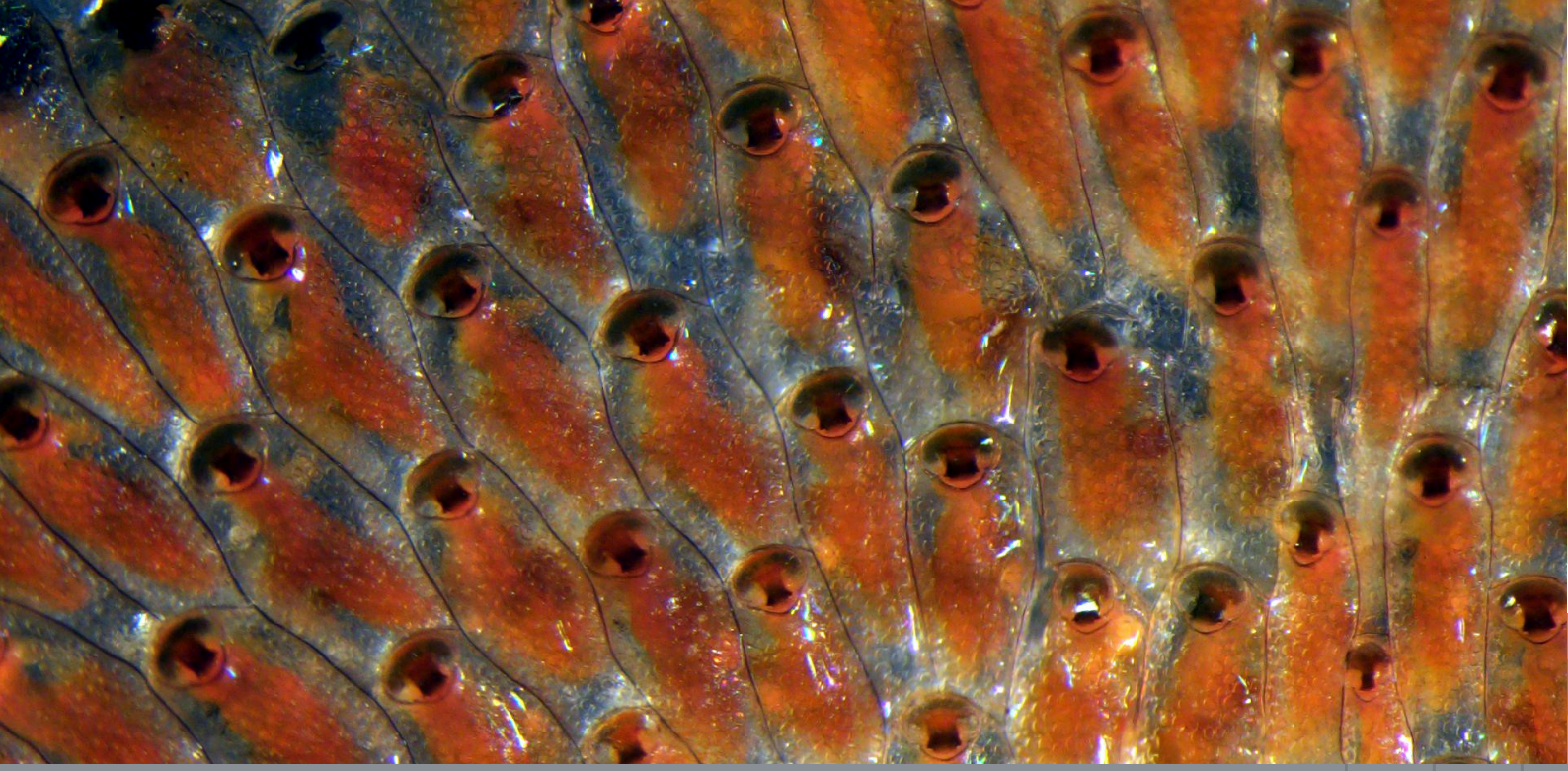


17th Multinational Congress on Microscopy

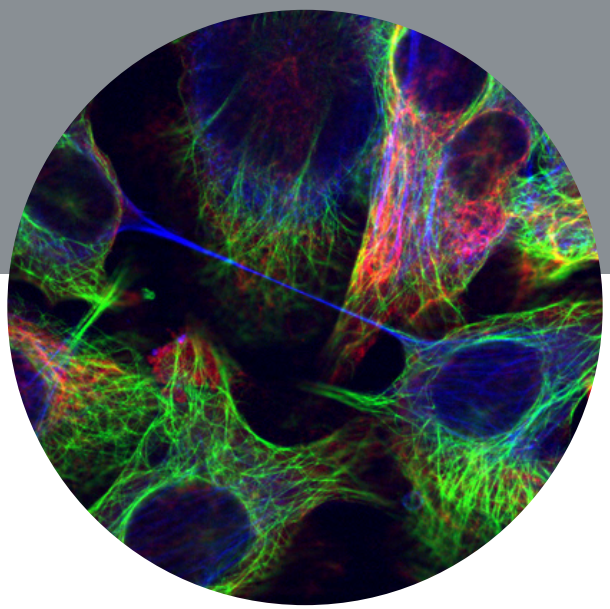
17MCM

Portorož, Slovenia
7 - 12 September, 2025

Sponsors and exhibitors

Sponsors

Exhibitors



17th Multinational Congress on Microscopy

17MCM

Program booklet

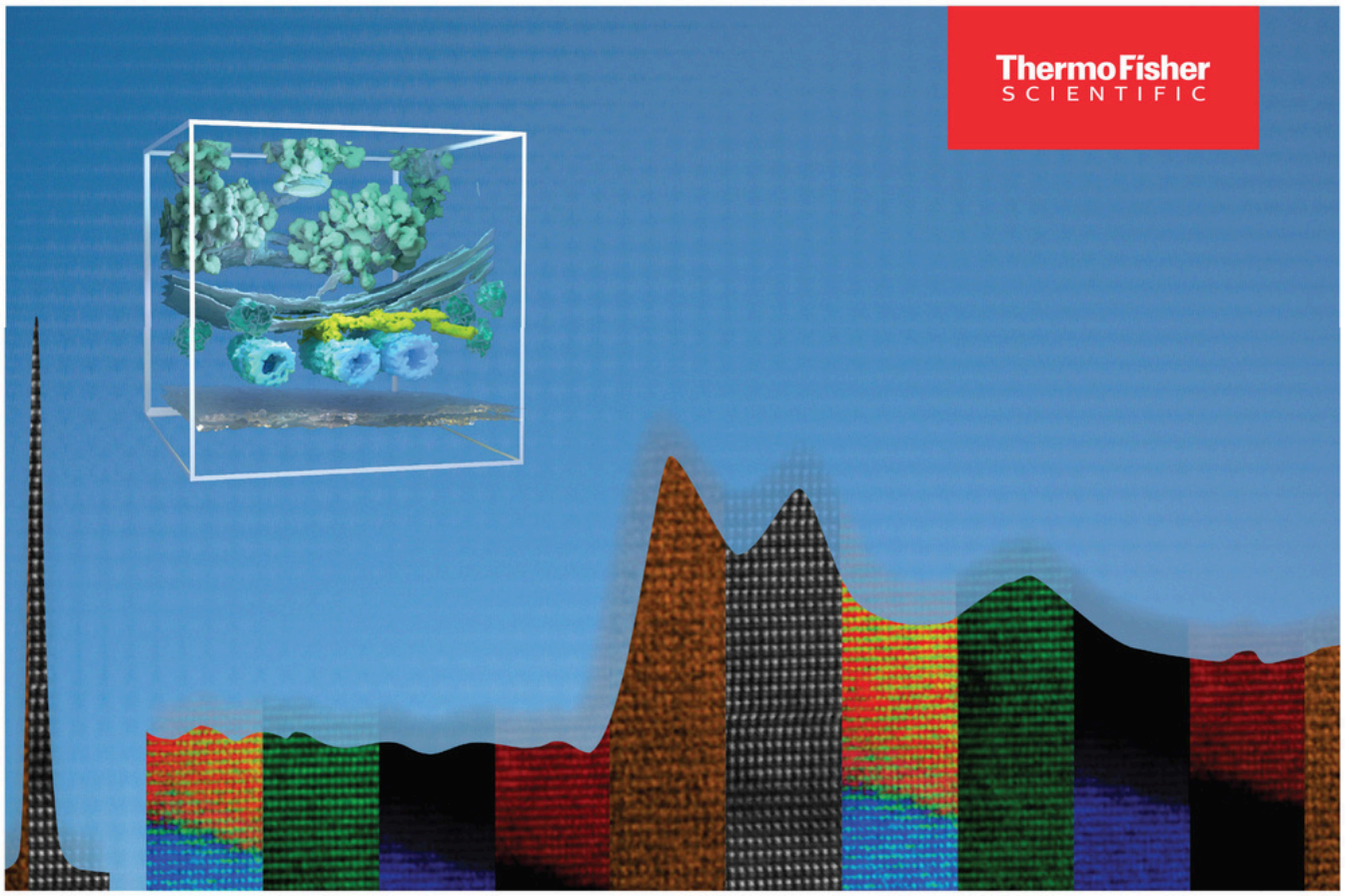
Portorož, Slovenia
7 - 12 September, 2025

Organized by

Slovensko Društvo za Mikroskopijo
SDM
Slovene Society for Microscopy

MCM

MS



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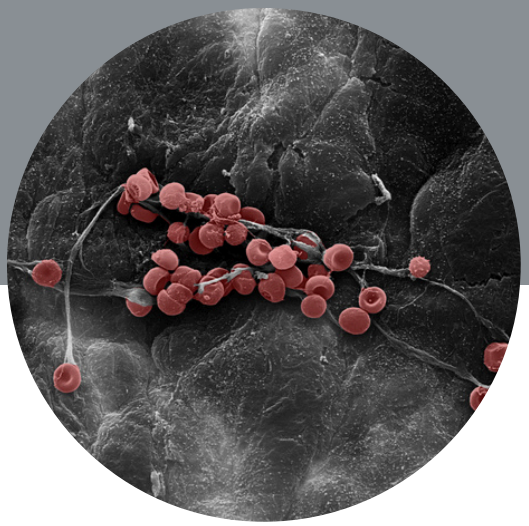

Table of content

It's all about microscopy!

