

## COURSE "ELECTRON MICROSCOPY AND RAMAN SPECTROSCOPY FOR LIFE SCIENCES ANALYSIS"

29.11. – 1.12.2023, Institute of Scientific Instruments of the CAS  
Královopolská 147, 612 00 Brno

**REGISTRATION REQUIRED – deadline is 23.11.2023**

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Participation in the course is free of charge. As the number of participants is limited by the capacity of the laboratories, we reserve the right to select candidates. It is also possible to attend only the lectures on 29.11.2023.

### 29.11.2023 *Lecture hall*

- 8:30–9:00 **Registration**
- 9:00–9:40 **Kamila Hrubanová (ISI CAS): "Introduction to the electron microscopy"**
- 9:40–10:40 **Jana Nebesářová (BC CAS): "Hydrated sample preparation for SEM and TEM"**
- 10:40–11:00 *coffee break*
- 11:00–11:30 **Ota Samek (ISI CAS): "Raman spectroscopy in microbiology"**
- 11:30–12:00 **Lukas Kejik (Thermo Fisher Scientific): "FIB-SEM in life sciences"**
- 12:00–12:30 **Jiří Týč (BC CAS): "SBF SEM and Array Tomography"**
- 12:30–13:00 *lunch break*
- 13:00–14:00 **František Kitzberger (BC CAS): "Electron microscopy (3D) – image processing and analysis"**
- 14:30–15:00 **Kateřina Mrázová (ISI CAS): "Staining strategies of biological samples prepared for volume microscopy"**
- 15:00–15:20 **Martin Bačík (Specion): "Leica microsystems solution for CLEM and sample preparation"**
- 15:30–16:00 *coffee break with discussion*

### 30.11.2023 *Core Facility Electron microscopy and Raman spectroscopy – hands-on experience I.*

- 9:00–14:30 **SEM and EDX analysis** (Filip Mika, ISI CAS)  
**SEM / FIB-SEM** (Tereza Motlová, Kamila Hrubanová, ISI CAS)  
**Sample preparation for EM (chemical protocols)** (Kateřina Mrázová, Kamila Hrubanová, ISI CAS)  
**Raman spectroscopy** (Martin Kizovský, Ota Samek ISI CAS)

### 1.12.2023 *Core Facility Electron microscopy and Raman spectroscopy – hands-on experience II.*

- 9:00–13:00 **cryo-SEM (sample preparation, cryo-SEM imaging)**
- 13:00–14:00 **conclusion and discussion**

The workshop is organized with the support of the project „The Strategy AV21 Czech Academy of Sciences”, the research programs „Breakthrough Technologies for the Future – Sensing, Digitisation, Artificial Intelligence and Quantum Technologies” and “Sustainable energy”.