion: How can you improve your immunostaining? Lecture: Clearing and expansion microscopy Workshop: The art of bleaching the sample

Week 3	16:40-17:10 17:10-17:15	Group discussion and quizzes: The perfect sample for light microscopy Questions
	Tue 03/02	Assignments, Student Imaging Challenge Workshop
	Wed 04/02	Module 6: The digital image
	09:00-09:10	Feedback, questions, Learning Objectives and portfolios
	09:10-10:00	Lecture: Bridging concepts: optical and digital resolutions, contrast and sampling
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	10:50-11:50	Group discussion: Does the pixel size in your images fulfil the Nyquist sampling theorem?
	11:50-12:00	Group quiz
	13:00-13:20	Lecture: Sensors
	13:20-14:10	Lecture: Signal, background and noise
	14:10-14:40	Workshop: Speed versus noise
	14:40-15:10	Group discussion: How could you improve the SNR in your images?
	15:25-16:40	Group discussion: How could you improve the SBR in your images?
	16:40-17:10 17:10-17:15	Group quizzes Questions
	Thu 05/02	Module 7: Capturing light
	09:00-09:10	Feedback, questions, Learning Objectives and portfolios
	09:10-10:00	Lecture: Saturation, under exposure, bit depth and image display
	10:10-11:00	Lecture: Saturation, under exposure, bit depth and image display
	11:00-12:00	Group discussion and quizzes: What do you need to segment in your images?
	13:00-13:30	Lecture: Imaging multiple colours at once
	13:30-14:00	Group discussion: How does your system image multiple colours?
	14:00-14:45	Workshop: Camera
	15:00-15:45	Lecture: Typical workflow to set imaging parameters
	15:45-16:15	Group discussion: How do you set the parameters on your microscope?
	16:15-17:10	Group quizzes
	17:10-17:15	Questions
	Fri 06/02	Assignments, Student Imaging Challenge Workshop
Week 4	Mon 09/02	Module 8: Off the beaten track
	09:00-09:20	Feedback, questions, Learning Objectives and portfolios
	09:20-10:00	Teacher Imaging Challenge: What did I see in your samples this week?
	10:00-10:30	Lecture: Artificial Intelligence in light microscopy
	10:40-11:40	Lecture: Introduction to super resolution microscopy
	11:40-12:00	Quizzes
	13:00-13:15	Lecture: Introduction to 2D and 3D deconvolution
	13:15-14:00	Workshop: Test 2D deconvolution
	14:00-15:00	Quizzes
	15:15-15:35	Lecture: Introduction to Fourier space and Fourier transforms
	15:35-15:45	Group discussion: Ai and super resolution in your project
	15:45-16:30	Lecture: Colocalization
	16:30-17:10	Quizzes
	17:10-17:15	Questions
	Tue 10/02	Assignments, Student Imaging Challenge Workshop
	Wed 11/02	Module 9: Publishing images
	09:00-09:10	Feedback, questions, Learning Objectives and portfolios
	09:10-09:50	Group discussion: Microscope company role play
	10:00-12:00	Workshop: How to easily make figures for publication with OMERO.figure
	13:00-14:00	Lecture: Publishing and managing images
	14:00-15:00	Group discussion: Write your Material and Methods
	15:15-15:35	Lecture: Ethics in imaging
	15:35-16:15	Workshop: Ethics in imaging
	16:15-16:20	Questions
	Thu 12/02	Module 10: Image analysis and Course conclusions
	09:00-09:10	Feedback, questions, Learning Objectives and portfolios
	09:10-10:10	Lecture: Introduction to Bioimage analysis
	10:20-12:20	Workshop: Image analysis
	13:20-15:20	Workshop: Image analysis
	15:20-16:45	Course conclusions: Reminder of the key concepts of light microscopy
	Evening	Alumni pub
	Fri 13/02	Portfolio consolidation and final submission