Welcome Note

Dear participants, esteemed guests, sponsors and exhibitors,

It is a great honor and pleasure to welcome you at the 17th Multinational Congress on Microscopy (17MCM) in the beautiful coastal town of Portorož. The 17MCM is organized by the Slovene Society for Microscopy (SDM) together with seven other European societies within the MCM community. Moreover, the event was also selected by the European Microscopy Society as the EMS Extension for 2025. This is the third time the MCM congress has been held in Slovenia. The number of participants and the interest of sponsors and exhibitors in this conference once again confirms the great interest in microscopy and such meetings in the region.

Our vision for the 17MCM is to create a vibrant and inclusive environment for scientists, researchers, and industry experts to share cutting-edge advancements and foster collaborations in the field. We aim to inspire innovation, promote interdisciplinary approaches, and explore the limitless potential of microscopy techniques in unlocking new discoveries and transforming various scientific disciplines. In preparing the scientific program of the congress, we have therefore tried to cover the widest possible range of microscopy techniques and current areas of their application in Europe.

The scientific program features plenary lectures on the most current microscopy-related topics, while the latest developments in microscopic instrumentation and methodology, as well as microscopic achievements in the fields of material sciences and life sciences are covered by invited talks, oral and poster presentations. Award ceremonies, social events and board meetings round out the congress.

In addition to presenting the latest achievements in the field of microscopy, the aim of the conference remains to provide an up-to-date overview of microscopic equipment and methodologies for preparing, observing and analyzing samples. This part is covered by the accompanying program of the congress, within which we want to create a suitable environment for various informal forms of exchange of experience and establishing new connections between users and providers of microscopic equipment.

In conclusion, we would like to thank the Scientific Program Board for the substantive preparation of the program and the Organizing Committee for the actual implementation of the congress. We would also like to thank the speakers for their contributions and the moderators for leading the scientific sessions. Special thanks also go to domestic and foreign representatives and manufacturers of microscopic equipment, who, by financially supporting the meeting and presenting current microscopic techniques, made it possible to organize the meeting in its current scope and format.

Kristina Žagar Soderžnik
17MCM chair and president of SDM

Rok Kostanjšek
17MCM co-chair

Congress Organizers

Congress Chairs

Congress Chair: Kristina Žagar Soderžnik, Jožef Stefan Institute
Congress Co-chair: Rok Kostanjšek, Biotechnical Faculty, University of Ljubljana

Local Organizing Committee

Kristina Žagar Soderžnik, Jožef Stefan Institute, Conference Chair and SDM President
Rok Kostanjšek, Biotechnical Faculty, University of Ljubljana, Conference Co-Chair
Barbara Šetina Batič, Institute of Metals and Technology, Administration
Polona Mrak, Biotechnical Faculty, University of Ljubljana, Finances
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Samo Hudoklin, Faculty of Medicine, University of Ljubljana
Blaž Belec, University of Nova Gorica
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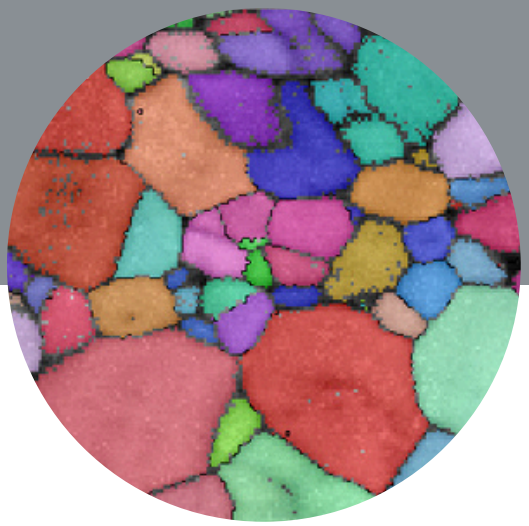
Miran Čeh, Jožef Stefan Institute
Elena Tchernychova, National Institute of Chemistry, Ljubljana

Hosting Societies



International Boards

International Scientific Advisory Board

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General Information

CONGRESS VENUE

Grand Hotel Bernardin Portorož
Obala 2
6320 Portorož, Slovenia

BADGES

All registered participants are requested to wear their name badges at all times. Only delegates who are wearing their name badges will be admitted to the congress venues.

CONGRESS PROGRAM

The final congress program is available on the congress website:
https://www.conftool.com/17mcm-2025/sessions.php.
The organizers cannot assume liability for any changes in the program due to external or unforeseen circumstances.

BOOK OF ABSTRACTS

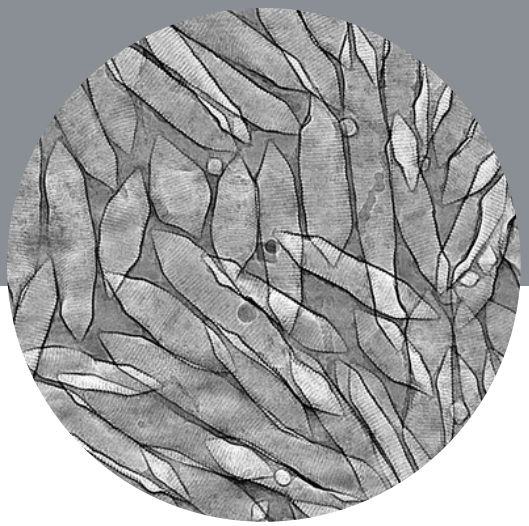
The congress proceedings will be available on the congress website:
https://17mcm.si/programme/

MOBILE APPLICATION

Browse the complete programme directly from your phone or tablet and create your very own agenda on the fly. The app is available for Android and iOS devices. To download mobile app, scan the QR code or type '17MCM' in Google Play or iTunes App Store."

INTERNET CONNECTION

There will be a dedicated WiFi: **17MCM** with the password: **17mcm2025**.



REGISTRATION AND INFORMATION DESK

The registration desk will be open daily for the duration of the congress. Participants must register, sign the attendance sheet, and collect badges before entering any part of the congress program.

Sunday, 7 September 2025:
14:00 – 17:30 Registration for all participants

Monday, 8 September – Friday, 12 September 2025:
07:30 – 16:30 Registration for all participants

CONGRESS STAFF

If you have any questions, please contact members of the congress staff who can be easily recognized by their blue or violet T-shirts.

COFFEE BREAKS

During the core program breaks, Coffee breaks will be served free of charge to all participants wearing their name badges. They will be served in the Europa Trade Exhibition area on the 12th floor.

LUNCHES

During the core program, there will be lunch workshops sponsored by companies with separate registration.
You are also welcome to have lunch in:

- Grand Café/Grand Garden – 12th floor of Grand Hotel Bernardin
- Restaurant Taverna Mediteran – by the Hotel Histrion marina.

TRADE EXHIBITION

The trade exhibition is located on the 12th floor of Europa Trade Exhibition area and will be open from Monday, 8 September, to Friday, 12 September, 2025.

Coffee breaks will also be located in the Europa Trade Exhibition area. Please take the time and visit the exhibitor booths.

POSTER SESSION

Location

Posters will be displayed on the 11th floor in the foyer of the Emerald hall.

Poster boards

Poster boards will be provided for the participants to display their posters. The poster boards can accommodate posters of A0 size in portrait orientation. The conference organizers will provide the mounting tape to the participants.

Time

There will be two poster sessions.

Poster session 1 on Monday and Tuesday, and **Poster session 2 on Wednesday and Thursday**. Please see the program to locate the time and number of your poster presentation.

LECTURES GUIDELINES

Lecture duration:

- Plenary lectures: 45 minutes
- Invited lectures: 30 minutes
- Oral presentations: 15 minutes

SLIDE ROOM

The slide room for speakers is located on the 12th floor in the VIP salon. Speakers are asked to upload the presentation at least one hour before the start of the session or send it to an email info@mikroskopsko-drustvo.si in advance. Please note that you are not allowed to use your own computer for the presentation. After the session, all presentations will be deleted.

PHOTOGRAPHY

We will be taking photos and videos throughout the congress. The images will be used in communication materials and may be published on the congress website FB and IG. Please contact us at the registration desk if you prefer not to be photographed.

LANGUAGE

The official language of the congress is English.

FIRST AID

Please contact any staff member if you need assistance.

IMPORTANT TELEPHONE NUMBERS

112: General Emergency for Europe.

INSURANCE

The congress organizers do not accept liability for any injury, loss, or damage arising from accidents or other situations during the congress. Therefore, participants are advised to arrange health insurance and accident insurance before traveling to the congress.

Social Activities

Welcome Reception – Sunday, 7 September 2025

The welcome reception will take place on Sunday, 7 September 2025, from 18:30 at Square by the ruins of St. Bernardin church in front of Hotel Histrion and Hotel Vile Park.
The welcome reception is included in the registration fee.

Charity Run – Wednesday, 10 September 2025

The charity run is kindly sponsored by ITR-LAB. To participate, please complete the registration form in your ConfTool account (it is under "Edit Your Event Registration Details and/or Register for Another Event").
The 5 km run/walk will take place by the coast from Grand Hotel Bernardin to Piran lighthouse and back to Grand Hotel Bernardin. You are welcome to donate to the Slovenian Association of Friends of Youth, an organisation dedicated to creating a better future for children, young people, and families. Donations, payable in cash, will be collected at the starting point of the run.

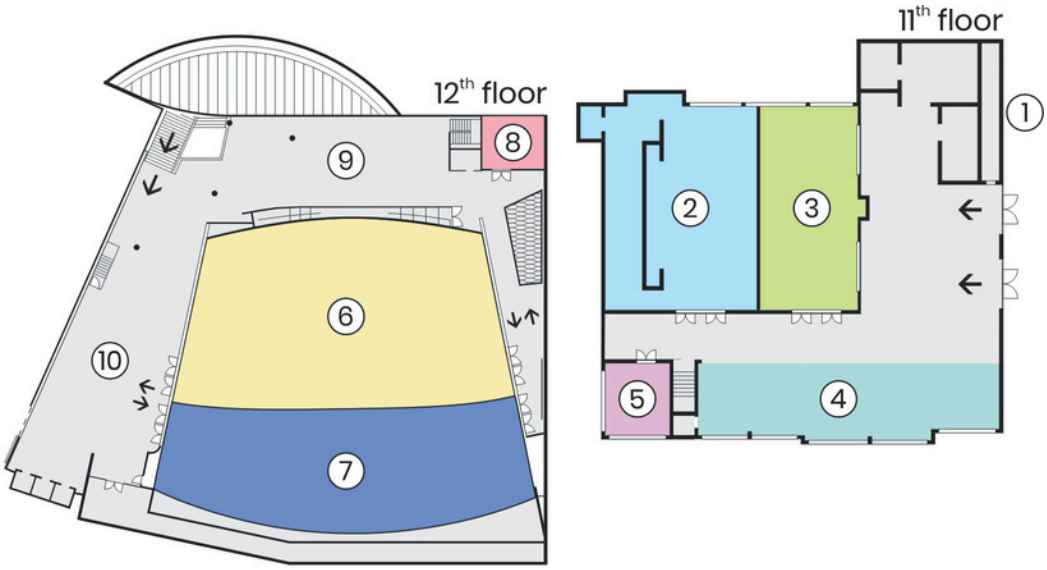
Farewell Dinner – Thursday, 11 September 2025

The congress dinner will take place on Thursday, 11 September 2025, from 19:00 at the beach of Grand Hotel Bernardin.
The congress dinner is included in the registration fee.

