universität ulm

5th 2D23 SALVE Symposium
Ulm, September 25-28

Program SALVE 2D23 September 25-28, 2023

All talks are in M28 (TTU) lecture room, Meyerhofstrasse, 89081 Ulm

Monday, September 25th, Morning Sessions

8:00 – 8:45	*Registration (N27, Foyer)*
	Opening (TTU)
8:45 – 8:50	*ERHU music performance by Dr. Yueliang Li*
8:55 – 9:10	Michael Weber, *president of Ulm University, DE*
	Ute Kaiser, *Ulm University, DE*
9:15 – 9:30	*Members of the vocal ensemble "Akkordverdächtig"*
Chair: R. Sinclair	*Session 1*
9:30 – 10:00	Lain-Jong Li (Lance Li), *Hong Kong University, HK*
	Potential Applications of 2D Materials in Electronics
10:00 – 10:30	Ute Kaiser, *Ulm University, DE*
	Findings from the happy marriage between low-voltage TEM and low-dimensional materials
10:30 – 11:00	*Coffee break*
Chair: Y. Zhu	*Session 2*
11:00 – 11:30	Pulickel Ajayan, *Rice University, US*
	B-N-C Phases and 2D/3D Structures
11:30 - 12:00	Kazu Suenaga, *Osaka University, JP*
	Electron microscopy and spectroscopy on 2D hybrid materials
12:00 – 12:30	Fu-Rong Chen, *City University of Hong Kong, HK*
	Atomic Resolution 3D Dynamics of Helix Materials at Low Dose Mode
12:30 – 13:00	Colin Humphreys, *Queen Mary University of London, UK*
	2D electronics beyond silicon
13:00 – 14:00	*Lunch*

Monday, September 25th, Afternoon Sessions

Chair: K. Suenaga *Session 3*

14:00 – 14:30 Marija Drndic, *Pennsylvania University, USA*
Sculpting of 2D Materials: From Pores to Nanoporous Membranes

14:30 - 15:00 Pinshane Huang, *University of Illinois Urbana, US*
In-situ STEM and ptychography of 2D interfaces

15:00 – 15:30 Jannik C. Meyer, *Tübingen University, DE,*
Fabrication and analysis of 2D and mixed-dimensional heterostructures from combinations of aligned stacking, e-beam patterning, ion doping and molecular sandwiching

15:30 – 16:00 Sandra Van Aert, *Antwerp University, BE*
Recent advances in quantifying atomic structures and their dynamics from STEM data

16:00 – 16:30 Coffee break

Chair: W. Jäger *Session 4*

16:30 – 17:00 Jeremie Silvent, *Tescan, Fuveau, FR*
NanoSpace: Sample characterization and implantation in ultra clean environment

17:00 – 17:30 Andrey Turchanin, *Jena University, Jena, DE*
CVD synthesis and properties of monolayer lateral heterostructure and Janus TMDs

17:30 – 18:00 Quentin Ramasse, *SuperSTEM Labs, Daresbury, UK*
Studying the chemistry and electronic structure of nanotube-encapsulated molecular and atomic systems with high-resolution STEM-EELS

19:00 – 20:00 *Visit the roofs of Ulm Minster or take a guided City Walk*

Tuesday, September 26th, Morning Sessions

Chair T. Pichler *Session 5*

9:00 – 9:30 Andrea Konečná, *Brno University of Technology, Brno, CZ*
Optical properties of 2D materials probed by electron energy-loss spectroscopy

9:30 – 10:00 Elena Besley, *Nottingham University, UK* Molecular Quantum Rings: from Electronic Structure to Packing Behaviour

10:00 –10:30 Christoph Koch, *Humboldt University Berlin, DE*
Observing atoms in motion by fast electrons

10:30 – 11:00 *Coffee break*

Chair E. Spiecker *Session 6*

11:00 – 11:30 Andrei N. Khlobystov, *Nottingham University, UK*
Chemical Reactions Promoted by the Electron Beam in Transmission Electron Microscopy

11:30 – 12:00 Lena Yadgarov, *Ariel University, ISR*
Exploring the Synthesis Mechanisms of Novel CsPbBr3@MoS2 Nanostructures toward their implementation in the field of renewable energy

12:00 – 12:30 Claudia Backes, *Kassel University, DE*
Production of organic nanomaterials by liquid phase exfoliation

12:30 – 13:30 ***Lunch***

Tuesday, September 26th, Afternoon Sessions

Chair: E. Besley *Session 7*

13:30 – 14:00 Robert Sinclair, *Stanford University, USA*
TEM studies of Twisted Epitaxial Gold Nanoparticles in Twisted MoS2 Bilayers

14:00 – 14:30 Marc Willinger, *TU München, DE*
Graphene folding and fabrication of twisted layer graphene

14:30 – 15:00 Robert Klie, *Illinois University Chicago, US*
Atomic-Resolution cryo-STEM/EELS for the Study of 1D and 2D Materials

15:00 – 15:30 Arkady Krasheninnikov, *HZDR, Rossendorf, DE*
Engineering the Structure and Properties of 2D Materials by Defect Creation and Intercalation

