Berlin University Alliance

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. Firma JEOL

12:30 *Lunch Break*

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	***Titel*** N.N. Firma ZEISS
Ab 17:20	*Get-Together bei Barbecue*

Ende: 20:30 Uhr

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	***Titel*** 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	***Titel*** N.N. Firma Bruker

12:05 *Lunch Break & Postersession*

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 ***Time-resolved in situ cryo-EM***
Magdalena Schacherl, Charité

16:30 ***Titel***
N.N. Firma ThermoFisher Scientific

16:50 **Closing Remarks**
Matthias Ochs, Charité

Ende 17 Uhr