Dinner programme will include:

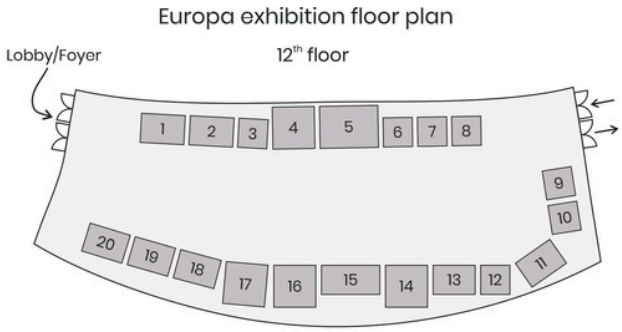
- Best posters awards
- Best image competition awards
- Fine dining buffet dinner (local and international cuisine)
- Live music

Congress Floor Plan



1. Registration area
2. Emerald room 1
3. Emerald room 2
4. Poster session area
5. Pharos room
6. Europa plenary hall
7. Europa exhibition hall | Coffee break
8. Slide room | VIP Salon
9. Lounge area
10. Coffee break

Trade Exhibition Floor Plan



1 Carl Zeiss Microscopy GmbH
2 VIDEKO GmbH
3 SCAN d.o.o.
4 JEOL (Europe) SAS
5 TESCAN GROUP a.s.
6 point electronic GmbH
7 X-Spectrum
8 Medipro d.o.o.
9 NanoMEGAS SPRL
10 EMSIS GmbH
11 Micro to Nano BV
12 SPECS Surface Nano Analysis GmbH
13 Bruker
14 Schaefer SEE Srl
15 SPECION s.r.o.
16 Biolyst Scientific
17 Thermo Fisher Scientific
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19 AMETEK GmbH | EDAX | Gatan
20 Oxford Instruments GmbH

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Scientific program

PLENARY SPEAKERS

- **Mateja Erdani Kreft**, Institute of Cell Biology, University of Ljubljana, Slovenia
- **Aleksander Rečnik**, Jožef Stefan Intitute, Ljubljana, Slovenia
- **Judith Klumperman**, Center for Molecular Medicine Section Cell Biology, University Medical Center Utrecht, the Netherlands
- **Vincenzo Grillo**, Instituto Nanoscienze of the National Research Council, Modena, Italy
- **Pavel Plevka**, CEITEC – Central European Institute of Technology, Brno, Czech Republic

SCIENTIFIC SESSIONS

Instrumentation and Methods
IM1 Spectroscopy and hyperspectral imaging of hard and soft matter
IM2 Innovations and synergies in correlative microscopy
IM3 Quantitative imaging in SEM/STEM, electron diffraction, 4D-STEM and ptychography
IM4 Advances in single particle analysis (SPA) and cryo-electron microscopy
IM5 Development of sample preparation methods, instrumentation, workflows, and data solutions for volume electron microscopy
IM6 Electron optics and beam shaping for electron microscopy
IM7 In-situ and environmental microscopy
IM8 Machine learning and data analysis in microscopy: advances and open-source solutions

Life Sciences
LS1 Advances in multiscale fluorescence imaging and image processing
LS2 Volume electron microscopy in life sciences and tissue engineering
LS3 Structure and function of cells and organelles
LS4 Microscopy in pathology and regenerative medicine
LS5 Cell dynamics and high-resolution fluorescence microscopy
LS6 From a whole organism to sub-cellular imaging: correlative microscopy and multimodal imaging
LS7 Advances in sample preparation in biomedical research and beyond
LS8 3D functional imaging of materials and biological samples

Material Sciences
MS1 Ceramics, ceramic composites and geological materials
MS2 Polymers, soft, and organic materials
MS3 Metals and alloys
MS4 0D, 1D and 2D materials
MS5 Magnetic, ferroelectric, and spintronic materials
MS6 Thin films, heterostructures, coatings, surfaces and interface
MS7 Advanced materials for energy storage and conversion
MS8 Advanced functional materials

Sunday 07/09/2025
14:00 – 17:30 Registration
18:30 – 23:00 Opening ceremony and Welcome reception

Monday 08/09/2025		
7:30 – 9:00 Registration		
9:00 – 9:50 Plenary lecture *Location: Plenary hall Europa* Erdani Kreft M.: Microscopy-based analysis of biomimetic 2D and 3D *in vitro* models for preclinical studies		
10:00 – 10:30 Coffee break and exhibition *Location: Exhibition hall*		
IM1 Spectroscopy and hyperspectral imaging of hard and soft matter *Location: Emerald 1* Chair: Michael Stöger-Pollach Chair: Giuseppe Nicotra	**LS4 Microscopy in pathology and regenerative medicine** *Location: Emerald 2* Chair: Elena Bianca Donetti Chair: Nela Puškaš	**MS1 Ceramics, ceramic composites and geological materials** *Location: Europa* Chair: Servet Turan Chair: Nina Daneu
10:30 – 11:00 Ramasse Q.: IM1-IN-1 Beyond phonon spectroscopy: progress in high-resolution STEM-EELS	**10:30 – 11:00** Perrotta I. D.: LS4-IN-1 An ultrastructural perspective on cell death with a focus on atherosclerosis	**10:30 – 11:00** Drummond-Brydson R.: MS1-IN-1 Studying the crystallization of inorganic materials using correlated transmission electron microscopy
11:00 – 11:30 Stephan O.: IM1-IN-2 Recent advances in STEM spectroscopy using synchronized electron and photon beams	**11:00 – 11:30** Capo I.: LS4-IN-2 Expression of GABA-A receptors in brain tumors	**11:00 – 11:30** Padrón-Navarta J.: MS1-IN-2 The Past and Future of Electron Backscattered Diffraction (EBSD) in Earth Sciences
11:30 – 11:45 Bertoni G.: IM1-O-1 First demonstration of angular-momentum-resolved electron energy-loss spectroscopy	**11:30 – 11:45** Lam Y. W.: LS4-O-1 Navigating the Human Protein Atlas to map the composition of extracellular matrix proteins in normal and cancer tissues	**11:30 – 11:45** Semsari Parapari S.: MS1-O-1 Direct observation of phase transformations during dehydration of cementitious phases at high temperatures
11:45 – 12:00 Konvalina I.: IM1-O-2 Investigation of Electron Scattering in Ultrathin Films Using Time-of-Flight Spectroscopy	**11:45 – 12:00** Purelku M.: LS4-O-2 The First Identification of Telocyte Cells in the Human Ovarian Stroma: Morphological and Immunophenotypical Characterization	**11:45 – 12:00** Nachtnebel M.: MS1-O-2 Impact of clay construction components on indoor aerosols: what can automated SEM-EDX and Raman reveal?
12:00 – 12:15 Tagliaferri A.: IM1-O-3 Perspectives of ultrafast hyperspectral imaging in Scanning Electron Microscopy	**12:00 – 12:15** Ploszczanski L.: LS4-O-3 Morphological and Mechanical Characterization of Major Ampullate Spider Silk Fibers in Liquid Environments: Insights from SEM and Single-Fiber Tensile Testing	**12:00 – 12:15** Klementová M.: MS1-O-3 Sulfidic inclusions in the Muong Nong tektites from Laos
12:15 – 12:30 Haslinger P.: IM1-O-4 Spin Resonance Spectroscopy meets Transmission Electron Microscopy	**12:15 – 12:30** Kanduti D.: LS4-O-4 Periodontal and bone regeneration with magnesium barrier membranes: an in vitro study	**12:15 – 12:30** Ražnjević S.: MS1-O-4 Oxygen vacancy distribution in different regions of La1−xSrxGa1−yMgyO3−δ
12:45 – 13:45 Lunch workshops *Location: Emerald 1* THERMO FISHER SCIENTIFIC, Zamani R.: Iliad, the new (S)TEM platform: Expand and simplifies energy loss analytics	**12:45 – 13:45 Lunch workshops** *Location: Emerald 2* SPECION, Kopecký M.: Advanced microscopy solutions from Leica-Microsystems	**12:45 – 13:45 Lunch**

Exhibitor Presentations *Location: Plenary hall Europa* Chair: Miran Čeh Chair: Samo Hudoklin			
14:00 – 14:15 Vailati C., Bruker Nano GmbH: Bruker EMA, Unique Range of Analytical Tools for Electron Microscopes			
14:15 – 14:30 Phifer D., Thermo Fisher Scientific: Comprehensive and intuitive analysis with Apreo ChemiSEM™, ChemiPhase™ and TruePix EBSD™			
14:30 – 14:45 Sezen Ozkoc M., Thermo Fisher Scientific: From Slices to Structure: Volume EM in Life Sciences			
14:45 – 15:00 Tollabimazraehno S., Videko GmbH: Ion Milling System: ArBlade 5000			
15:00 – 15:15 Mukherjee S., SPECS Surface Nano Analysis GmbH: Momentum Microscopy: A complementary tool for imaging			
15:15 – 15:30 Bartak T., Oxford Instruments GmbH: Oxford instruments – Solution for materials characterization at the nanometre scale			
15:30 – 15:45 Bačík M., SPECION, s.r.o.: Specion Microscopy HUB			
15:45 – 16:00 King Z., Protochips, Inc.: Technological Advances for Temperature Dependent Liquid-Phase and Electrochemical Studies Using In Situ TEM			
16:00 – 16:15 Galanis A., NanoMEGAS: Precession enhanced Electron Diffraction applications in TEM for nano crystals			
16:15 – 16:30 Suchanek M., TESCAN GROUP, a.s.: Empowering Innovation in Science with Tescan Solutions			
16:30 – 16:45 Atlasov K., ZEISS Volutome: The Next Generation of Serial Block-Face Imaging			
16:00 – 16:30 Coffee break and exhibition *Location: Exhibition hall*			
16:30 – 18:00 **Poster session 1 - Instrumentation and Methods** *Location: Poster hall* IM1, IM3, IM8	**16:30 – 18:00** **Poster session 1 - Life Sciences** *Location: Poster hall* LS2, LS4, LS8	**16:30 – 18:00** **Poster session 1 - Material Science** *Location: Poster hall* MS1, MS5, MS6	***16:30 – 17:30*** ***EMS board meeting*** *Location: Pharos room*

