

# Live Cell Imaging 2024 PROGRAM

## TUESDAY, Dec 3, 2024

### Theoretical part

- 09:00-09:15 Introductory word and practical organization notes. *Jan Valečka*
- 09:15-09:45 Fluorescence microscopy and sample preparation. *Helena Chmelová*
- 09:45-10:15 Quantitative phase imaging. *Martin Čapek*
- coffee break
- 10:30-11:00 Lightsheet. *Helena Chmelová*
- 11:00-11:15 **CP** Explore Live Cell Imaging Solutions: From THUNDER and Lightning to Spinning Disk Innovations! *Martin Kopecký, Specion*
- 11:15-11:30 **CP** Interherence. *Shoumik Roy, Interherence*
- 11:30-11:45 **CP** Gentle Life Cell Imaging. *Matyáš Krijt, Telight*

lunch

## WEDNESDAY, Dec 4, 2024

### Theoretical part

- 09:00-09:30 Scanning confocal microscopy. *Jan Valečka*
- 09:30-10:30 Advanced photokinetic methods. *Michaela Blažíková*
- coffee break
- 10:45-11:15 2-photon microscopy. *Daniel Hadraba*
- 11:15-11:30 **CP** MIT. *Martin Moser*
- 11:30-11:45 **CP** Accela. *Accela product specialist*

lunch

## THURSDAY, Dec 5, 2024

### Theoretical part

- 09:00-10:00 Super-resolution and live cells. *Ivan Novotný*
- 09:30-10:00 Deconvolution. *Ivan Novotný*
- 10:00-10:30 Spinning disc microscopy. *Michaela Blažíková*
- coffee break
- 10:45-11:00 **SFT** Live cell imaging as a tool for understanding early development in mammals. *Martin Anger*
- 11:00-11:15 **SFT** Live-cell magnetic micromanipulation of recycling endosomes. *Jakub Gemperle*
- 11:15-11:30 **CP** Sven Biolabs. *Ondřej Hovorka, Sven Biolabs*
- 11:30-11:45 **CP** Airyscan – The Ideal Superresolution Technique for Life Cell Imaging. *Pavel Krist, Zeiss*
- 11:45-12:00 Closing remarks. *Jan Valečka*

lunch

### Practical part: 12:30-18:45 (3 parallel groups, 3x 2h)

- Group 1: Widefield systems - Leica DMI8, Leica Mica. *Martin Kopecký, Specion*
- Group 2: Quantitative phase imaging - Telight Q-Phase. *Martin Čapek*
- TIRF - Leica TIRF, Zeiss Elyra 7, Interherence QuScite. *Shoumik Roy, Interherence | Jan Valečka*
- Group 3: Lightsheet - Zeiss Z1. *Jiří Černý*
- CP** Sample Preparation. *Jiří Vašák, KRD*

coffee break is included

### Practical part

12:30-18:45 (3 parallel groups, 3x 2h)

- Group 1: Scanning confocal microscopy and deconvolution - Leica SP8, Leica Mica. *Ivan Novotný*
- Group 2: FLIM, FRET, FRAP - Leica STELLARIS 8. *Michaela Blažíková*
- Group 3: 2-photon microscopy. *Daniel Hadraba*

coffee break is included

**PIZZA DINNER!**

### Practical part

12:35-18:50 (3 parallel groups, 3x 2h)

- Group 1: Super-resolution (SIM, STED) - Delta-Vision OMX, Leica Stellaris 8 TauSTED Xtend. *Ivan Novotný*
- Group 2: Spinning disc confocal microscopy - Andor Dragonfly, Olympus SpinSR. *Jan Valečka | Martin Hlaváč, Sven Biolabs*
- Group 3: Image scanning microscopy - Zeiss LSM980 Airyscan. *Pavel Krist, Zeiss*

coffee break is included

**SFT** - Scientific flash talk  
**CP** - commercial presentation

The course is organized by the **Institute of Molecular Genetics of the Czech Academy of Sciences** in the framework of the **Czech-BioImaging** research infrastructure supported by **Ministry of Education, Youth and Sports (LM2023050)**



Lasery, fotonika  
a jemná mechanika

