

## CSMS Conference - MICROSCOPY 2025

**19 - 21 May 2025, Liberec, Czechia**  
Grandhotel Clarion Zlatý Lev

### Monday 19<sup>th</sup> May 2025

8:00	<b>Trip to the mountains / Glassworks</b> ( <i>expected arrival time 13:00</i> )
14:00	<b>Registration of participants</b> ( <i>until 19:00</i> )
14:30	<b>Member meeting of CSMS</b>
16:00	<b>Conference opening</b>
16:10	<b>ARR Liberec, CEO of Crystal Valley</b> David Pastva: Welcome to Crystal Valley
16:20	<b>Announcement of the winner of scholarship competition by CSMS</b>
16:25	Hana Polášek-Sedláčková: Quantitative AI-based DNA fiber workflow to study replication stress
16:40	<b>Announcement of the winner of scholarship competition by Thermo Fisher / CSMS</b>
16:45	Petr Liška: Selective Anion Exchange in CsPbBr <sub>3</sub> Low-Dimensional Systems via Focused Electron/Ion Beam Induced Deposition
17:00	<b>Greeting from the Regional Representative</b>
17:05	<b>Short Break</b>
17:20	<b>News in microscopy</b>
17:20	<b>European Microscopy Society (EMS)</b> Vladislav Krzyžánek: News in EMS
17:25	<b>yCSMS</b> Eva Ďurinová: yCSMS News and Events You Shouldn't Miss!
17:30	<b>CEITEC MUNI</b> Jiří Nováček: CIISB - Czech Infrastructure for Integrative Structural Biology
17:40	<b>UFI BUT</b> Michal Horák: Physical Engineering and Nanotechnology – the way to understanding and application of state-of-the-art technologies
17:50	<b>Czech-Biolmaging</b> Pavel Hozák: 10 Years of Building the National Imaging Infrastructure Czech-Biolmaging
18:05	<b>Czech Optical Cluster</b> Petr Přikryl: Czech-European Photonics Cooperation: Opportunities and Challenges
18:15	<b>JIC</b> Radka Novak: News from Brnoregion Microscopy
18:25	<b>MUNI</b> Petr Mikulík: The study program “Mikroskopie” at the Masaryk University
18:40	<b>Microscopy elevator pitch</b>
18:40	<b>Innovative Bioimaging, s.r.o.</b> Josef Lazar: Ultrafast Confocal Microscopy for Biological Imaging
18:45	<b>ISI CAS</b> Pavel Urban: Cryogenic technologies for conversion of room-temperature EM to cryo-EM
19:00	<b>Welcome party</b>

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## Tuesday 20<sup>th</sup> May 2025