Tuesday 09/09/2025		
7:30 – 9:00 Registration		
9:00 – 9:50 Plenary lecture *Location: Plenary hall Europa* Rečnik A.: Atomistic structure of interfaces: Where theory and experiment meet		
10:00 – 10:30 Coffee break and exhibition *Location: Exhibition hall*		
IM3 Quantitative imaging in SEM/STEM, electron diffraction, 4D-STEM and ptychography *Location: Emerald 1* Chair: Gerald Kothleitner Chair: Giovanni Bertoni	**LS8 3D functional imaging of materials and biological samples** *Location: Emerald 2* Chair: Rok Kostanjšek Chair: Gergely Szalay	**MS5 Magnetic, ferroelectric, and spintronic materials** *Location: Europa* Chair: Blaž Belec Chair: Viktoria K. Kis
10:30 – 11:00 Haas B.: IM3-IN-1 Developments in 4D-STEM and Ptychography: From Series Registration to Live Compression	**10:30 – 11:00** Mancini L.: LS8-IN-1 Advanced multimodal and multiscale imaging for material characterization	**10:30 – 11:00** Benčan Golob A.: MS5-IN-1 Insight into Defects and Polarization in Lead-Free Ferroelectrics by Advanced STEM Techniques
11:00 – 11:30 Houben L.: IM3-IN-2 Low-Dose 4D STEM for Cross-Disciplinary Materials Characterisation	**11:00 – 11:30** Jász A.: LS8-IN-2 Synaptic basis of feature selectivity in hippocampal neurons	**11:00 – 11:30** Almeida T.: MS5-IN-2 Next Generation Spintronic Devices And 3D Curved Magnets examined by Lorentz microscopy
11:30 – 11:45 Unterleutner E.: IM3-O-1 Advanced STEM of Point Defect Clusters in Doped STO	**11:30 – 11:45** Valpuesta J. M.: LS8-O-1 Structural recognition and stabilization of tyrosine hydroxylase by the J-domain protein DNAJC12	**11:30 – 11:45** Cole H.: MS5-O-1 The magnetic microstructure in FeCo alloys and its interaction with non-magnetic inclusions
11:45 – 12:00 Galanis A.: IM3-O-2 Electric Field and Pair Distribution Function mapping by Precession Scanning Electron Diffraction (4D-SPED) in TEM	**11:45 – 12:00** Levak V.: LS8-O-2 Spatiotemporal acquisition of genetically encoded biosensors in intact plant leaves reveals hormonal crosstalk in response to wounding	**11:45 – 12:00** Peiró F.: MS5-O-2 Investigating Local Structure in NBT-BT system Using (S)TEM Techniques
12:00 – 12:15 Lachhab M.: IM3-O-3 Exploring perovskites at the atomic level by 4DSTEM: Experimental & Simulation	**12:00 – 12:15** Dogša I.: LS8-O-3 The exopolysaccharide EpsA-O has a decisive role in 3D microstructure formation of *Bacillus subtilis biofilm*	**12:00 – 12:15** Okasha S.: MS5-O-3 3D Nano-Printing of Complex Metal Structures via Focused Electron Beam Induced Deposition
	12:15 – 12:30 Korat Bensa L.: LS8-O-4 XCT state-of-the-art scanning modality for the characterization of 3D-printed flat panels	**12:15 – 12:30** Križaj Kosi N.: MS5-O-4 Characterization of hierarchically structured nanocomposite catalysts based on Ru nanoparticles deposited on ceria supports with embedded magnetic nanoparticles
12:45 – 13:45 Lunch workshops *Location: Emerald 1* JEOL, Brunetti G.: JEOL: cutting edge products for time resolved microscopy and TEM evolutions	**12:45 – 13:45 Lunch workshops** *Location: Emerald 2* TESCAN, Suchanek M.: New solutions for advanced multimodal characterization of materials at the nanoscale	**12:45 – 13:45 Lunch**

IM8 Machine learning and data analysis in microscopy: advances and open-source solutions *Location: Emerald 1* Chair: Francisco de la Peña	**LS2 Volume electron microscopy in life sciences and tissue engineering** *Location: Emerald 2* Chair: Jiři Týč Chair: Halime Kenar	**MS6 Thin films, heterostructures, coatings, surfaces and interface** *Location: Europa* Chair: Giorgio Divitini Chair: Miran Čeh
14:00 – 14:30 Propst D.: IM8-IN-1 Convolutional neural networks for scanning transmission electron microscopy image analysis: Towards automated analysis of large volume datasets	**14:00 – 14:30** Barral D.: LS2-IN-1 Shedding Light on the Molecular Mechanisms of Skin Pigmentation	**14:00 – 14:30** Botifoll Moral M.: MS6-IN-1 Automated analysis of STEM data of semiconductor heterostructures for quantum computing
14:30 – 14:45 Piccinini F.: IM8-O-1 ViFoSe, an user-friendly open-source post-processing tool for foreground segmentation in time-lapse videos	**14:30 – 15:00** Burden J.: LS2-IN-2 Array Tomography: A flexible and accessible approach to volume electron microscopy	**14:30 – 15:00** Schrenker N. J.: MS6-IN-2 Advanced low dose electron microscopy of metal halide perovskites
14:45 – 15:00 Abbasgholi-NA B.: IM8-O-2 Optimization of SEM Instrumental Parameters for Enhanced Imaging Applying Machine Learning	**15:00 – 15:15** Steiner P.: LS2-O-1 Beyond Apoptosis: Unravelling Thapsigargin-Induced Non-Apoptotic Cell Death Pathways in Immune- and Cancer Cells	**15:00 – 15:15** Vacek P.: MS6-O-1 Indium segregation at stacking faults in zincblende InGaN epilayers
15:00 – 15:15 Sharma S.: IM8-O-3 Mitigating beam damage during FIB-SIMS imaging: a new methodology using alternative FIB scans	**15:15 – 15:30** Bohak C.: LS2-O-2 Membrane Segmentation in Volumetric Electron Microscopy Data	**15:15 – 15:30** Chen Z.: MS6-O-2 Mechanical properties enhancement in ceramics through vacancy-mediated unit cell disturbance
15:15 – 15:30 Oberaigner M.: IM8-O-4 Automated Thickness Determination from 4D-STEM Data by CNNs	**15:30 – 15:45** Hudoklin S.: LS2-O-3 Volume electron microscopy of intracellular compartments in the urinary bladder epithelium	**15:30 – 15:45** Burgess E.: MS6-O-3 Multi-modal Microscopy Analysis of Co-doped InAs/GaAs Quantum Dot Lasers
15:30 – 15:45 Peiro F.: IM8-O-5 Enhanced Low-Loss EELS Analysis through Hybrid Unsupervised and Supervised Machine Learning	**15:45 – 16:00** Leitinger G.: LS2-O-4 Some neurons are better connected than others in a locust's network of visual interneurons	**15:45 – 16:00** Cora I.: MS6-O-4 Structural characterization of phase transformations in gallium oxide by transmission electron microscopy
		16:00 – 16:15 Pecz B.: MS6-O-5 Advanced TEM characterization of 2D compound semiconductors
16:00 – 16:30 Coffee break and exhibition *Location: Exhibition hall*		
16:30 – 18:00 **Poster session 1 - Instrumentation and Methods** *Location: Poster hall* IM1, IM3, IM8	**16:30 – 18:00** **Poster session 1 - Life Sciences** *Location: Poster hall* LS2, LS4, LS8	**16:30 – 18:00** **Poster session 1 - Material Science** *Location: Poster hall* MS1, MS5, MS6

<table>
<tr><th colspan="3">Wednesday 10/09/2025</th></tr>
<tr><td colspan="2">7:30 – 9:00 Charity run</td><td>7:30 – 9:00 Registration</td></tr>
<tr><td colspan="3">9:00 – 9:50 Plenary lecture
Location: Plenary hall Europa
Klumperman J.: Bridging structure and function: Advancing CLEM workflows for organelle-level imaging</td></tr>
<tr><td colspan="3">10:00 – 10:30 Coffee break and exhibition
Location: Exhibition hall</td></tr>
<tr><td>IM6 Electron optics and beam shaping for electron microscopy
Location: Emerald 1
Chair: Christoph T. Koch
Chair: Vincenzo Grillo</td><td>LS6 From a whole organism to sub-cellular imaging: correlative microscopy and multimodal imaging
Location: Emerald 2
Chair: Polona Mrak
Chair: Marie Vancová</td><td>MS2 Polymers, soft, and organic materials
Location: Europa
Chair: Miroslav Slouf
Chair: Rik Drummond-Brydson</td></tr>
<tr><td>10:30 – 11:00 Juffmann T.: IM6-IN-1 Optical Near-field Electron Microscopy</td><td>10:30 – 11:00 Jorgačevski J.: LS6-IN-1 Advanced Microscopy Approaches Unveil Plectin as a Key Regulator of Focal Adhesions in Astrocytes</td><td>10:30 – 11:00 Horák D.: MS2-IN-1 Multimodal in vitro and in vivo tissue imaging: Design, synthesis and surface engineering of nanoprobes</td></tr>
<tr><td>11:00 – 11:30 Lubk A.: IM6-IN-2 Electron Optics and Beam Shaping with a Special View on EELS</td><td>11:00 – 11:30 Tyc J.: LS6-IN-2 Merging Electrons with Other Modalities</td><td>11:00 – 11:30 de la Mata M.: MS2-IN-2 Study of the electron-induced damage of polymer based materials during STEM-EELS measurements</td></tr>
<tr><td>11:30 – 11:45 Löffler S.: IM6-O-1 Entanglement in Bragg Scattering</td><td>11:30 – 11:45 Durinova E.: LS6-O-1 Volume Electron Microscopy Methods for Investigating Nitrogen Handling and Cellular Vision in Microscopic Algae</td><td>11:30 -11:45 Christ P.: MS2-O-1 Advanced Nanoscale Characterization of Organic Photovoltaic Materials</td></tr>
<tr><td>11:45 – 12:00 Schultz J.: IM6-O-2 Miniaturized Magnetic Multipoles for Ultrafast Beam Shaping in the Transmission Electron Microscope</td><td>11:45 – 12:00 Kitzberger F.: LS6-O-2 Semi-automated Classification of Nanoparticle Signals from Opposite Surfaces of Ultrathin Sections in Low-Voltage STEM</td><td>11:45 – 12:00 Belić D.: MS2-O-2 Nanocellulose-based Functional Nanocomposite Materials</td></tr>
<tr><td>12:00 – 12:15 Habibzadeh Kavkani P.: IM6-O-3 Electron Beam Shaping with a MEMS Phase Plate via Current-Controlled Electrostatic Potential</td><td rowspan="2">12:00 – 12:30 Euro-BioImaging session
Location: Emerald 2
Chair: Polona Mrak
Chair: Nada Žnidaršič
Bischof J.: Open Access to Imaging Excellence and Opportunities for Imaging Core Facility Staff – Updates from Euro-BioImaging and Global BioImaging</td><td>12:00 – 12:15 Koniuch N.: MS2-O-3 4D-STEM of Soft Matter: Structural Characterisation of Beam-Sensitive Polymers and Molecular Crystals Using Fast Precession and a Direct Electron Detector on a Tescan Tensor</td></tr>
<tr><td></td><td>12:15 – 12:30 Boese M.: MS2-O-4 SEM Image contrast analysis for polymers with optimized imaging conditions</td></tr>
<tr><td colspan="2">12:45 – 13:45 EMS general assembly and Outstanding Paper Award (OPA) ceremony
Location: Europa</td><td>12:45 – 13:45 Lunch</td></tr>
</table>

