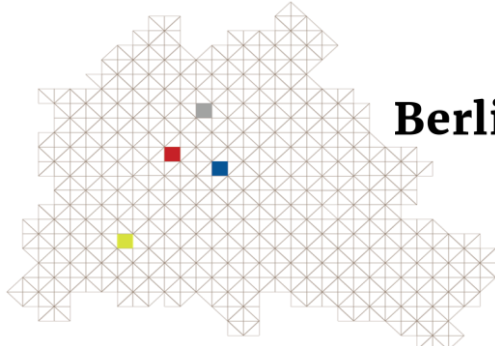




22.-23. July 2025

Max-Delbrück-Communication Center MDC.C (Geb. 83)  
Robert-Rössle-Straße 10, 13125 Berlin  
Hörsaal "Axon I"

## ACEM – Symposium:

### ***Bridging Electron Microscopy in Life Sciences and Material Sciences – Common Challenges and Opportunities***

**Tuesday, July 22, 2025**

09:00 Registration

#### **Preliminary Program**

09:45 **Welcome and Introduction**  
Matthias Ochs, Charité & Speaker of the ACEM

#### **Session: Volume SEM**

Chairs: M. Ochs (CHA), S. Kunz (MDC Buch)

10:00 ***Mechanosensitive nuclear pores***  
Martin Beck, MPI Frankfurt

10:45 ***Volume electron microscopy of the neuromuscular junction***  
Carsten Dittmayer, Charité

11:05 ***Comprehensive solutions for volume EM data challenges***  
Norman Rzepka, Scalable Minds GmbH, Potsdam

11:50 ***Volume electron microscopy to reveal mitochondrial adaptations supporting hypoxia tolerance***  
Gary Lewin, MDC Buch

12:10 ***Titel***  
N.N. JEOL

12:30 ***Lunch Break (120 min)***

## Session: Artificial Intelligence in Electron Microscopy

Chairs: C. Koch (HU), K. Ludwig (FU)

- 14:30                    ***Computational Imaging of Biological and Soft Materials using 4DSTEM***  
Colin Ophus, Stanford University, USA
- 15:15                    ***AI-assisted processing of 2D and 3D EM image data***  
Yannic Kerkhoff, FU Berlin und Zuse-Institut Berlin
- 15:35                    ***What we can learn about Corona when we combine EM information***  
Andrea Thorn, Universität Hamburg
- 16:20                    *Coffee Break (20 min)*
- 16:40                    ***Deep Learning-based Advances in Cryo-Electron Tomography***  
Noushin Hajarolasvadi, Zuse-Institut Berlin
- 17:00                    ***Learn how to train your own Deep Neural Network, in 15 min.***  
Matthias Gänge, ZEISS
- Ab 17:20                *Get-Together bei Barbecue*

Closing: 20:30 pm



Seeing beyond



**Wednesday, July 23, 2025**

**Session: Quantitative Phase-sensitive S/TEM-Methods**

Chairs: M. Lehmann (TU), C. Diebolder (CHA)

- 09:15                    ***Momentum-resolved STEM in Physical and Life Sciences: Versatile phase retrieval or 4-dimensional noise?***  
Knut Müller-Caspary, LMU München
- 10:00                    ***Titel***  
N.N.
- 10:20                    ***Optical Near-Field Electron Microscopy: a novel non-invasive widefield technique for prolonged super-resolution dynamic imaging***  
Ilia Zykov, Universität Wien
- 11:05                    *Coffee Break (20 min)*
- 11:25                    ***3D Strain Field Reconstruction by Inversion of Dynamical Diffraction***  
Laura Niermann, TU Berlin
- 11:45                    ***Pixelated sensor technology designed for ultrafast EBSD***  
Daniel Goran, Bruker
- 12:05                    *Lunch Break & Poster Session (115 min)*

**Session: In Operando and Time Resolved EM**

Chairs: D. Berger (TU), M. Wahl (FU)

- 14:00                    ***Dynamics of active catalysts: insights from multi-scale operando electron microscopy***  
Marc-Georg Willinger, TU München
- 14:45                    ***Investigating the Influence of FIB-Preparation Induced Surface Effects in Operando Semiconductor TEM-Lamellae***  
Hüseyin Çelik, TU Berlin
- 15:05                    ***Time resolved cryoEM reveals the mechanisms of ubiquitin chain synthesis and recognition***  
David Haselbach, IMP Wien
- 15:50                    *Coffee Break (20 min)*

16:10                    ***Approaches for time-resolved cryo-EM in vitro and in the cellular context***

Magdalena Schacherl, Charité

16:30                    ***Introducing Krios 5 - Cutting edge solutions across SPA and Cryo-ET***

Javier Fernandez Collado, ThermoFisher Scientific

16:50                    **Closing Remarks**

Matthias Ochs, Charité & Speaker of the ACEM

Closing 17 pm



Seeing beyond

