

# MAPEX-CF Workshop Electron Microscopy

This event aims to foster exchange and collaboration among researchers who are using different electron microscopy methods.

In a condensed format, the workshop will provide a comprehensive overview of electron microscopy techniques available at the University of Bremen and our guest speaker's institutions.

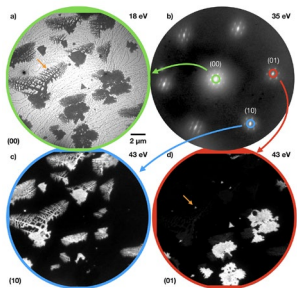
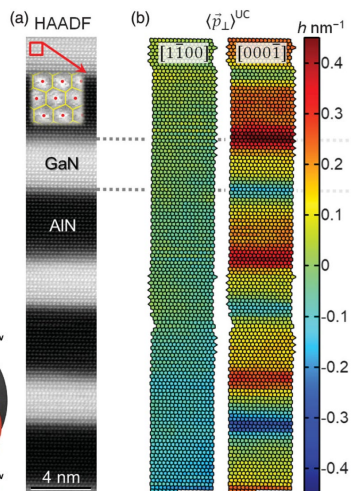
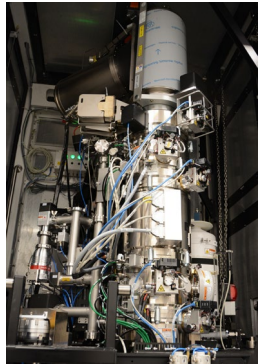
## Aims and scope

This workshop brings together scientists from several different institutions who use electron microscopy to expand their network and discuss the latest scientific advances.

At the same time, it offers an opportunity to early career researchers, to present themselves and their work, e.g. in the poster session.

Key topics covered include:

- Transmission electron microscopy and methods based on it for the analysis of nanostructures
- Low-energy electron microscopy
- Scanning electron microscopy methods



## Venue

The event will take place in the AIB building at the University of Bremen.

### Complete address:

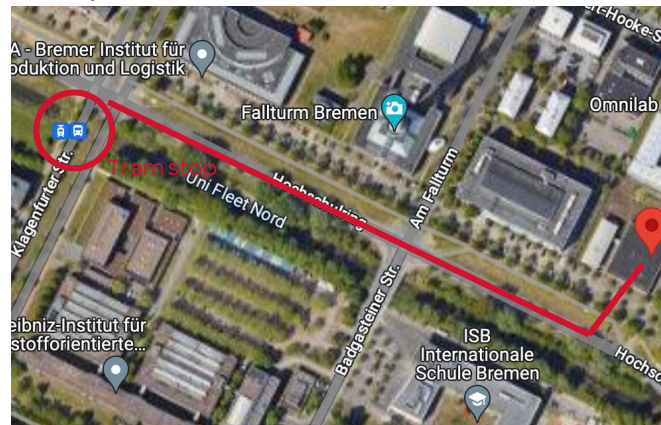
Hochschulring 40, 28359 Bremen  
1<sup>st</sup> floor.

### Getting there by public transport:

From Bremen central station take Tram 6 towards Universität Nord.

Tram stop: Universität Nord (final stop)

The building is within walking distance from the Tram stop.



Universität  
Bremen

# Programme MAPEX-CF Workshop on Electron Microscopy

September 25-27, 2024

University of Bremen  
MAPEX Center for Materials and Processes  
MAPEX Core Facility for Materials Analytics  
[www.uni-bremen.de/mapex](http://www.uni-bremen.de/mapex)  
[www.uni-bremen.de/mapex-cf](http://www.uni-bremen.de/mapex-cf)