IM4 Advances in single particle analysis (SPA) and cryo-electron microscopy *Location: Emerald 1* Chair: Gašper Šolinc Chair: Kamila Hrubanova	**LS1 Advances in multiscale fluorescence imaging and image processing** *Location: Emerald 2* Chair: Serap Arbak	**MS3 Metals and alloys** *Location: Europa* Chair: Dragan Rajnović Chair: Matjaž Godec
14:00 – 14:30 Podobnik M.: IM4-IN-1 Use of cryo-EM to study filamentous plant viruses and their virus-like particles	**14:00 – 14:30** Enderlein J.: LS1-IN-1 Advancing Super-Resolution Imaging: Integrating Fluorescence Lifetime, Scanning Microscopy, and Energy Transfer Techniques for Isotropic Nanoscale Bioimaging	**14:00 – 14:30** Michalcová A.: MS3-IN-1 Microstructural characterization of beta-Sn to alpha-Sn phase transformation
14:30 – 15:00 Křepelka P.: IM4-IN-2 Enabling High-Resolution Cryo-FIB-SEM Volume Imaging through Specialized Serial Acquisition	**14:30 – 14:45** Szalay G.: LS1-O-1 Immersive Virtual Reality System for Mice Combined with 3D-Targeted Photostimulation as a Prototype for Visual Restoration	**14:30 – 15:00** Donik Č.: MS3-IN-2 The Microstructure and Mechanical Properties of LPBF Produced Nickel-based Alloy IN718 Influenced by Laser Beam Shape and Post Heat-Treatment
15:00 – 15:15 Biela A.: IM4-O-1 From MDa to kDa - across the scale cryoEM SPA analysis of biological molecules	**14:45 – 15:00** Piccinini F.: LS1-O-2 Micropipette-Based Single-Cell Isolation from Live Spheroids	**15:00 – 15:15** Daoud M.: MS3-O-1 Influence of Al3Zr dispersoids on the Young's Modulus of Al matrix in Al 2195 Alloy: Insights from Analytical Electron Microscopy and DFT Calculations
	15:00 – 15:15 Balzano A.: LS1-O-3 Optimizing Microscopy Methodologies for Xylogenesis: Advances and Challenges in Wood and Phloem Formation Analysis	**15:15 – 15:30** Qu Q.: MS3-O-2 Atomic-resolution electron microscopy analysis of oxygen-mediated Ti nanocrystalline synthesized by high-pressure torsion
15:15 – 15:30 Šolinc G.: IM4-O-2 A closer look at the protein-lipid complex of actinoporin pores	**15:15 – 15:30** Režonja B.: LS1-O-4 High-throughput automated quantitative fluorescence microscopy and image feature analysis for in vitro detection of adverse effects	**15:30 – 15:45** Gajovic A.: MS3-O-3 (S)TEM study of the WTaVCr alloy for fusion application
		15:45 – 16:00 Minenkov A.: MS3-O-4 Correlative Transmission Electron Microscopy for Nanophase Identification in Galvannealed Advanced High-Strength Steel

16:00 – 16:30 Coffee break and exhibition
Location: Exhibition hall

16:30 – 18:00 **Poster session 2 - Instrumentation and Methods** *Location: Poster hall* IM2, IM4, IM5, IM6, IM7	**16:30 – 18:00** **Poster session 2 - Life Sciences** *Location: Poster hall* LS1, LS3, LS5, LS6, LS7	**16:30 – 18:00** **Poster session 2 - Material Science** *Location: Poster hall* MS2, MS3, MS4, MS7, MS8	***16:30 – 17:30*** ***MCM board meeting*** *Location: Pharos room*

Thursday 11/09/2025		
7:30 – 9:00 Registration		
9:00 – 9:50 Plenary lecture *Location: Plenary hall Europa* Grillo V.: Electron wave shaping and its applications from ghost imaging and ptychography to quantum state tomography		
10:00 – 10:30 Coffee break and exhibition *Location: Exhibition hall*		
IM2 Innovations and synergies in correlative microscopy *Location: Emerald 1* Chair: Philip Steiner Chair: Mateja Erdani Kreft	**LS3 Structure and function of cells and organelles** *Location: Emerald 2* Chair: Tamás Visnovitz Chair: Petra Peharec Štefanić	**MS4 - 0D, 1D and 2D materials** *Location: Europa* Chair: Mariana Klementová Chair: Francisco Ruiz-Zepeda
10:30 – 11:00 Mironov A.: IM2-IN-1 Applications of Correlative Light Electron Microscopy (CLEM) and Volume Electron Microscopy in Cancer Biology	**10:30 – 11:00** Lőrincz P.: LS3-IN-1 Fruit fly nephrocytes: Versatile tools to study the endolysosomal system.	**10:30 – 11:00** Haigh S.: MS4-IN-1 Dynamic Atomic Behaviour in 2D Heterostructures and Nanocatalysts
11:00 – 11:30 Polishchuk R.: IM2-IN-2 Correlative Light-Electron Microscopy: A Precision Tool for Unraveling Complex Cellular Processes in Health and Disease	**11:00 – 11:30** Mišić Radić T.: LS3-IN-2 Insights into the surface properties of microalgae using atomic force microscopy (AFM)	**11:00 – 11:30** Ferreira P.: MS4-IN-2 From Structure to Dynamics: Exploring Nanoparticle Behavior with In-Situ and Aberration Corrected TEM/STEM
11:30 – 11:45 Joudi W.: IM2-O-1 Correlative microscopy: Uncovering the role of vacancies and contamination on the mechanical stiffness of defect-engineered graphene	**11:30 – 11:45** Visnovitz T.: LS3-O-1 Recognition of a new exctracellular vesicle release mechanism	**11:30 – 11:45** Garzon Manjon A.: MS4-O-1 3D Identical Location STEM Insights into the Degradation of Metallic Core-Shell Nanoparticles under Fuel Cell Conditions
11:45 – 12:00 Biesemeier A. K.: IM2-O-2 Multimodal cryo-FIB-SIMS imaging on frozen-hydrated lamella of biological tissues	**11:45 – 12:00** Kralj-Iglič V.: LS3-O-2 Nanoalgosomes as observed by scanning and cryogenic transmission electron microscopes	**11:45 – 12:00** Dzibelova J.: MS4-O-2 Atomic-resolution investigation of 2D hematene
12:00 – 12:15 Bagués N.: IM2-O-3 Investigating Magnetic Domain Wall Pinning in Nanowires via Correlative X-ray and Electron Transmission Microscopy	**12:00 – 12:15** Romih R.: LS3-O-3 Immunolocalisation of mechanosensory proteins PIEZO and TRPV4 in the urinary bladder urothelium: which method to believe?	**12:00 – 12:15** Llorens Rauret D.: MS4-O-3 High-Entropy Oxide Nanoparticles as Stable and Efficient Catalysts for the Oxygen Evolution Reaction
12:15 – 12:30 Servetto G. P.: IM2-O-4 Urban particulate matter and human health: correlative microscopy methods and simulated tissues modeling	**12:15 – 12:30** Žuran A.: LS3-O-4 Mysteries of crustacean armour: a combined approach to scale formation	**12:15 – 12:30** Joudi W.: MS4-O-4 Metallene synthesis by ion irradiation: Growth of two-dimensional gold by vacancy-induced nucleation on defect-engineered graphene
12:45 – 13:45 Lunch workshops *Location: Emerald 1* THERMO FISHER SCIENTIFIC, Serna Martin I.: Hydra Bio plasma FIB: pushing the boundaries to larger 3D volumes	**12:45 – 13:45 Lunch workshops** *Location: Emerald 2* JEOL, Ravier N.: Global JEOL workflow for air & beam sensitive samples from micro to nano scale	**12:45 – 13:45 Lunch**

