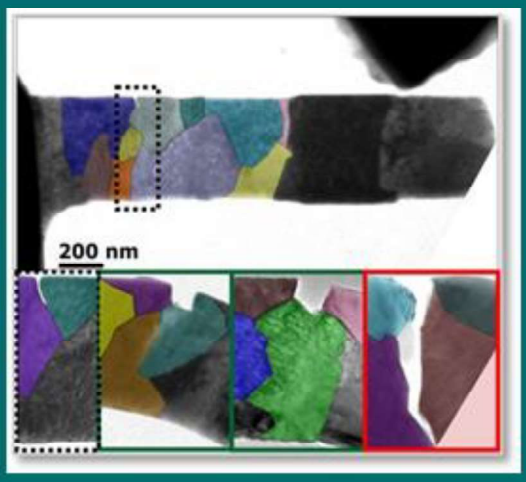
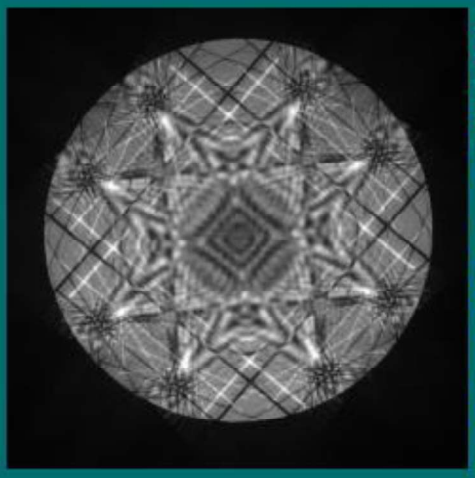
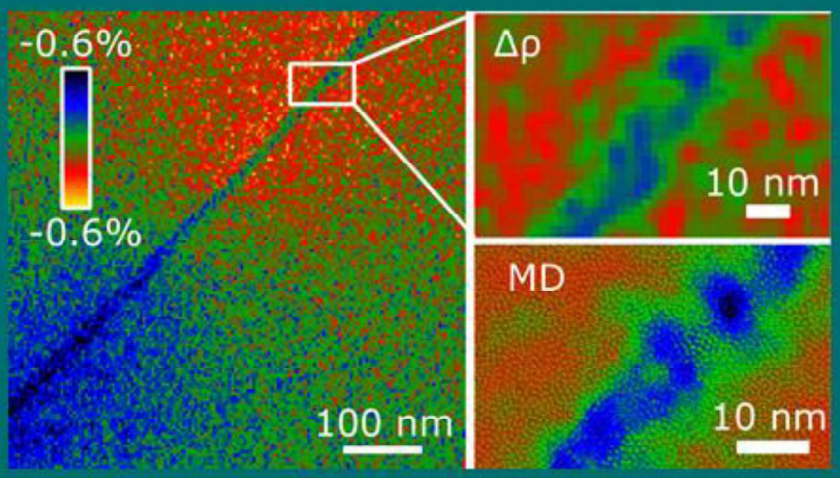
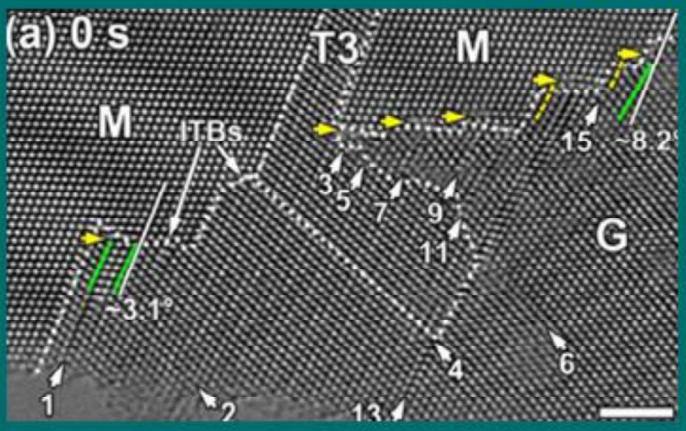
15th ASEM Workshop on ADVANCED ELECTRON MICROSCOPY

ASEM
Austrian Society for Electron Microscopy









MONTAN UNIVERSITÄT LEOBEN

Workshop of the Austrian Society for Electron Microscopy
24.-25.April 2025 | Montanuniversität Leoben

