



# Advanced Fluorescence Imaging Techniques

EMBL COURSE



**We have moved our website to [embl.org/events](https://embl.org/events). The content below is no longer being updated.**

## **EMBL Courses and Conferences during the Coronavirus pandemic**

With the onsite programme paused, many of our events are now being offered in virtual formats.

Registration is open as usual for many events, with back-up plans in place to move further courses and conferences online as necessary. Registration fees for any events affected by the COVID-19 disruption are fully refundable.

More information for participants of events at EMBL Heidelberg can be found [here](#).

## Programme

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### Day 1 - Sunday 19 May 2019

Time	Speaker	Location
17:30 - 21:00	<b>Flash talks of participants and dinner at the ISG Hotel</b>	ISG Hotel

## Day 2 - Monday 20 May 2019

Time	Speaker	Location
09:00 - 09:15	Welcome and introduction	Courtyard A+B
09:15 - 10:00	<b>Concepts in light microscopy!</b> Urs Ziegler, <i>University of Zurich, Switzerland</i>	Courtyard A+B
10:00 - 10:15	Coffee break	Courtyard A+B
10:15 - 11:00	<b>New insights from human cerebral organoids: from the neuroepithelium to axon tracts and synaptic network</b> Stefano Giandomenico, <i>MRC Laboratory of Molecular Biology, UK</i>	Courtyard A+B
11:00 - 11:45	<b>Sample Preparation Approaches for Super-Resolution Microscopy and expansion microscopy</b> Pedro Matos Pereira, <i>ITQB-NOVA, Portugal</i>	Courtyard A+B
11:45 - 12:15	<b>Expansion microscopy sample preparation I: Anchoring</b> Pedro Matos Pereira, <i>ITQB-NOVA, Portugal</i>	Training Lab A
12:15 - 13:15	Lunch	Canteen
13:15 - 16:00	<b>Practical 1:</b> Widefield + Spinning disk Time lapse imaging (group Red+Yellow) <b>Practical 2:</b> Confocal imaging (group Green+Blue)	Microscopy rooms 116 + 117
16:00 - 16:30	Coffee break	Courtyard A+B
16:30 - 19:30	<b>Practical 1:</b> Widefield + Spinning disk Time lapse imaging (group Red+Yellow) <b>Practical 2:</b> Confocal imaging (group Green+Blue)	Microscopy rooms 116 + 117
19:30 - 20:30	Pizza dinner	ATC Rooftop Lounge
20:30 - 21:30	Basics of Image Handling Christian Tischer, <i>EMBL Heidelberg, Germany</i>	Computer Training Lab
21:30	Shuttle bus to hotel	

## Day 3 - Tuesday 21 May 2019

Time	Speaker	Location
09:00 - 09:30	<b>Expansion microscopy sample preparation II: Gelation</b> Pedro Matos Pereira, <i>ITQB-NOVA, Portugal</i>	Training Lab A
09:30 - 09:45	<b>Coffee break</b>	Courtyard A+B
09:45 - 10:30	<b>Multiparameter imaging</b> Vsevolod Belousov, <i>Shemyakin-Ovchinnikov Inst. of Bioorganic Chemistry, Russia</i>	Courtyard A+B
10:30 - 11:00	<b>Expansion microscopy sample preparation III: Digestion</b> Pedro Matos Pereira, <i>ITQB-NOVA, Portugal</i>	Training Lab A
11:00 - 11:15	Coffee break	Courtyard A+B
10:15 - 12:00	<b>From screening to cellular function: Discovery of a cellular surfactant</b> Sara Cuylen-Haering, <i>EMBL Heidelberg, Germany</i>	Courtyard A+B
12:00 - 13:00	Lunch	Canteen
13:00 - 16:00	<b>Practical 3:</b> Multiparameter Imaging (group Green+Blue) <b>Practical 4:</b> Deconvolution analysis (group Red+Yellow)	Microscopy rooms 116 + 117
16:00 - 16:30	Coffee break	Courtyard A+B
16:30 - 19:30	<b>Practical 3:</b> Multiparameter Imaging (group Red+Yellow) <b>Practical 4:</b> Deconvolution analysis (group Green+Blue)	Microscopy rooms 116 + 117
19:30 - 20:30	Dinner	Canteen
20:30	Shuttle bus to hotel	