IMPRESS Special Session: Shaping the Future of Interoperable TEM *Location: Emerald 1* Chair: Regina Ciancio Chair: Rafal Dunin-Borkowski Chair: Amir Tavabi	**LS7 Advances in sample preparation in biomedical research and beyond** *Location: Emerald 2* Chair: Samo Hudoklin Chair: Milica B. Markelić	**MS8 Advanced functional materials** *Location: Europa* Chair: Werner Grogger
14:00 – 14:10 Ciancio R.: IMPRESS: A Gateway to New TEM Frontiers	**14:00 – 14:30** Fleck R.: LS7-IN-1 Adapting Inpainting and non-Raster scanning for cryo Volume Electron Microscopy (cvEM) using the JEOL JIB 4700F cryo Focus Ion Beam Scanning Electron Microscope	**14:00 – 14:30** Plank H.: MS8-IN-1 Adaptive 3D Nanoprinting via Focused Electron Beams: Precision, Functionality, and Beyond
14:10 – 14:25 Tavabi A.H.: A Bold Vision for Co-Developing the Future of TEM	**14:30 – 15:00** Vancová M.: LS7-IN-2 Sample Preparation Strategies for Biological Electron Microscopy: Challenges and Innovations	**14:30 – 14:45** Divitini G.: MS8-O-1 Low-dose 4DSTEM analysis of local strain in 2D perovskite lateral heterostructures
14:25 – 14:40 Lubk A.: Next-Generation Electron Source Optics	**15:00 – 15:15** Vénien-Bryan C.: LS7-O-1 Unique structural features of the human Kir2.1 channel in two different conformational states unveiled by cryo-electron microscopy	**14:45 – 15:00** Zhang Z.: MS8-O-2 Revealing atomic-level plasticity of ceramic materials through advanced electron microscopy
14:40 – 14:55 Tizei L.: Adaptive Optics and New Electron Detectors for Innovative TEM experiments	**15:15 – 15:30** Havlíčková A.: LS7-O-2 Ultrastructural Analysis of Azotobacter vinelandii Encapsulated in Alginate Hydrogel Using Cryogenic Preparation and Electron Microscopy Techniques	**15:00 – 15:15** Otoničar M.: MS8-O-3 Structural modulations in antiferroelectric NaNbO3-based ceramics investigated by STEM
14:55 – 15:10 Morandi V.: New Direction in Operando and Correlative TEM	**15:30 – 15:45** Nebesarova J.: LS7-O-3 Serial Block-Face Scanning Electron Microscopy (SBEM): Comparative Analysis of Protocols for Enhancing Contrast and Reducing Charging in Mouse Brain Tissue Samples	**15:15 – 15:30** Zakaria Y.: MS8-O-4 Correlative Imaging and Surface Analysis workflow
15:10 – 15:25 Rotunno E.: AI-Driven Automation and Data-Centric Workflows in TEM	**15:45 – 16:00** Humbel B. M.: LS7-O-4 Sample Preparation for Electron Microscopy	
15:25 – 16:00 Ciancio R.: Round table discussion with panellists		
16:00 – 16:30 Coffee break and exhibition *Location: Exhibition hall*		
16:30 – 18:00 **Poster session 2 - Instrumentation and Methods** *Location: Poster hall* IM2, IM4, IM5, IM6, IM7	**16:30 – 18:00** **Poster session 2 - Life Sciences** *Location: Poster hall* LS1, LS3, LS5, LS6, LS7	**16:30 – 18:00** **Poster session 2 - Material Science** *Location: Poster hall* MS2, MS3, MS4, MS7, MS8
19:00 – 23:00 Congress dinner		

Friday 12/09/2025		
7:30 – 9:00 Registration		
9:00 – 9:50 Plenary lecture *Location: Plenary hall Europa* Plevka P.: Enterovirus genome release and delivery		
10:00 – 10:30 Coffee break and exhibition *Location: Exhibition hall*		
IM5 Development of sample preparation methods, instrumentation, workflows, and data solutions for volume electron microscopy *Location: Emerald 1* Chair: Barbara Šetina Batič	**LS5 Cell dynamics and high-resolution fluorescence microscopy** *Location: Emerald 2* Chair: Jernej Jorgačevski Chair: Maja Herak Bosnar	**MS7 Advanced materials for energy storage and conversion** *Location: Europa* Chair: Elena Tchernychova Chair: Andreja Gajović
10:30 – 11:00 Slouf M.: IM5-IN-1 Novel embedding resins for volume EM with enhanced resistance to e-beam damage	**10:30 – 11:00** Filić V.: LS5-IN-1 Dictyostelium discoideum IQGAP proteins IqgC and IqgD - siblings or distant relatives	**10:30 – 11:00** Hodnik N.: MS7-IN-1 Atomic-to-Microscale Insights into Electrocatalyst Stability via Identical-Location Electron Microscopy
11:00 – 11:30 Zaefferer S.: IM5-IN-2 The combination of high-resolution diffraction techniques in the scanning electron microscope for statistical relevant description of crystal defects and resulting properties in metals and alloys	**11:00 – 11:30** Kreft M.: LS5-IN-2 Noradrenaline and Cannabinoid Regulation of Astrocyte Energy Metabolism Revealed by FRET Nanosensors	**11:00 – 11:15** Dražić G.: MS7-O-1 Charge density distribution in single-atom-on-substrate catalysts
IM7 In-situ and environmental microscopy *Location: Emerald 1* Chair: Sašo Šturm Chair: Zaoli Zhang	**11:30 – 11:45** Potokar M.: LS5-O-1 Exploring Plectin's Function in Migration of Astrocytes and Glioblastoma Through Confocal Microscopy	**11:15 – 11:30** Haberfehlner G.: MS7-O-2 Pore characterization of hard carbon anodes for sodium storage in sodium ion batteries by 2D and 3D TEM
11:45 – 12:00 Plodinec M.: IM7-O-1 Atomic-Scale Dynamics of Ni Catalysts Revealed by Operando TEM in Dry Reforming of Methane	**11:45 – 12:00** Fink K.: LS5-O-2 Live Imaging of Calcium and Hormonal Crosstalk in Potato: Insights into Endophyte-Mediated Immune Enhancement	**11:30 – 11:45** Sharma S.: MS7-O-3 Real Time Imaging of Lithium-Ion Transport in Solid-State Batteries: An Operando FIB-SIMS approach
12:00 – 12:15 Schürmann U.: IM7-O-2 Advancements in Plasma Microcell Integration for in situ TEM Experiments		**11:45 – 12:00** Griesi A.: MS7-O-4 Understanding local crystallography in solar cells materials with scanning electron diffraction using unsupervised machine learning
12:15 – 12:30 Belkorissat R.: IM7-O-3 Electron beam enlargement modelling in the environmental scanning electron microscope at the low gas temperature		
12:45 – 13:15 Closing ceremony *Location: Europa*		

Poster session 1 – Instrumentation and methods

Belec B.: IM1-P-1 Cathodoluminescence spectroscopy study of plasmonic emissions in different Bi2Se3 systems
de la Peña F.: IM1-P-2 Low-energy Core-loss EELS as a Dose-effective Approach for Elemental and Oxidation State Mapping
Fanetti M.: IM1-P-3 Irradiation-induced point defects in optical fibers investigated by cathodoluminescence microscopy and spectroscopy.
Grogger W.: IM1-P-4 EDXS Quantification in the TEM: How Can Ray Tracing Help?
Hetaba W.: IM1-P-5 Advanced EELS techniques in catalyst analysis
Kizovský M.: IM1-P-6 Raman tweezers for the analysis of secondary microplastics generated by degradation of surgical masks in water
Kosari Mehr A.: IM1-P-7 Quantum state secondary electron emission spectroscopy in low voltage scanning electron microscope for probing Valence band
Chevalier Kwon M.: IM3-P-1 Evaluating Electron Radiation Damage Mitigation in Graphene Liquid Cell
Chokappa S.: IM3-P-2 Selective defect creation in 2D hexagonal boron nitride via low-energy Ar+ irradiation
Parlanti P.: IM3-P-3 Combining 3D electron diffraction and nanotexture analysis for the characterization of meteorite's impact ejecta
Sikorova P.: IM3-P-4 Automated processing of powder electron diffraction patterns
Skoupy R.: IM3-P-5 Electron ptychography experiment design with PtychoScopy
Slouf M.: IM3-P-6 4D-STEM/PNBD: A semi-automated powder electron diffraction in SEM microscopes
Stroppa D.: IM3-P-7 Contrast Optimization Aided by Machine Learning Applied to Virtual 4D-STEM Images
Tanwar R.: IM3-P-8 Surface and sub-surface defect analysis in semiconductors by Secondary Electron Emission Spectroscopy and local charge transport mapping
Wang Z.: IM3-P-9 Sub-Angstrom Resolution at below 40 e-/Å2 with Electron Ptychography
Busch I.: IM8-P-1 Dimensional calibration of high resolution instrumentation at nanoscale
Cicconardi A.: IM8-P-2 Convolutional neural network for machine vision in electron and optical microscopy for correlative analysis
Saeki H.: IM8-P-3 EELS spectrum analysis using Bayesian estimation
Sršan V.: IM8-P-4 A Deep Learning Approach to Drift Correction in Atomic-Scale STEM Imaging
Varambhia A.: IM8-P-5 Delivering state of the art imaging data science to aid research and development at Johnson Matthey
Vigliaturo R.: IM8-P-6 Fractal modelling and fracture mechanics of urban particle populations in biological tissues

Poster session 1 – Life sciences

Aslan S. B.: LS4-P-1 Investigation of the Therapeutic Effects of Allium cepa Extract on Ovaries and Uterus in Chronically Administered DHEA Rats by Apoptotic Pathways
Bačnik K.: LS4-P-2 Virome of the invasive signal crayfish and its correlation with histopathological changes of the hepatopancreas
Bannykh S.: LS4-P-3 Molecular switch from Laminin beta 2 to Laminin beta 1 chain in brain microvasculature supports endothelial sprouting and is associated with increased blood brain barrier permeability
Erkanli Senturk G.: LS4-P-4 The Effects of Amylin on Aggression in Wistar Rats Exposed to the Resident-Intruder Paradigm
Furat S.: LS4-P-5 Brain Decellularization Process in Transgenic Alzheimer Rat Model
Galun S. K.: LS4-P-6 Chemotherapy-induced metabolic changes in glioblastoma stem and differentiated cells in a context of the tumor microenvironment
Grgac R.: LS4-P-7 Adiposoft-based analysis of visceral adipose tissue in ovariectomized rats treated with alendronate, hop extract, and their combination, stained with picrosirius red
Isildar B.: LS4-P-8 Investigating the antitumor effects of quercetin on human colorectal adenocarcinoma cells: An in vitro study
Janc M.: LS4-P-9 The Effect of a Novel SARS-CoV E Protein Inhibitor on Ultrastructure of Murine Hepatitis Virus-Infected L-929 Cells
Kolenc M.: LS4-P-10 Antiviral Efficacy of Electrolysed Saline (EOS) Against Both Enveloped and Non-Enveloped Viruses: A TEM Study
Leitinger G.: LS4-P-11 Post mortem degradation of ferritin and its significance for determining the iron content of the human brain
Markelić M. B.: LS4-P-12 Proferroptotic response to nutrient deprivation and sorafenib treatment in hepatocellular carcinoma cells – a microscopic study
Neccar D.: LS4-P-13 Effect of endometrial environment on chromatin abnormalities of sperm
Sahin H.: LS4-P-14 Human Serum Albumin Nanoparticles as a Drug Delivery System to Enhance Temozolomide Efficacy in Glioblastoma Cell Line
Savic N.: LS4-P-15 Therapeutic effects of H_2S donors on ferroptosis-mediated liver damage in C57BL/6 mice – a microscopic study
Stringaro A.: LS4-P-16 Microscopy techniques to evaluate the cytotoxic effect induced by copper complexes on glioblastoma cells
Resnik N.: LS4-P-17 Revealing Disparities in Macropinocytosis Between Bladder Cancer and Normal Urothelial Cells: Implications for Targeted Therapy
Zupančič D.: LS4-P-18 Revealing LRAT and NeuroD1 Colocalization in human urothelial cancer cells in vivo using proximity ligation assay
Belušič G.: LS2-P-1 The sexually dimorphic retina of a butterfly, from microspectrophotometry to connectomics
Pompe Novak M.: LS2-P-2 Ultrastructure and gene expression in tomato flower pedicel abscission zone
Bijelić N.: LS8-P-1 Micro-CT analysis of femoral bone structure in ovariectomized rats following treatment with alendronate, hop extract and their combination
Bogataj U.: LS8-P-2 3D Atlas of Arthropods
Gardian Z.: LS8-P-3 Resolution Limitations in Cryo-EM Analysis of SUMO-Anchored Ferritin