15:30 – 16:00 Coffee break

Chair: J. C. Meyer *Session 8*

16:00 – 16:30 Martin Linck, *CEOS GmbH, Heidelberg, DE,*
Present limitations and future prospects of hexapole-type aberration correctors for STEM

16:30 – 17:00 Thomas Pichler, *Wien University, AT*
Recent advances of momentum resolved electron energy-loss spectroscopy

17:00 – 17:30 Xiaoyan Zhong, *City University of Hong Kong, HK*
Achromatic imaging of electron energy loss spectroscopy and electron magnetic circular dichroism with atomic plane resolution

17:30 – 18:00 Knut Müller-Caspary, *LMU Munich, DE*
Gradient based analysis and design of momentum-resolved STEM experiments

18:00.–.18:25 Fingerfood……(Foyer N27)

18:30 – 19:30 Concert: Valerij Petasch, Pianist and Composer
(H 4/5 O25)

20:00 – 22:00 Dinner Ulm City

Wednesday, September 27th, Morning Sessions

Chair R. Dunin-Borkowski — *Session 9*

9:00 – 9:30 Yimei Zhu, *BNL, Upton, USA*
Emerging Electron Microscopy Techniques for Probing Quantum Materials

9:30 – 10:00 Toma Susi, *Wien University, AT*
Achievements and Challenges for Scaling Up Electron-Beam Manipulation of Graphene Impurities

10:00 –10:30 Jiong Zhao, *Hong Kong Polytechnic University, HK* In situ transmission electron microscopy on two-dimensional ferroic chalcogenides

10:30 – 11:00 *Coffee break*

Chair: M. Willinger — *Session 10*

11:00 – 11:30 Grégory Schneider, *Leiden University, NL*
Electron microscopy of graphene nanopores: 2010-2023

11:30 – 12:00 Jungwon Park, *Seoul National University, KOR*
3D and 4D Structures of Colloidal Nanoparticles by Graphene Liquid Cell TEM

12:00 – 12:30 Erdmann Spiecker, *Erlangen University, DE*
Twist enables superlubric sliding in bilayer graphene

12:30 – 13:30 *Group Photo & Lunch*

Wednesday, September 27th, Afternoon Sessions

Chair: J. Mayer *Session 11*

13:30 – 14:00 Sorin Lazar, *Thermofisher, Eindhoven,NL*
EELS at Extreme Energy Losses - an Opportunity to provide complementary Information to XAS

14:00 – 14:30 Wu Zhou, *University of Chinese Academy of Sciences, CN*
Single-atom microscopy and spectroscopy for carbon nanomaterials

14:30 – 15:00 Wolfgang Jäger, *Kiel University, DE*
In situ electron microscopy for strain engineering of charge transport and photovoltaic performance of individual III-V nanowires

15:00 – 15:30 Juan-Carlos Idrobo, *University of Washington, US*
STEM in Flatland-An Adventure of Many Dimensions

15:30 – 16:00 Coffee break

Chair: C. Koch *Session 12*

16:00 – 16:30 Saleh Gorji, *Gatan/Ametek, München, DE*
Overcoming challenges in imaging beam-sensitive materials with direct detection cameras

16:30 – 17:00 Michael Stöger-Pollach, TU Wien, AT
2D electron gases in oxide interfaces

17:00 – 17:30 Viera Skákalová, *Slovak Academy of Sciences, SK*
Simple chemical approach to two-dimensional metal iodides/graphene heterostructures

17:30 – 18:00 Kristian Mølhave, *DTU Lyngby, DK*
Nanofluidic EM with Water in Nanochannels and with Eutectic Droplets on Nanowires

19:00 – 23:00 Conference Dinner at Ulm University, N27

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Thursday, September 28th, Morning Sessions

Chair: Z. Wu — *Session 13*

9:00 – 9:30 Masaaki Mukai, *JEOL GmbH, München, DE*
Atomic resolution electron microscopy in a magnetic field free environment

9:30 – 10:00 Tatiana Latychevskaia, *Paul Scherer Institute, Villingen, CH,*
Quantitative Low-Energy Electron Coherent Imaging and Convergent Beam Electron Diffraction of 2D Materials

10:00 – 10:30 Jani Kotakoski, *Wien University, AT*
Creating and imaging quantum centers in diamond 2D materials

10:30 – 11:00 Xinliang Feng, *TU Dresden, DE,*
Advances in Organic 2D Crystals - From On-Water Surface Chemistry to Functional Applications

11:00 – 11:30 *Coffee Break*

Chair: J. Biskupek — *Session 14*

11:30 – 12:00 Michael Elbaum, *Weizman Institute, ISR*
Advances in Biological Cryo-EM by STEM

12:00 – 12:30 Joachim Mayer, *RWTH Aachen, DE*
The TOMO Project – Integrating a Fully Functional Atom Probe in an Aberration-Corrected TEM

12:30 – 13:15 Rafal Dunin-Borkowski, *FZ Jülich, DE*
Advanced transmission electron microscopy of two-dimensional magnetic materials & Outline of a European TEM infrastructure

13:15 – 14:00 Lunch

Chair: E. Besley

14:00 – 16:30 SAL*UTE*
Session on the occasion of the 70th birthday of Ute Kaiser organized by Elena Besley N27, Multimedia room

16:30 – 17:00 Fingerfood
Farewell and end of the Conference