

Program: Microscopy 2026

Monday 1 st June 2026	
8:00	Trip to the mountains with yCSMS / Onsemi Factory Tour / Wallachian Open Air Museum
14:00	Registration (until 19:00)
15:00	Members' meeting of CSMS Kamila Hrubanová (president of CSMS)
16:00	Coffee break
16:30	Conference opening
16:35	Announcement of the winner of the Thermo Fisher / CSMS scholarship competition: Eliška Šiška Virágová (CEITEC BUT, Thermo Fisher Scientific, Brno)
16:38	Preliminary in-situ SEM heating observations of non-conductive HA–Al ₂ O ₃ chunks on MEMS chips Eliška Šiška Virágová (CEITEC BUT, Thermo Fisher Scientific, Brno)
16:53	Announcement of the winner of CSMS scholarship competition: Ivana Michálková (CEITEC BUT, Brno) – Lecture Jakub Bělín June 3, 12:35
16:54	Announcement of the Best PhD thesis award – ZEISS: Klára Steklíková (Charles University, Prague)
16:57	New factors in the tooth development and its molecular control Klára Steklíková (Charles University, Prague)
17:12	Announcement of the Best yCSMS paper: Michael Foltýn (Brno University of Technology)
17:15	Announcement of the CSMS Award: Dušan Chorvát (The International Laser Centre, SCSTI, Bratislava)
17:18	Lasers, waves and life Dušan Chorvát (The International Laser Centre, SCSTI, Bratislava)
18:00	Short break
18:15	News in microscopy Chair: Jana Nebesářová, Vladislav Krzyžánek
18:15	EMS - Supporting the Community and Looking Ahead Vladislav Krzyžánek (president of EMS)
18:22	Building the Czech optical ecosystem Petr Příklad (Český optický klastr, Olomouc)
18:29	News from Brnoregion Microscopy Radka Novák (Brnoregion Microscopy, JIC)
18:36	Connect, Learn, Share: The Young Microscopists of CSMS Eva Ďurinová (Charles University, BIOCEV, Prague)
18:43	The study programs "Mikroskopie" and "Microscopy" at the Masaryk University Petr Mikulík (Masaryk University, Brno)
18:50	Czech-BioImaging: Infrastructure Dedicated to Users Pavel Hozák (Institute of Molecular Genetics of the CAS, Prague)
19:00	Biological Imaging LM/EM Data in the Czech National Repository Platform (NRP) Michal Kozubek (Masaryk University, Brno)
19:10	Welcome reception

9:00 Registration

9:00 Momentum-resolved STEM in Materials and Life Sciences
Plenary lecture by **Knut Müller-Caspary** (*Ludwig-Maximilians-University, Munich*)

9:50 Session I: Material sciences
Chairs: Eliška Materna Mikmeková, Lukáš Průcha

9:50 **Pushing SEM to the eV Limit: Super-Slow Electrons for Advanced Steels Characterization**
Invited lecture by **Šárka Mikmeková** (*Institute of Scientific Instruments of the CAS, Brno*)

10:20 **Diffract, reveal, retract: High speed 4D-STEM imaging with a retractable hybrid pixel detector for diffraction in SEM**
Pavel Stejskal (*AdvaScope, Brno*)

10:35 Coffee break & Poster session

11:20 **Work-Function-Resolved Imaging of Relaxation Oscillations and Chemical Spillover in CO Oxidation over Platinum Surfaces**
Miroslav Kolíbal (*Brno University of Technology, Brno*)

11:35 **Elucidation of internal damage using FIB tomography**
Stanislava Fintová (*Institute of Physics of Materials of the CAS, Brno*)

11:50 **New capabilities for 3D imaging and surface texture measurement in optical microscopy**
Karel Jiříkovský (*Sven BioLabs s.r.o., Prague*)

12:05 **4D-STEM-PNBD with Frame- and Event-based Detectors: Walking through Dimensions**
Miroslav Šlouf (*Institute of Macromolecular Chemistry of the CAS, Prague*)

12:20 Lunch

13:20 Session II: Instrumentation and Optics
Chairs: Dušan Chorvát, Kateřina Mrázová

13:20 **Light enters electron microscopy**
Invited lecture by **Martin Kozák** (*Charles University, Prague*)

13:40 **Advent of new capabilities of the TITAN Themis enabled by upgrades with the latest Cs-probe corrector, post-column energy filter, and direct electron detection cameras**
Jan Michalička (*CEITEC BUT, Brno*)