Repič R.: LS8-P-4 3D visualisation of wood: 3D X-ray microtomography and 3D printing
Vittori M.: LS8-P-5 Origami roly poly: arthropods fold their exoskeletons as they roll into a ball
Sag F. B.: LS3-P-11 Does endoplasmic reticulum stress contribute to the damage of trophoblast cells caused by bisphenol a?
Sezer Z.: LS3-P-12 The Adaptation of Mitochondrial Dynamics to Hormonal Changes in the Endometrium and Placenta

Poster session 1 – Material sciences

Daneu N.: MS1-P-1 Understanding the formation mechanism of growth-type planar defects in natural and synthesized perovskites based on STEM analyses
Drev S.: MS1-P-2 Enhanced Analysis of Relative Thickness on TEM Samples
Gračanin N.: MS1-P-3 Crystal structure of wulfenite crystals from Mežica analysed by SEM-FIB and TEM
Horvat B.: MS1-P-4 Effect of pretreatment and organic fibre reinforcement on the mechanical and microstructural properties of microwave irradiated alkali-activated radioactive fly ash
Horvat B.: MS1-P-5 Microwave-irradiated alkali-activated extraterrestrial simulants
Kis V. K.: MS1-P-6 Transmission electron microscopy of hypomineralized enamel apatite nanocrystals
Kos S.: MS1-P-7 Ex-situ differential individual particle analysis of various Pb, Zn and Fe ore minerals after periodical leaching in soil column experiments
Mikulčić Pavlaković S.: MS1-P-8 Multidisciplinary Application of Scanning Electron Microscopy (SEM) in Heritage Research, Conservation and Presentation at the Croatian Natural History Museum
Ribić V.: MS1-P-9 Comprehensive study of Inversion Boundaries in ZnO
Roknić J.: MS1-P-10 Effects of Ti Doping on Structure, Microstructure and Mechanical Properties of (K0.5Na0.5)NbO3
Samardžija Z.: MS1-P-11 Advanced quantitative EPMA-WDS approach for accurate compositional analysis of cerium-doped barium titanate ceramics
Sotelšek T.: MS1-P-12 Complex polycrystalline clusters of diamond and graphite from metamorphic rocks
Svorová Pawełkowicz S.: MS1-P-13 Exploring High-Baroque Stucco: Microscopy of Materials and Techniques at Kroměříž Chateau
Svorová Pawełkowicz S.: MS1-P-14 Study of vanadinite as painting pigment
Radoševič T.: MS1-P-15 FIB-SEM characterization of various types of materials
do Nascimento J.: MS5-P-1 Probing Magnons with High-Energy Electrons: Theoretical Insights into Spin and Charge Scattering in STEM-EELS
Svora P.: MS5-P-2 Are we observing channeling or magnetic contrast?
Učakar A.: MS5-P-3 EBSD analysis of Sr-hexaferrite sintered in different atmospheres

Umek P.: MS5-P-4 Synthesis Strategies for Effective Doping of Barlowite
Wang Q.: MS5-P-5 Electron magnetic circular dichroism with atomic plane resolution
Brollo M. E. F.: MS6-P-1 Effects of processing gas on the growth of SrTiO3 Thin Films: a TEM study
Fiołek A.: MS6-P-2 Microstructure and selected properties of multicomponent wear-resistant and low-friction coatings on titanium alloy substrates
Huang Y.: MS6-P-3 Multi-scale investigation of superior mechanical properties in nitride ceramics with negative stacking fault energy
Ivančić A.: MS6-P-4 Spray-Coated Metallosurfactant-Alginate Coatings: Dual Antimicrobial Action
Jardas Babić D.: MS6-P-5 Photocatalytic activity of thin ZnO films deposited at room temperature by plasma-enhanced atomic layer deposition
Jelovica Badovinac I.: MS6-P-6 Electron microscopy investigation of Cu-TiO2 nanocomposites for solar-driven photocatalysis
Juraić K.: MS6-P-7 Intense Pulsed Light Processing for Rapid Crystallization of Titania Nanotube Thin Films
Kavre Piltaver I.: MS6-P-8 Optimizing Photocatalytic Degradation of Pollutants Using Cu-Doped ZnO and TiO2 Films Grown by ALD
Kocijan M.: MS6-P-9 Atomic layer deposition of nitrogen-doped TiO2 thin films for photocatalytic applications
Kojić V.: MS6-P-10 The impact of solvents on the morphology and optical properties of organo-metal thin films
Kovač J.: MS6-P-11 New Genesis XPS Spectrometer at the Jožef Stefan Institute for advanced surface and thin film characterization
Lizzano M.: MS6-P-12 In situ TEM dynamics of Au and Au/zirconia clusters in nanostructured thin films: a quantitative analysis
Šupolová Z.: MS6-P-13 Etching and printing of daguerreotypes: experimental reconstruction and microscopic analysis of first photomechanical reproduction processes
Ljubić Tobisch V.: MS6-P-14 Nanoscale investigation of degradation processes in historical daguerreotype plates
Moskalewicz T.: MS6-P-15 Microstructural characterisation of sodium alginate coatings with addition of essential oils for antimicrobial protection of steel
Ploszczanski L.: MS6-P-16 Microscopical study of 19th century photomechanical prints: in-situ investigations in museum collections
Ploszczanski L.: MS6-P-17 Microscopic Identification of Daguerreotypes Through Hallmark Analysis
Podlogar M.: MS6-P-18 Characterization of ZnO Films Prepared via FIB-SEM
Vasile B. S.: MS6-P-19 Compositionally Graded Kesterite Nanostructured Film for Photovoltaic Applications

Poster session 2 – Instrumentation and Methods

Fanetti M.: IM2-P-1 All-Micro (ALLiance to boost cross-border innovation through MICROscopy): an ITA-SLO cross-border Network for Sustainable Microscopy
Hingerl K.: IM2-P-2 Fast and Frozen: Visualising a wide spectrum of specimens using Cryo-SEM combined with an on-site freeze fracture system
Indyka P.: IM4-P-1 Targeted liposomes loaded with monoclonal antibodies for drug delivery - structure and function
Kisovec M.: IM4-P-2 Activities of the cryo-EM facility at the National Institute of Chemistry, Slovenia
Ważny G.: IM4-P-3 Optimization of macromolecules imaging in Cryo EM method
Dodony E.: IM5-P-1 EDIC; A new method to enhance reliability of structure determination, using electron diffraction data correction
Drobne D.: IM5-P-2 The Power of FIB-SEM for Visualizing the Internalization of 2D Materials In Vitro
Malgaj T.: IM5-P-3 Micro-computerized tomography for evaluation of dental stud attachment wear
Radenković M.: IM5-P-4 Effects of different preparation methods and detector use on SEM imaging of bacterial flagella
Sáfrán G. G.: IM5-P-5 High throughput micro-combinatorial study of microstructure and materials properties of binary and ternary layer systems
Eriksson M.: IM6-P-1 Towards spatially coherent low-energy electron and ion beams
Liu Z.: IM6-P-2 Development and Application of an Aberration Calculation Program for Electron Lenses Based on Differential Algebra
Vodička M.: IM6-P-3 Aberration correctors and their benefits in SEM
Bagues N.: IM7-P-1 InCAEM: A Singular Infrastructure for Advanced Energy Materials Research
Betancort P.: IM7-P-2 Ecosystemic Transformation of Water Mining – RE-VESTIC INSPIRE PepePolymers®
Ramadan M.: IM7-P-3 Novel Nano Channel Chip for In Situ TEM Liquid Cell Analysis and Particle Trapping Without Manual Preassembly of Chip
Weidler L.: IM7-P-4 Characterization of Carbon Black Produced via Methane Pyrolysis Using Environmental TEM