9:00	<b>Plenary lecture</b> Rainer Heintzmann: Structured Illumination Microscopy
9:50	<b>Session I – Life sciences</b> (chairs: Marie Vancová and Josef Lazar)
9:50	Markéta Benešová: Surface-Enhanced Raman Spectroscopy (SERS) for Detection, Characterization and Identification of Microorganisms
10:05	<b>Thermo Fisher Scientific</b> Lukáš Kejík: Hydra Bio for advanced life science applications
10:20	<b>Poster session + coffee break</b>
11:00	<b>Invited lecture</b> Vladimíra Petráková: Detecting molecules in single-molecule microscopy images using probabilistic thresholding
11:30	<b>Specion</b> Nikodem Szymanski: Applying the power of science and technology
11:45	Kateřina Mrázová: Approach to Imaging Bacterial Cells Encapsulated in Alginate Hydrogel Using LV-STEM
12:00	<b>Altium</b> Kateřina Lónová: Nanolive
12:15	<b>Miriam Unger</b> : Multimodal Submicron O-PTIR: Advancing Life Science Applications with Simultaneous IR, Raman, and Fluorescence Microscopy
12:30	<b>Lunch</b>
13:30	<b>Session II - Interdisciplinary sciences</b> (chairs: Eliška Materna Mikmeková and Aleš Benda)
13:30	<b>Invited lecture</b> Filip Šroubek: Image Analysis in the Age of Deep Learning
14:00	<b>AdvaScope</b> Pavel Stejskal: High-Speed Hybrid-Pixel Detectors with Low-Energy Sensitivity
14:15	Jan Příbyl: Correlative Microscopy Techniques Serving as Core Facility
14:30	Jan Schäfer: Microscopy, Characterization, and Mechanistic Studies at VSB-TUO: From Graphene to Fusion Plasmas
14:45	<b>ZEISS</b> Ivana Burianová: The Next Generation of Serial Block-Face Imaging
15:00	<b>Poster session + coffee break</b>
15:40	<b>Session III: Material sciences</b> (chairs: Mariana Klementová and Miroslav Šlouf)
15:40	<b>Invited lecture</b> Pavel Kejzlar: Application of Scanning Electron Microscopy for the Material Research at Technical University of Liberec
16:10	<b>JEOL</b> Laurent Vasse: SXES analyzer - new possibilities of analytical methods on SEM
16:25	Ivo Kuběna: Structural changes in 3D printed L-PBF IN939 due to thermomechanical fatigue
16:40	<b>Short break</b>
17:00	<b>Invited lecture</b> Miroslav Cieslar: In-situ electron microscopy of nanoparticles
17:30	Lucia Bajtošová: In Situ and Ex Situ TEM Analysis of Al-Al <sub>2</sub> Cu Heterogeneous Nanostructures: Insights into Phase Stability and Diffusion
17:45	Jan Michalička: Atomic resolution DPC-STEM imaging of magnetic signal in antiferromagnets and beyond
18:00	<b>Break</b>
19:00	<b>Conference dinner and yCSMS welcome drink</b>
21:30	<b>Dance party with Dj – music and yCSMS social activities (until 01:00)</b>

## Wednesday 21<sup>th</sup> May 2025

9:00	<b>Workshops</b> <b>SVEN &amp; Hana Polášek-Sedláčková:</b> ScanR workshop: Basics of high-content imaging <b>yCSMS session</b> Eva Ďurinová: LiftOff: Launching Early Careers in Microscopy and Science
10:00	<b>Announcement of the CSMS Award</b>
10:05	Tomáš Čížmár: Exploring brain with fibre optics
10:45	<b>Announcement of the Best PhD thesis award - ZEISS</b>
10:50	Miroslav Stiburek: Confocal microscopy through a multimode optical fibre
11:05	<b>Session IV– Instrumentation and optics</b> (chairs: Dušan Chorvát and Vladislav Krzyžánek)
11:05	<b>Renishaw</b> Josef Sedlmeier: Multi-modal correlative microscopy: simultaneous and colocalised Raman & SEM imaging
11:20	<b>ZEISS</b> Pavel Krist: LSM Lightfield 4D - Instant Volumetric High-Speed Imaging of Living Organisms
11:35	<b>Poster session + coffee break</b>
12:00	<b>Invited lecture</b> Ondrej Krivanek: Atomic-resolution SE imaging and other developments in instrumentation for electron microscopy
12:30	<b>TESCAN</b> Tomáš Borůvka: TESCAN MIRA XR: Accessible Ultra-High-Resolution SEM for Advanced Research
12:45	Miroslav Šlouf: Semi-automated processing of 4D-STEM diffraction data with open-source Python packages STEMDIFF and EDIFF
13:00	Michal Horák: Characterization of perovskite single-photon emitters and solar cells by 4D-STEM in an FIB-SEM
13:15	<b>Conclusion</b>
13:20	<b>Lunch</b>
14:00	<b>Transfer to excursions and workshop</b>
14:30	<b>Excursions and workshop (until 16:30)</b>
	<b>CXI TUL (Liberec)</b>
	<b>TESCAN workshop: at the Technical University of Liberec (Liberec)</b>
	<b>CRYTUR, spol. s r.o.</b>
	<b>Institute of Plasma Physics of the Czech Academy of Sciences - toptec</b>

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