

## Press release

### Microscopy Conference 2025: Discover the fascinating world of microscopy!

**Karlsruhe.** The scientific world is eagerly looking to Karlsruhe! Not only is the Karlsruhe Institute of Technology celebrating its 200th anniversary this year, but KIT is also playing a very special role in electron microscopy. From August 31<sup>st</sup> to September 4<sup>th</sup> 2025, the Austrian, German and Swiss Societies for Electron Microscopy (ASEM, DGE, SSOM) look forward to welcoming over 1,000 participants from all over the world to Karlsruhe in the proven tradition of the Three-Country Conference. Whether young talents, experienced technicians or renowned experts – MC 2025 promises to be a unique platform for lively scientific exchange, groundbreaking innovations and the emergence of new collaborations, inspired by a shared passion for science.

Without microscopy, scientific and technological progress would be unthinkable. It is a window to a world invisible in everyday life. Current research aims to push these boundaries of the visible ever further. Multimodal analysis methods are used to describe not only structure and morphology, but also chemistry and functional properties down to the atomic level. This opens unique opportunities for fundamental insights, e.g. in materials research in quantum materials or materials for energy storage. In the life sciences, processes at the cellular and molecular level are made visible, opening new possibilities for diagnosis and therapy.

### What to expect

Artificial intelligence is playing an increasingly important role in microscopy, from the analysis of microscopic data to automated data acquisition and “self-driving” laboratories for autonomous high-throughput research. AI offers completely new possibilities for improving research and diagnostics in this field.

However, other methods and application techniques are also being continuously developed. Cryo-electron microscopy (cryo-EM), for example, offers an atomistic view of proteins and viruses and provides valuable insights into their ultrastructure and organisation. Thanks to modern in situ/operando electron microscopy, chemical processes and reactions can be directly imaged, in special cases even down to the atomic structure.

The conference organisers, **Prof. Dr. Christian Kübel**, **Junior Prof. Dr.-Ing. Yolita M. Eggeler**, **Prof. Dr. Astrid Pundt** (all from the Karlsruhe Institute of Technology) and **Prof. Dr. Rasmus R. Schröder** (University of Heidelberg) have worked with the organising societies to put together a topical programme that includes plenary lectures on the latest instrumentation and method developments and the application of microscopy, as well as numerous keynote speeches and contributions

### Conference Chairs

**Prof. Dr. Christian Kübel**  
 Karlsruhe Institute of Technology (KIT)  
 Institute of Nanotechnology & Karlsruhe  
 Nano Micro Facility  
 Technical University Darmstadt  
 Department of Materials & Earth Sciences

**Junior-Prof. Dr.-Ing Yolita M. Eggeler**  
 Karlsruhe Institute of Technology (KIT)  
 Laboratory for Electron Microscopy (LEM)  
 and  
 Microscopy of Nanoscale Structures &  
 Mechanisms (MNM)

**Prof. Dr. Astrid Pundt**  
 Karlsruhe Institute of Technology (KIT)  
 Institute for Applied Materials Science  
 (IAM-WK)

**Prof. Dr. Rasmus R. Schroeder**  
 Cryo Electron Microscopy  
 Heidelberg University / Medical Faculty

### Scientific organiser

German Society for Electron Microscopy  
 (DGE)

Swiss Society for Optics and Microscopy  
 (SSOM)

Austrian Society for Electron Microscopy  
 (ASEM)

### Venue

Messe Karlsruhe  
 Messeallee 1  
 76287 Rheinstetten

### Professional Conference Organiser

Conventus Congressmanagement  
 & Marketing GmbH | Jena  
 Francesca Rustler  
 M mc@conventus.de

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All Press Releases:  
<https://microscopy-conference.de/>

from participants. A series of pre-conference workshops will also take place on 31 August.

In addition to a festive opening and closing ceremony, the event will be rounded off by the presentation of prestigious awards. These include the **‘Art in Science’ photo competition** for impressive insights of scientific and/or artistic value.

Programme highlights at MC 2025:

**Opening Ceremony**

**Monday, 1 September 2025, 8:00 a.m. – 10:00 a.m.**

**08:30 – 09:10 a.m. Keynote:** AI on the atomic edge – How autonomous microscopy is accelerating energy materials innovation (Dr. Steven Spurgeon/National Renewable Energy Laboratory)

**Ernst Ruska Lecture**

**Wednesday, 3 September 2025, 09:00 a.m. – 09:50 a.m.**

Momentum-resolved STEM – A track in materials research with life science perspectives (Prof. Dr. Knut Müller-Caspary/München)

**Plenary**

**Tuesday, 4 September 2025, 09:15 a.m. – 10:00 a.m.**

Probing the molecular organization of cells and organelles using cryo-electron tomography (Prof. Daniela Nicastro/Dallas, Texas)

**Further information and the conference programme can be found at:**

<https://microscopy-conference.de/>

**Media representatives** are cordially invited to attend the congress! Journalists can register free of charge. Accreditation can be obtained via the congress website or directly from the press contact (katrin.franz@conventus.de). We would be happy to arrange interviews or provide image material in advance.

*This press release is approved for publication. Please send us a copy if you decide to publish it.*

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