**MAPEX Core Facility**  
for Materials Analytics

# Programme

## Wednesday, September 25<sup>th</sup>, 2024

|       |   |
|-------|---|
| 12:30 | Arrival and Registration  |
| 12:45 | Welcome and Introduction  |
| 13:00 | Introduction to TEM<br><u>Dr. Marco Schowalter</u><br>University of Bremen                        |
| 13:30 | Simulation Methods<br><u>Prof. Dr. Andreas Rosenauer</u><br>University of Bremen                  |
| 14:00 | Quantitative HAADF-STEM<br><u>Dr. Thorsten Mehrtens</u><br>University of Bremen                   |
| 14:30 | Coffee break and discussion   |
| 15:00 | Atomic Electric Fields<br><u>Dr. Florian Krause</u><br>University of Bremen                       |
| 15:30 | Strain – Nano beam electron diffraction<br><u>Dr. Tim Grieb</u><br>University of Bremen           |
| 16:30 | Detection of Particles using neural networks<br><u>Dr. Florian Krause</u><br>University of Bremen |
| 17:00 | Poster Session  |

## Thursday, September 26<sup>th</sup>, 2024

|       |   |
|-------|---|
| 9:00  | Coloring atoms in tomography<br><u>Prof. Dr. Sara Bals</u><br>University of Antwerp                           |
| 10:00 | Crystal structure determination using 3D electron diffraction<br><u>Dr. Paul Klar</u><br>University of Bremen |
| 10:30 | Coffee Break and Discussion   |

|       |  |
|-------|--|
| 11:00 | In-situ phase and orientation mapping in bending and temperature dependent experiments<br><u>Prof. Dr. Christian Kübel</u><br>KIT & TU Darmstadt |
| 12:00 | Correlative TEM-APT<br><u>Dr. Lisa Belkacemi</u><br>University of Bremen   |
| 12:30 | Lunch  |
| 14:00 | Time-Resolved TEM<br><u>Prof. Dr. Sascha Schäfer</u><br>University of Regensburg   |
| 15:00 | Low-energy electron microscopy (LEEM) – A versatile surface tool<br><u>Dr. Jon-Olaf Krispeneit</u><br>University of Bremen                       |
| 15:30 | Coffee Break and Discussion  |
| 16:00 | The oxidation of Pt <sub>3</sub> Sn in the view of LEEM<br><u>Prof. Dr. Jens Falta</u><br>University of Bremen                                   |
| 18:00 | Social event   |

## Friday, September 27<sup>th</sup>, 2024

|       |   |
|-------|---|
| 9:00  | Introduction to SEM<br><u>Prof. Dr. Dorothea Brüggemann</u><br>University of Applied Sciences Bremen        |
| 9:30  | In-situ-SEM of biological materials<br><u>Dr. Jendrian Riedel</u><br>University of Applied Sciences Bremen  |
| 10:00 | Coffee Break and Discussion   |
| 10:30 | Electron lithography<br><u>Eva Meyer</u><br>University of Bremen  |
| 11:00 | 3D elemental and orientation mappings in a plasma FIB<br><u>Dr. Kerstin Hantzsche</u><br>Leibniz IWT Bremen |
| 12:00 | Lunch   |
| 13:00 | Lab tour  |

## Lunch options

There are three main options for lunch (at your own expense) during the days of the event.

### Uni Bremen Mensa

The Mensa is open from 11:30 to 14:30. Usually three lunch options are available, plus salad and past bars. Vegan and vegetarian options available.

Walking distance from the workshop venue. Payment with 'Mensa-card' or cash.

<https://www.stw-bremen.de/de/mensa/uni-mensa>

### Café Central

Just annex to the Uni Bremen Mensa. Serves sandwiches, burghers and hot snacks. Open from 8:00 to 17:00.

<https://www.stw-bremen.de/de/mensa/cafe-central>

### Café Unique

Offers a variety of daily dishes. Payment with cash or card. Within walking distance from the workshop venue.

<https://unique-hb.de>

## Organising committee

- Prof. Dr. Andreas Rosenauer (FB01, Physics)
- Dr. Marco Schowalter (FB01, Physics)
- Dr. Thorsten Mehrtens (FB01, Physics)
- Dr. Tim Grieb (FB01, Physics)
- Dr. Florian F. Krause (FB01, Physics)
- Dr. Wilken Seemann (MAPEX-CF)