Poster session 2 – Life sciences

Ben Meriem A.: LS1-P-1 Quantifying Electron Radiation Damage in Biological Samples: Insights from Fluorescence Analysis
Arbak S.: LS3-P-1 Protective effect of ferulic acid in monosodium glutamate-induced kidney injury: a light and transmission electron microscopical study
Bočina I.: LS3-P-2 Ultrastructural changes of the injured renal tissues in the cage-reared rainbow trout Oncorhynchus mykiss (Walbaum, 1792)
Dobričić A.: LS3-P-3 Histopathology of the gills of farmed common carp (Cyprinus carpio): a bioindication method
Erman A.: LS3-P-4 In search of specific markers of telocytes in mouse urinary bladder by fluorescence microscopy and transmission electron microscopy
Komazec B.: LS3-P-5 Visualizing the algal response on polystyrene particles: A focus on EPS production
Kralj-Iglič V.: LS3-P-6 Insight into the particle-based nature of mucilage as a response of Chlorella sorokiniana cell to manganese excess
Levak V.: LS3-P-7 Light and Transmission Electron Microscopy Complement Functional Genomics Screening in Chlamydomonas reinhardtii to Reveal Novel Mechanisms of Susceptibility to Herbicide Paraquat
Novak S: LS3-P-8 Cytotoxicity Assessment of Functionalized Graphene-Based Composites
Porrelli D.: LS3-P-9 Optimization of Sample Preparation and Scanning Electron Microscopy Imaging for the Investigation of Trebouxia Flagellate Cells
Resnik N.: LS3-P-10 Unveiling tunnelling nanotubes in urothelial spheroids and bladder cancer biopsy samples
Terracciano F.: LS3-P-13 Characterization of red blood cells changes during storage by atomic force microscope
Zaveršek T.: LS3-P-14 Distribution of Golgi matrix proteins GRASP65 and GRASP55 during early urothelial regeneration
Herak Bosnar M.: LS5-P-1 Unraveling the Noncanonical Mitochondrial Import Signals of NME6 – a Member of the NME/NDPK Family
Kenar H.: LS5-P-2 Effect of decellularized placenta-derived ecm molecules on in vitro angiogenesis
Mačukanović-Jocić M.: LS6-P-1 Morphological features of Himantoglossum calcaratum (Beck) Schltr. subsp. calcaratum (Orchidaceae) pollinarium
Cheradil A. E. B. D. C.: LS6-P-2 Bridging Flourescence and Electron Microscopy: R221 Resin for CLEM in Microbes and Plants
Hozak P.: LS6-P-3 Czech-BioImaging - a national imaging platform available to all
Kostanjšek R.: LS6-P-4 Internal anatomy of parasitic acantocephalans in endangered underground amphibian analyzed by a combination of microCT and FESEM
Laishram J.: LS6-P-5 Safe-by-Design Characterization of TiO2 Nanoparticles in a Cell Model: An Integrated Experimental Workflow
Mrak P.: LS6-P-6 Ciliate Community in Podutik Reservoir, Slovenia: assessment of species diversity improved by the diversity of microscopic techniques
Mrak P.: LS6-P-7 Multiscale 3D imaging of digestive system morphogenesis during arthropod development
Žnidaršič N.: LS6-P-8 Intestinal stem cells of Colorado potato beetle – imaging from the morphology of the digestive tract in the whole animal to the cell ultrastructure

Mrázová K.: LS7-P-1 Structural Stabilization of Alginate for Imaging Hydrogel-encapsulated Bacterial Cells Using LV-STEM
Pavlova E.: LS7-P-2 Red blood cells morphological alterations during preparation for electron microscopy imaging
Pernitsch D.: LS7-P-3 Fast and Frozen: Visualising a wide spectrum of specimens using Cryo-SEM combined with an on-site freeze fracture system

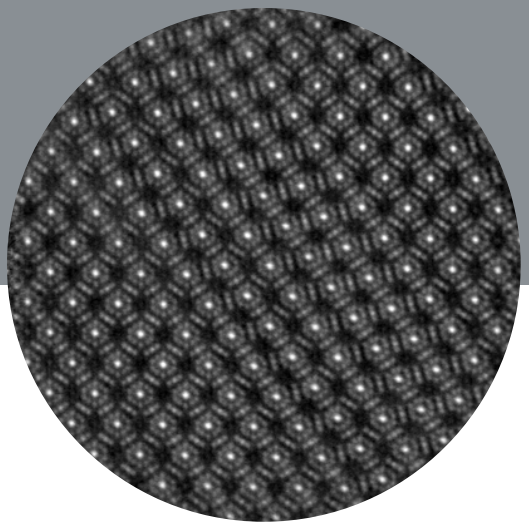
Poster session 2 – Materials sceinces

Perc V.: MS2-P-1 Correlation Between Adhesion and Swimming Activity in Developing Zebrafish Exposed to Polystyrene and Polyethylene Micro- and Nanoplastics
Seybold A.: MS2-P-2 Plastic-Degrading or Just Settling? First TEM insights into microbial-plastic interactions in a Cold-Climate Ecosystem
Antić T.: MS3-P-1 Corrosion at Home: Microscopy's Role in Understanding Everyday Material Failures
Arah B.: MS3-P-2 Plastic deformation in the Magnesium alloy AZ80 - an EBSD study of the effects of cavitation peening
Brozyniak A.: MS3-P-3 Precession Electron Diffraction in modern steel systems
Duchoň J.: MS3-P-4 TEM Analysis of Maraging Steel
Gudžulić T.: MS3-P-5 Microstructure Analysis of Carbonyl Iron Powder (CIP)
Hočevar M.: MS3-P-6 Laser Surface Functionalization of 316L Stainless Steel Under Ambient and Inert Argon Atmospheres
Jelen A.: MS3-P-7 Nano- and micro-structural configurations of functional complex metallic alloys
Kapun B.: MS3-P-8 Composition and microstructure of wrought and additively manufactured DED-LB of Ti-6Al-4V alloy
Ledwig P.: MS3-P-9 Effect of recycled powder on microstructure and chemical composition of additively manufactured AlSi7Mg alloy
Lesar A.: MS3-P-10 SEM and EDS characterization of 316L Stainless Steel exposed to Different Bacteria
Manak J.: MS3-P-11 Sublayer structure in fire gilding layer on medieval jewellery
Sielicki K.: MS3-P-12 The impact of high hydrostatic pressure annealing on microstructure evolution
Aksener E.: MS4-P-1 Investigation of Boron-Based Nanosheets, Nanoscrolls and Nanotubes by TEM Analyses
Bradsher C.: MS4-P-2 Complex Electron Microscopy Analysis of Nanoscale Epitaxial Heterostructures Involving Metal Halides
Laishram J.: MS4-P-3 RIANA: Research Infrastructure Access in Nanoscience & Nanotechnology
Melchior M.: MS4-P-4 Hematene lattice parameter variation as a function of thickness
Monin L.: MS4-P-5 Stability of gold nanorods under tunable ps-pulsed laser illumination: an in-situ TEM study

Olluyn N.: MS4-P-6 Assessing the morphology and fractal properties of aggregated nanoparticles in 2 and 3 dimensions by transmission electron microscopy
Passuti S.: MS4-P-7 Atomic-scale Investigation of FEL-Induced Structural Modifications in Pyrolytic Graphite via TEM Analysis
Paták A.: MS4-P-8 Ab initio Study of Angle-Resolved Spectroscopy of Few-Layer Graphene
Schürmann U.: MS4-P-9 Thermal and Chemical Stability of High-Entropy-Alloy Nanoparticles Synthesized via Laser Ablation in Organic Liquid
Sevenants L.: MS4-P-10 Physicochemical characterization of copper oxides applied as feed additives and plant protection products
Souza da Silva L. J.: MS4-P-11 Investigation of Electrodeposition and Electrodissolution Mechanisms of Silver Nanoparticles Using Electrochemical Liquid Cell Transmission Electron Microscopy
Abbasi R. B.: MS7-P-1 Observation of defects in Li rich oxides as a product of temperature and chelating agent during synthesis
Dolić S.: MS7-P-2 Utilizing SEM thin-film measurements to deepen the understanding of perovskite solar cell performance
Dubiel B.: MS7-P-3 Microstructural analysis of the copper matrix composites for electrodes of plasma torches
Fitzek H.: MS7-P-4 Characterization of hard carbons for Na-ion battery electrodes by a combination of electron microscopy and vibrational spectroscopy
Kapun G.: MS7-P-5 Atomic-scale insights into Solid-State Batteries via in situ TEM
Kostelec M.: MS7-P-6 Microscopic Insights into Catalyst Layer of PEMFC: IL-SEM Study of Electrochemical Effects
Mahadevegowda A.: MS7-P-7 Identifying and studying open Li-ion channels along a preferred crystallographic axis in battery electrodes via scanning electron diffraction
Ruiz-Zepeda F.: MS7-P-8 Microstructure and stability of carbon wrapped Cu@Cu2O nanowires
Tchernychova E.: MS7-P-9 Impact of La0.07Ba0.93SnO3 interlayer on epitaxial growth of Li4Ti5O12 thin film anodes for all-solid-state Li-ion batteries
Tomc B.: MS7-P-10 How to Perform Identical Location Scanning Electron Microscopy: Workflow, Advantages, Challenges, and Applications
Ahmad S.: MS8-P-1 Focused e-Beam Heating for local Material Modification: Melting, Patterning, and Band Gap tuning
Brincoveanu O.: MS8-P-2 Influence of La, Er, and Sm Doping on the Structural and Morphological Properties of ZnO for EMI Shielding
Falcao E. H. L.: MS8-P-3 Y(Eu, Tb) frameworks with thiazolothiazoledicarboxylate: structural investigation by electron microscopy and diffraction techniques
Mirosavljevic M.: MS8-P-4 SEM insights into crystallization behavior of oxide glass-ceramics
Primc D.: MS8-P-5 Probing beam-sensitive MOF mesocrystals at the nanoscale using 4D-STEM scanning nanodiffraction
Ribić V.: MS8-P-6 Quantum chemical simulation of spontaneous water dissociation on 110 || 110 rutile TiO2 interfaces
Vaz de Araujo A. C.: MS8-P-7 Structural study of a Magnetic Graphitic Nanocomposite

IMPRESS Special Session: Shaping the Future of Interoperable TEM - Posters

Botifoll Moral M.: IMPRESS 1 End-to-end Autonomous Unveiling of Physical Knowledge of Quantum Devices through Electron Microscopy Data
Brancaleon R.: IMPRESS 2 The IMPRESS Project: Developing an Innovative Interoperable Platform for Next-Generation Transmission Electron Microscopy
Dunin-Borkowski R.: IMPRESS 3 Characterization of electric and magnetic fields at interfaces in manganese-containing heterostructures using correlative TEM techniques
Dunin-Borkowski R.: IMPRESS 4 Electrostatic potential measurement at liquid helium temperature using off-axis electron holography
Dunin-Borkowski R.: IMPRESS 5 Quantifying carbon site switching dynamics in GaN by off-axis electron holography
Homeniuk D.: IMPRESS 6 NanoMi: An open-source electron microscope
Lubk A.: IMPRESS 7 EFLY – a Fast Versatile Charge Particle Optics Code
Ronchese P.: IMPRESS 8 Multi-purpose MEMS devices for correlative operando experiments in battery research
Rotunno E.: IMPRESS 9 Artificial Intelligence for TEM: Real-Time Automation and Predictive Analysis in In Situ Experiments
Stroppa D.: IMPRESS 10 Applications Support for Complex TEM Workflows
Tavabi A. H.: IMPRESS 11 Mechanical strain and light-induced control of magnetic states in Fe3Sn2 in situ in the TEM
Zingsem B.: IMPRESS 12 A laser-free approach to ultra-fast transmission electron microscopy
Zingsem B.: IMPRESS 13 Time-resolved imaging of dynamic and resonant spin phenomena in situ in the TEM



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