

12th ASEM workshop on ADVANCED ELECTRON MICROSCOPY

21st – 22nd April 2022

Johannes Kepler University Linz

PROGRAM

Thursday, April 21st, 2022

09:30	REGISTRATION	
12:30	Opening ceremony	
12:45	Lammer Judith / FELMI-ZFE Graz <i>How an ASEM Workshop led to a successful quantification for atomic-scale EELS maps</i>	8
13:00	Susi Toma / Univerity of Vienna <i>abTEM: Transmission Electron Microscopy from First Principles</i>	9
13:15	Steiner Philip / Johannes Kepler University Linz <i>Pharmacological inhibition of TPC1 alters the ultrastructural basis for organellar interactions and plays an important role in allergic hypersensitivity</i>	10
13:30	Käppeli Stephan / Systron EMV GmbH <i>Magnetically Shielded Rooms for Electron Microscopy</i>	11
13:45	Jäpel Tom / TESCAN GmbH <i>High-performance laser-ablation/plasma-FIB large-scale cross-sectioning and 3D analysis</i>	12
14:00	COFFEE BREAK	
14:30	Radlinger Thomas / FELMI-ZFE Graz <i>Imaging the magnetic domain structure of spinodal alloys using differential phase contrast STEM (DPC-STEM)</i>	15
14:45	Chen Zhuo / Erich Schmid Institute of Materials Science Leoben <i>TEM studies on intermixing of transition metal nitride superlattice triggered by nanoindentation</i>	16
15:00	Seebauer Stefan / TU Wien <i>Quantitative chemical analysis of the γ- and γ'-phases in nickel base superalloy PWA1483</i>	17
15:15	Ploszczanski Leon / University of Natural Resources and Life Sciences, BOKU <i>Why do Schwann cells like spider silk?</i>	18
15:30	Bichler Bernhard / VIDEKO GmbH <i>Broad Argon Ion Beam Milling Systems & SEM: A powerful alternative to FIB-SEM for wide cross sections and large-scale surface polishings</i>	19
15:45	Phifer Daniel / ThermoFisher Scientific <i>Swapping Ion Species with Plasma FIB to make better (S)TEM lamella</i>	20
16:00	SHORT BREAK	
16:15-17:00	ASSEMBLY OF ASEM MEMBERS	
17:30-18:30	VISITING MEDSPACE	
19:00	CONFERENCE DINNER "STIEGL-KLOSTERHOF LINZ"	

Friday, April 22nd, 2022

08:30 EARLY MORNING COFFEE

09:00	SESSION 3	Haselmann Ulrich / Erich Schmid Institute of Materials Science Leoben <i>Defects and Dopant Gradients in Bismuth-Ferrite Thin Films</i>	24
09:15		Sunkara Sowmya / Medical University of Graz <i>Organotypic culture as an ex-vivo model to study Alzheimer's disease in brain</i>	25
09:30		Grininger Christoph / University of Graz <i>Electron crystallography – From small molecules to proteins</i>	26
09:45		Smith Andrew Jonathan / Kleindiek Nanotechnik GmbH <i>Enhanced in situ Applications using Micromanipulators and Nanopositioners</i>	27
10:00		Schwinger Wolfgang / Carl Zeiss GmbH <i>TEM-like Ultrastructure Imaging with a New Degree of Speed and Quality</i>	28

10:15 POSTER SESSION

11:00	SESSION 4	<i>Invited Speaker: Minnich Bernd</i> / University of Salzburg <i>SEM & 3D-Morphometry in Vascular Biology: Vascular Corrosion Casting in Biomedicine and Zoology</i>	32
11:30		Horák Michal / University of Brno <i>Plasmon resonances in biocompatible nanoparticles</i>	34
11:45		Joudi Wael / University of Vienna <i>Correlated AFM/STEM study on the Mechanical Stiffness of Defect-Engineered Graphene</i>	35
12:00		Frerichs Hajo / Quantum Design Microscopy GmbH <i>Two Microscopes are better than One – In-situ Correlative Analysis by combination of AFM and SEM</i>	36

12:15 LUNCH BREAK

13:15	SESSION 5	<i>Fritz Grasenick Laureate: Ederer Manuel</i> / TU Wien <i>Imaging the Spatial Distribution of Electronic States in Graphene Using Electron Energy-Loss Spectroscopy: Prospect of Orbital Mapping</i>	40
13:30		Postl Andreas / University of Vienna <i>Indirect measurement of the carbon adatom migration barrier on graphene</i>	42
13:45		Preimesberger Alexander / TU Wien <i>Discrimination of coherent and incoherent cathodoluminescence using temporal photon correlations</i>	43
14:00		Kastenmüller Andreas / AMETEK GmbH <i>Latest Development in EELS</i>	44
14:15		Raggl Georg / JEOL (Germany) GmbH <i>Integrated lasers and ultra-fast electrostatic beam blanking systems – Pathways to new experiments in modern transmission electron microscopy</i>	45

14:30 COFFEE BREAK

14:45	SESSION 6	<i>Fritz Grasenick Laureate: Noisternig Stefan</i> / University of Vienna <i>In situ STEM analysis of electron beam induced chemical etching of an ultra-thin amorphous carbon foil by oxygen during high resolution scanning</i>	48
15:00		Åhlgren E. Harriet / University of Vienna <i>Electron microscopy in gas atmospheres: exploring the role of oxygen in the degradation of 2D materials</i>	50
15:15		Šimić Nikola / FELMI- ZFE Graz <i>Phase Analysis of (Li)FePO₄ by Selected Area Electron Diffraction in Transmission Electron Microscopy</i>	51
15:30		Huang Yong / Erich Schmid Institute of Materials Science Leoben <i>Stacking faults dominant strengthening mechanism behind the anomalous hardness variation of TaN/TiN multilayer films</i>	52
15:45		Closing Ceremony and Farewell	