

3D-CLEM

Imaging function and ultrastructure

November 13. – 16. 2023
BIOCEV, Průmyslová 595, Vestec

Programme

Monday, Nov. 13.

8:30 – 9:00 Registration

9:00 – 9:10 Welcome and organization details
[Aleš Benda](#)

9:10 – 9:40 Brief introduction to fluorescence microscopy
[Eliška Macíčková](#)

9:40 – 10:10 Brief introduction to electron microscopy
[David Liebl](#)

10:10 – 10:25 Coffee break – Hands-on group assignment

10:25 – 11:25 Principles of Correlated Light and Electron Microscopy
[Markéta Dalecká](#)

11:25 – 11:55 Principles of live cell imaging on confocal microscopes
[Petra Prokšová](#)

11:55 – 12:30 Introduction of the participants – 3 minutes talk each

12:30 – 13:15 Lunch

13:15 – 17:00 Hands-on session – Optical microscopy
[Aleš Benda](#), [Eliška Macíčková](#), [Dalibor Pánek](#)

14:30 – 14:50 Coffee break

Tuesday, Nov. 14.

8:30 – 9:00 Troubleshooting session (software, data, PC etc.)

9:00 – 10:00 Introduction to 3D fluorescent data processing – deconvolution, drifts and chromatic aberration of confocal data
[Michaela Blažíková](#)

10:00 – 10:15 Coffee break

10:15 – 12:15 Hands-on session - Data analysis Huygens
[Michaela Blažíková](#), [Zuzka Čočková](#)

12:15 – 13:00 Lunch

13:00 – 17:00 Introduction and hands-on session EM– sample preparation, ultramicrotomy
[David Liebl](#), [Pelín Sungur](#)

14:30 – 14:45 Coffee break

17:00– 18:00 Get together (beer and snacks)

Wednesday, Nov. 15.

9:00 – 12:30 Introduction and hands-on session EM – FIB-SEM/TEM
[Markéta Dalecká/Irena Krejzová, Adam Schröfel/Jiří Mikšátko](#)

10:30 – 11:00 Coffee break

12:30 – 13:15 Lunch

13:15 – 13:45 CLEM application (OM+SBF)
[Jiří Týč](#)

13:45 – 17:15 Introduction and hands-on session EM – FIB-SEM/TEM
[Markéta Dalecká/Irena Krejzová, Adam Schröfel/Jiří Mikšátko](#)

14:30 – 14:50 Coffee break

Thursday, Nov. 16.

8:30 – 9:00 Troubleshooting session (software, data, PC etc.)

9:00 – 9:45 How to work with FIB-SEM and CLEM data
[Anna Agafonova/Zuzana Čočková](#)

9:45 – 10:15 Introduction to software Imod/etomo – How to work with EM tomography data
[Adam Schröfel](#)

10:15 – 10:30 Coffee break

10:30 – 13:00 Hands-on session – Data analysis Amira/Imod
[Markéta Dalecká + Zuzana Čočková, Adam Schröfel + Jiří Mikšátko](#)

13:00 – 13:45 Lunch

13:45 – 14:10 CLEM application (OM+FIB-SEM)
[Jana Petrusová](#)

14:10 – 14:25 Coffee break

14:25 – 17:00 Hands-on session - Data analysis Amira/Imod
[Markéta Dalecká + Zuzana Čočková, Adam Schröfel + Jiří Mikšátko](#)

	group 1	group 2	group 3
Hands-on session – OM 13:15 – 17:00, Nov. 13.	Leica SP8	Carl Zeiss LSM880	Nikon CSU-W1
	One group		
Hands-on session – data analysis 10:15 – 12:15, Nov. 14.	Huygens		
	group 1	group 2	
Hands-on session – EM 13:00 – 17:00, Nov. 14.	Sample prep	Sample prep	
Hands-on session – EM 9:00 – 12:30, Nov. 15.	FIB-SEM	TEM	
Hands-on session – EM 13:45 – 17:15, Nov. 15.	TEM	FIB-SEM	
Hands-on session – data analysis 10:30 – 13:00, Nov. 16.	Amira	Imod	
Hands-on session – data analysis 14:25 – 17:00, Nov. 16.	Imod	Amira	

The course is supported by the National Infrastructure for Biological and Medical Imaging (Czech-BioImaging, Ministry of Education, Youth and Sports – Large Research Infrastructure, LM2023050).



FACULTY OF SCIENCE
Charles University



BIOCEV



IMG

ThermoFisher
SCIENTIFIC



CZECH BIOIMAGING

Imaging principles of life



EURO-BIOIMAGING



MINISTRY OF EDUCATION,
YOUTH AND SPORTS