Scientific program

Thursday, April 24, 2025

TIME		PAGE
9:30	**Registration**	
12:35	**Opening address (**Univ.-Prof. D. Kiener, Vice rector Univ.-Prof. H. Antrekowitsch, KommR W. Mautner**)**	
12:45	**Plenary lecture by** Sven Klumpe: Cryo-(P)FIB development from unicellular to multicellular organisms	21
13:15 – 14:05	Stefan Redl: Iron distribution in developing bone after treatment with intravenous iron formulations	22
	Philipp Christ: Probing the Optical Properties of Organic Photovoltaic Materials at the Nano Scale with STEM-EELS	23
	Philip Steiner: Non-Apoptotic Programmed Cell Death in Innate Immune- and Cancer Cells: A Caspase-Independent Mechanism Induced by Thapsigargin	24
	Sponsor presentation: Min Wu (ThermoFisher Scientific)	25
14:05	**Coffee break**	
14:30	Fritz Grasenick Award ceremony	
14:38	**Grasenick Award lecture by** Nikola Simic: Gaining Insights into Li-ion Distribution and Diffusion in $LiFePO_4$ Using Correlated (S)TEM Diffraction, EELS and Atomically Resolved iDPC imaging	26
14:58	**Grasenick Award lecture by** Bettina Zens: Unveiling the ultrastructural landscape of native extracellular matrix via lift-out cryo-FIBSEM and cryo-ET	27
15:18	Sponsor presentation: Georg Raggl (JEOL)	28
15:30	**Coffee break**	
16:00 – 17:00	Alexey Minenkov: Correlative Transmission Electron Microscopy for Nanophase Identification in Galvannealed Advanced High-Strength Steel	29
	Thomas Spielauer: Advancing coherent in-situ cryogenic electron spin resonance in scanning electron microscopes	30
	Jana Dzíbelová: Atomic-resolution investigation of 2D hematene	31
	Gerlinde Habler: Orientation relationships between garnet host and rutile inclusions and their interfaces at micro- and nanoscale	32
	Sponsor presentation: Sajjad Tollabimazraehno (Videko)	33
17:00 – 18:00	**Poster session 1**	54- 73
19:00	**Conference dinner**	

Friday, April 25, 2025

TIME		PAGE
9:00	**Plenary lecture by** Jani Kotakoski**:** Atomically precise structures tailored into 2D materials	34
9:30 – 10:20	Clara Kofler: From four t(w)o three: How 4D-STEM measurements of 2D materials lead to 3D information	35
	Elena Unterleutner: From Sample Preparation to Data Analysis: Refining STEM-Based Defect Detection in doped $SrTiO_3$	36
	Aleksander Brozyniak: Precession Electron Diffraction for modern steel systems	37
	Sponsor presentation by Mikhail Lazarev (Bruker)	38
10:20	**Coffee break**	
10:45 – 12:00	Sponsor presentation by Eric Hummel (Leica)	39
	Kerstin Hingerl: Mission possible: Cryo-SEM enables a new dimension of sample investigation and visualisation	40
	Hanieh Jafarian: Optical Near-Field Electron Microscopy: a novel non-invasive widefield technique for prolonged nanoscale dynamic imaging	41
	Lukas Schweiger: Nanoporous FeTi – Is there plenty of room at the bottom for hydrogen?	42
	Tatiana Kormilina: Characterization of nanoporous copper materials by STEM tomography, EDX tomography and fine structure EELS	43
	Sponsor presentation by Martin Slůma (Tescan)	44
12:00	**Poster session 2** and lunch break	74- 90
13:00 – 14:00	Johannes Liesche: Visualizing the dynamic structure of cell walls	45
	Antonin Jaroš**:** Detection of Spin System Dynamics in TEM	46
	Shrirang Chokappa: Selective defect creation in 2D hexagonal boron nitride via low-energy Ar+ irradiation	47
	Claire Chisholm: SEM-Based Dislocation Characterization in GaN	48
	Sponsor presentation by Wolfgang Schwinger (Zeiss)	49
14:00	**Coffee break**	
14:15	**General assembly**	
15:20 – 16:00	Alexander Preimesberger: Exploring single-photon recoil on free electrons	50
	Lukas Schretter: Revealing extreme variations in local deformation via 4D-STEM-based strain mapping in nanocrystalline gold	51

	Michael Seifner: In-Situ TEM Investigation of Dynamic Processes and Chemical Reactions	52
16:00	**Closing**	
16:30	Lab tour	

Poster

Session 1:

Poster

Session 2: