






StEM Workshop at Ringberg Castle, Lake Tegernsee
July 12th – July 14th, 2023

Programme

Wednesday, July 12th, 2023	
15:00	Opening and Welcome Peter A. van Aken
	Thin film growth - I Chair: Wilfried Sigle
15:10 – 15:40	Manuel Bibes <i>"Ferroelectric and Multiferroic 2-Dimensional Electron Gases for Spin-orbitronics"</i>
15:40 – 16:10	Hans Boschker <i>"Thermal Laser Epitaxy"</i>
16:10 – 16:30	Coffee break and posters 
	Thin film growth - II & Theory Chair: Peter A. van Aken
16:30 – 17:00	Marta Gibert <i>"Double Perovskite Oxide Heterostructures"</i>
17:00 – 17:30	Philipp Hansmann <i>"Tackling the Quantum Many-body Problem in Oxides and their Superstructures: From Effective Models to State-of-the-art Methods"</i>
17:30 – 18:00	Y. Eren Suyolcu <i>"Pushing the Limits of Superconductivity: Tuning Interface Sharpness with Oxide Molecular Beam Epitaxy"</i>
18:30	Dinner
20:00	After Dinner Speech Wilfried Sigle

Thursday, July 13 th , 2023	
	In-situ Chair: Y. Eren Suyolcu
09:00 – 09:30	Michele Shelly Conroy <i>"Probing Internal Phases of Multiferroic and Antiferroelectric Domain Walls Formed During Dynamics at the Atomic Scale"</i>
09:30 – 10:00	Robert F. Klie <i>"Atomic-Resolution Characterization of Oxide Thin Films Using In-situ Scanning Transmission Electron Microscopy"</i>
10:00 – 10:30	Arnaud Demortière <i>"Structural Investigations in All-Solid State Battery Using In-situ Electrochemical TEM and 4D-STEM Technique"</i>
10:30 – 11:00	Coffee break and posters 
	Diffraction Chair: Vesna Srot
11:00 – 11:30	Jian-Min Zuo <i>"Interfaces and Microstructure of YIG Thin Films for Magnon Based Quantum Computing"</i>
11:30 – 12:00	Ismail El Baggari <i>"Atomic-Scale Imaging of Electronic Symmetry Breaking"</i>
12:00 – 12:30	Ian MacLaren <i>"Studying Crystallography in Thin Perovskite Films down to Atomic Resolution with 4DSTEM"</i>
12:30	Lunch

Thursday, July 13 th , 2023	
	Complex Structures Chair: Tobias Heil
14:00 – 14:30	Duncan Alexander <i>"Structural couplings across interfaces and layers in orthorhombic perovskite thin films"</i>
14:30 – 15:00	Marta Rossell <i>"Probing Improper Ferroelectricity at the Ultrathin Limit"</i>
15:00 – 15:30	Hongguang Wang <i>"Unveiling the Hidden Mechanism behind Emergent Behavior in Quantum Oxide Nanostructures"</i>
15:30 – 16:00	Coffee break and posters 
	Advanced Techniques Chair: Hongguang Wang
16:00 – 16:15	Masaki Mukai <i>"Introduction of the JEOL monochromator and its latest applications"</i>
16:15 – 16:45	Yu-Tsun Shao <i>"Solving Complex Crystal Structures with Electron Ptychography"</i>
16:45 – 17:00	Anna Scheid <i>"Investigations on Ultra-Thin Films with Electron Ptychography"</i>
17:00 – 17:15	Chao Yang <i>"Thickness-Dependent Interface Polarity in Infinite-Layer Nickelate Superlattices"</i>
17:30 – 18:00	Guided Castle Tour
18:30	Bavarian buffet
20:00	After Dinner Speech Peter van Aken

Friday, July 14th, 2023	
	Strongly Correlated Systems Chair: Kenan Elibol
09:00 – 09:30	Berit H. Goodge <i>"Infinite-layer Nickelates: Insights for Synthesis and Superconductivity"</i>
09:30 – 10:00	Alexandre Gloter <i>"Monochromated STEM-EELS: Plasmonic Behavior of SrVO₃ Nano-structures and Charge Distribution across Nickelates"</i>
10:00 – 10:30	Yu-Mi Wu <i>"Charge and Structural Order in Complex Oxides"</i>
10:30 – 10:45	Nicolas Bonmassar <i>"Control and Differentiation of Quantum States in Strongly Correlated Systems"</i>
10:45 – 11:15	Coffee break and posters 
	2D Materials Chair: Peter A. van Aken
11:15 – 11:30	Xuejiao Zhang <i>"Synthesis and Characterization of Metal Sulfide Nanoribbons on Graphene by Self-assembly of Inorganic Ions"</i>
11:30 – 12:00	Kenan Elibol <i>"Kinetic pathway controlled evolution of phase and van-der-Waals epitaxy in metal/metal-oxide on graphene heterostructures"</i>
12:00	Discussion and Closing
12:15	Lunch
13:15	Departure

Some more information concerning the workshop

Venue

Schloss Ringberg
Conference Site of the Max Planck Society e. V. (MPG)
Schlosstrasse 20
83708 Kreuth

Tel.: +49 (0) 8022-279-0
Fax: +49 (0) 8022-279-259
e-mail: Ringberg@rzg.mpg.de

(for more information such as how to get there please have a look at their homepage)
<https://www.schloss-ringberg.de/convention-site/contact>

Bus Shuttle Service / Arrival by car

We will arrange for a bus shuttle service to take participants from train station Tegernsee to Ringberg Castle. Taxi JASINSKI will pick you up at 2:30 pm in front of the station. The StEM group will travel by bus from Stuttgart to Ringberg Castle. We would like to draw your attention to the fact that a group is already meeting at Ringberg Castle before us. To avoid collisions, the manager kindly asks you not to arrive before 2:30 pm if possible.

Talks

Duration of talks: 15 or 30 minutes. **Please leave at least 3 - 5 minutes for discussion.**

Presentation/Abstract

A beamer will be available. Please have your presentation on USB stick for easy transfer.

Posters

Posters can be shown during the coffee breaks.

Food

Please inform us (office-stem@fkf.mpg.de) in case you prefer vegetarian food or if you are suffering from any allergies.

Departure

Friday, July 14th, 2023 (after lunch)