13:55 **TruePix: an optimized integrated EBSD workflow**
Jakub Holzer (*Thermo Fisher Scientific, Brno*)

14:10 **Phase contrast in 4D-STEM and aberration measurement**
Zvonimír Jílek (*Institute of Scientific Instruments of the CAS, Masaryk University, Brno*)

14:25 **Near-Field Scanning Optical Microscopy: A Powerful Tool for Next-Generation Photonic Applications**
Invited lecture by **Dusan Pudis** (*University of Žilina, Žilina*)

14:45 **New approaches for investigating beam-sensitive materials by TEM/STEM**
Guillaume Brunetti (*JEOL, Paris*)

15:15 Coffee break & Poster session

16:05 Session III: Life sciences
Chairs: Josef Lazar, Veronika Huntošová

16:05 **Extending Lateral-Shearing Digital Holographic Microscopy Beyond Conventional Coherence Limits**
Invited lecture by **Jaromír Běhal** (*Palacký University, Olomouc*)

16:35 **In situ protein crystallography – a light microscopy-guided cryo-FIB pipeline for direct protein structure determination from a single intracellular crystal**
Dominik Pinkas (*Institute of Molecular Genetics of the CAS, Prague*)

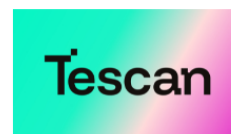
16:50 **Recent advances in 200kV Cryo Electron Microscopy**
Jana Skarupova (*Thermo Fisher Scientific, Brno*)

17:05 Coffee break

17:20	From Cells to Molecules: How Cryo-Electron Microscopy Technologies Are Transforming Structural Biology Jana Šmídová (Tescan Group, Brno)
17:35	Fighting Malaria with Volume EM Jiří Týč (Biology Centre of the CAS, České Budějovice)
17:50	FIB SEM volume imaging in life sciences: Femtosecond laser as versatile sample preparation tool Ivana Burianová (ZEISS Group, Prague)
18:05	Automated High-Resolution Cryo-FIB-SEM Volume EM Enables Sub-Volume Averaging of Cellular Structures Pitch talk by Pavel Křepelka (CEITEC MUNI, Brno)
18:08	Break
19:00	Conference dinner
23:59	Expected end of the dinner

Wednesday 3rd June 2026	
Session IV: yCSMS Chairs: Eva Ďurínová	
9:00	
9:05	The Road to Scientific Excellence - Talk & Discussion with Knut Müller-Caspary Invited talk by Knut Müller-Caspary (Ludwig-Maximilians-University, Munich)
9:45	Bismuth Plasmonic Antennas The best publication award yCSMS Michal Foltýn/Michal Horák (CEITEC BUT, Brno)
10:00	Advanced Characterisation of 2D Materials Using SLEEM/ToF Veronika Pizúrová (Institute of Scientific Instruments of the CAS, Brno)
10:10	Short break
Session V: Interdisciplinary Chairs: Miroslav Šlouf, Pavlína Sikorová	
10:20	4D-STEM Meets Biology: Promises, Constraints and Practical Limitations Invited lecture by Radim Skoupy (Laboratory of Biological Electron Microscopy, EPFL, Lausanne)
10:40	BRUKER EMA: Unique Range of Analytical Tools for Electron Microscopes Cristian Vailati (Měřicí technika Morava, Zastávka u Brna)
10:55	The ideal microscope (not only) for a microscopy facility Pavel Krist (ZEISS Group, Prague)
11:10	Design and Development of Calibration Standards for Electron Microscopy Pitch talk by Daniel Burda (Institute of Scientific Instruments of the CAS, Brno)
11:13	Coffee break & Poster session
11:45	AI Tools for Spectroscopy – Current Progress at ISI CAS Invited lecture by Ondřej Vaculík (Institute of Scientific Instruments of the CAS, Brno)
12:05	Future trends in Electron microscopy, sample preparation and imaging Martin Bačík (Specion, Brno)
12:20	SEM-EDX as a Tool in Biological Anthropology: From Skeletal Remains to Dental Calculus Dana Buriánková Fialová (Masaryk University, Brno)
12:35	Holographic Incoherent-light-source Optical Diffraction tomography: algorithms and their performance analysis CSMS scholarship Jakub Bělín (CEITEC BUT, Brno)
12:50	Conference closing
12:55	Lunch
13:55	Transfer to excursions
14:25	Excursion in ON Semiconductor Czech Republic, s.r.o. (14:30-15:30)

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