## Day 4 - Wednesday 22 May 2019

Time	Speaker	Location
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Time	Speaker	Location
	<b>Expansion microscopy sample preparation</b>	
09:00 - 09:30	<b>IV: Expansion</b> Pedro Matos Pereira, <i>ITQB-NOVA, Portugal</i>	Training Lab A
09:30 - 09:45	Coffee break	Courtyard A+B
	<b>Fluorescence recovery after photobleaching (FRAP)</b>	
09:45 - 10:00	Aliaksandr Halavatyi, EMBL Heidelberg, Germany	Courtyard A+B
10:30 - 11:00	Coffee Break	Courtyard A+B
	<b>Single-molecule super-resolution, a do-it-yourself tutorial</b>	
11:00 - 11:45	Romain Laine, <i>University College London, United Kingdom</i>	Courtyard A+B
11:45 - 12:45	Lunch	Canteen
	<b>Practical 5: FRAP (group Red+Yellow)</b>	Computer Training
12:45 - 15:30	<b>Practical 6: SR Microscopy (GattaScope, SRRF, STORM, SORA)+ Imaging of expanded samples (group Green+Blue)</b>	Lab/Microscopy rooms 116 + 117
15:30 - 15:45	Coffee break	Courtyard A+B
	<b>Practical 5: FRAP (group Green+Blue)</b>	Computer Training
15:45 - 18:45	<b>Practical 6: SR Microscopy (GattaScope, SRRF, STORM, SORA)+ Imaging of expanded samples (group Red+Yellow)</b>	Lab/Microscopy rooms 116 + 117
18:45 - 19:00	Break	
19:00	Shuttle downtown (via ISG Hotel)	
19:30	Dinner downtown	

## Day 5 - Thursday 23 May 2019

Time	Speaker	Location
	<b>FRAP analysis</b>	
09:00 - 10:45	Aliaksandr Halavatyi, <i>EMBL Heidelberg, Germany</i>	Computer Training Lab

Time	Speaker	Location
10:45 - 11:00	Coffee break	Courtyard A+B
	<b>Förster Resonance Energy Transfer</b>	
11:00 - 12:00	Mark Hink, <i>University of Amsterdam, The Netherlands</i>	Courtyard A+B
12:00 - 13:00	Lunch	Canteen
	<b>Practical 7:</b> Analysis of SR data (group Red+Yellow)	Computer Training Lab/Microscopy rooms
13:00 - 16:00	<b>Practical 8:</b> FRET: acceptor photobleaching (group Green+Blue)	116 + 117
16:00 - 16:30	Coffee break	Courtyard A+B
	<b>Practical 7:</b> Analysis of Superresolution data (group Green+Blue)	Computer Training Lab/Microscopy rooms
16:30 - 19:30	<b>Practical 8:</b> FRET: acceptor photobleaching (group Red+Yellow)	116 + 117
19:30	Shuttle Bus to Hotel	
20:00	Dinner at the ISG Hotel	ISG Hotel

## Day 6 - Friday 24 May 2019

Time	Speaker	Location
	<b>From Morphometry to Function: Imaging &amp; Quantitative Analysis of Microtubule Dynamics in vitro &amp; in vivo</b>	
09:00 - 09:45	Simone Reber, <i>Humboldt University Berlin, Germany</i>	Computer Training Lab
09:45 - 10:00	Coffee break	Computer Training Lab
	<b>FRET data analysis</b>	
10:00 - 11:45	Mark Hink, <i>University of Amsterdam, The Netherlands</i>	Computer Training Lab
11:45 - 12:45	Lunch	Canteen

Time	Speaker	Location
	<b>Multiparameter</b>	
12:45 - 14:00	Vsevolod Belousov, <i>Shemyakin-Ovchinnikov Inst. of Bioorganic Chemistry, Russia</i> , Yulia Ermakova, EMBL Heidelberg, Germany	Computer Training Lab
14:00 - 15:00	Analysis and preparation of presentations	Computer Training Lab
15:00 - 15:30	Coffee Break	
15:30 - 16:00	Analysis and preparation of presentations (continued)	
16:00 - 17:00	Presentation by participants	Computer Training Lab
17:00 - 17:30	Summary of the course and discussion	Computer Training Lab
17:30	Shuttle bus to main train station	