

# **Condensed Matter Physics and Chemistry Workshop 2025: Diffraction and Scattering In Fundamental and Applied Energy Research**

**Thursday 5 June 2025 - Friday 6 June 2025**

**DESY**

## **Scientific Program**

## Program

# Day 1

## Welcome & Registration

A light lunch will be offered

## Energy Storage

**Chair Persons** : Pampi Saha and Jiatu Liu

David Wragg ( *Institute for Energy Technology - IFE, Norway* ) : Time resolved X-ray diffraction and total scattering computed tomography for understanding batteries and catalysts .

Jannes Marten Opey ( *Fraunhofer-Institut für Siliziumtechnologie, Germany* ) : Process innovations at Fraunhofer ISIT for future battery cell production.

Simon Jacques ( *Finden Ltd., England* ) : Chemical imaging as a tool to understand performance in commercial batteries.

Hans-Georg Steinrück ( *Forschungszentrum Jülich & RWTH Aachen, Germany* ) : Towards surface-sensitive X-ray measurements of non-model systems.

## Poster Session & Coffee

## Energy Harvesting and Conversion

**Chair Persons** : Arka Bikash Dey and Matthias Schwartzkopf

Kun Sun ( *Helmholtz-Zentrum Berlin, Germany* ) : In-Situ and Operando Studies of Perovskite Solar Cells.

Benedikt Sochor ( *Deutsches Elektronen-Synchrotron DESY, Germany* ) : Fully Sprayed Organic Thermoelectrics for Energy Harvesting Applications.

Michael Anthony Quintero ( *Aarhus University, Denmark* ) :  
From Synthesis to Scattering: Probing Intrinsic Properties in Energy-Relevant Materials.

Michael Störmer ( *Helmholtz-Zentrum Hereon, Germany* ) : Thermal stability of hafnia-layers in thermophotovoltaic applications.

## Dinner

## Day 2

## Catalysis

**Chair Persons** : Fernando Igoa and Sylvio Haas

Simone Mascotto ( *University of Koblenz, Germany* ) : Shapeshifting bimetallic nanoparticles with switching catalytic performance.

Paula Abdala ( *ETH Zürich, Switzerland* ) : Uncovering the Structure of Solid Catalysts Across Scales Using X-Rays.

Kamila Iskhakova ( *Karlsruhe Institute of Technology & Deutsches Elektronen-Synchrotron DESY, Germany* ) : Insight into Nb<sub>2</sub>O<sub>5</sub> pellets through XRD-CT lens.

Dorota Koziej ( *University of Hamburg, Germany* ) : In situ X-Ray Synchrotron Methods for Exploring the Length Scale in Nanostructured Materials and Devices.

## Lunch

## Energy Transport

**Chair Persons** : Martin v. Zimmermann and Ann-Christin Dippel

Emil Bozin ( *Institute of Physics Belgrade, Serbia* ) : High-Temperature Polaronic Lattice Distortions and Charge Ordering in 1T-TaS<sub>2</sub>.

Alexander Mistonov ( *Technischen Universität Dresden, Germany* ) : High-Energy X-ray Diffraction at Ultralow Temperatures in the Quantum Spin Liquid Candidate PbCuTe<sub>1-x</sub>O<sub>2</sub>.

Julia Küspert ( *The European Synchrotron Radiation Facility - ESRF, France* ) : Tuning Stripe Order

in La-Based Cuprates with Temperature, Magnetic Field, and Uniaxial Stress.

Moritz Hoesch ( *Deutsches Elektronen-Synchrotron DESY, Germany* ) : Pseudogap in  
Quasione-dimensional Rb<sub>2</sub>Mo<sub>6</sub>Se<sub>6</sub> .