M&M 2022 - Full Schedule - Platform Presentations

* as of 7/28/2022

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
A01.1	8/1/2022	1:30 PM	2:00 PM	1	Expanding the Energy Range and Fabrication of Sources Enabling Novel Focused Ion Beam Nanofabrication and Modification	Michael Titze
A01.1	8/1/2022	2:00 PM	2:15 PM	2	Focused ion beam preparation of low melting point metals: Lessons learned from Pb/Sn solders	Paul Kotula
A01.1	8/1/2022	2:15 PM	2:30 PM	3	In-situ Fracture Toughness of Single Crystal Silicon Double-Cantilever Beams	Sara Dickens
A01.1	8/1/2022	2:30 PM	2:45 PM	4	FIB Sample Preparation of Hybrid Organic-Inorganic Perovskite (HOIP) Solar Cells	Felipe Schnaider Tontini
A01.1	8/1/2022	2:45 PM	3:00 PM	5	Taking Full Control: Leveraging Software Customizability and Open-Source Hardware to Tailor FIB Instrument Controls	Aleksander Mosberg
A01.2	8/2/2022	8:30 AM	9:00 AM	6	Using the Helium Ion Microscope for Imaging and Modification of Nanostructures, 2D Materials, and SARS-CoV-2 infected Cells	Armin Gölzhäuser
A01.2	8/2/2022	9:00 AM	9:15 AM	7	SIMS performed on Focused Ion Beam instruments : in-situ correlative structural and chemical imaging	Jean-Nicolas Audinot
A01.2	8/2/2022	9:15 AM	9:30 AM	8	Scanning Transmission Helium Ion Microscopy- How Does It Compare to TEM?	Annalena Wolff
A01.2	8/2/2022	9:45 AM	10:00 AM	745	Raman spectroscopy and electron microscopy studies of Ga FIB and post-FIB Ar ion milling's impact on Si TEM specimens	Cecile Bonifacio
A01.3	8/2/2022	10:30 AM	11:00 AM	11	Challenges in FIB TEM Sample Preparation: Damage Issues and Solutions	Xiangli Zhong
A01.3	8/2/2022	11:00 AM	11:15 AM	12	Advanced Large Area Sample Preparation for Electron Microscopy using Initial Notches	Richard Busch
A01.3	8/2/2022	11:15 AM	11:30 AM	13	Building In-Situ Diamond Anvil Cell Sample Assemblies with Xe PFIB	Suzy Vitale
A01.3	8/2/2022	11:30 AM	11:45 AM	14	Preparation of Atom Probe Specimens Containing Individual Nanoparticles	Mark McLean
A01.3	8/2/2022	11:45 AM	12:00 PM	15	Yield Assessment of Protective Coatings for Atom Probe Analysis	Yimeng Chen
A01.4	8/2/2022	1:30 PM	2:00 PM	16	3D Cryo-FIB/SEM for microalgae filtration applications: probing biomolecules buried inside porous polymeric media.	Hélène Roberge
A01.4	8/2/2022	2:00 PM	2:15 PM	17	Focused Ion Beam Characterization of Low Melting Point Metals at Cryogenic Temperatures	Julia Deitz
A01.4	8/2/2022	2:15 PM	2:30 PM	18	Novel Use of EXLO for Cryo-Manipulation of FIB Specimens	Lucille Giannuzzi
A01.4	8/2/2022	2:30 PM	2:45 PM	19	Understanding Fission Gas Bubble Distribution and Zirconium Redistribution in Neutron-irradiated U-Zr Metallic Fuel Using Machine Learning	Fei Xu
A01.4	8/2/2022	2:45 PM	3:00 PM	20	Multiple Ion Plasma FIB Application for Editing Laser Chips to Enable Live Monitoring of the Semiconductor Material Failure.	Lolita Rotkina
A02.1	8/2/2022	8:30 AM	9:00 AM	22	Machine learning based tracking of single nanoparticle vibrations from a projected 3D Moiré lattice	Chang Liu
A02.1	8/2/2022	9:00 AM	9:15 AM	23	Observing nano-scale dynamics of active soft materials by in Situ electrochemistry and Liquid Cell transmission Electron Microscopy.	Wyeth Gibson
A02.1	8/2/2022	9:15 AM	9:30 AM	24	Advancing High-resolution Imaging of Human Viruses in Liquid	G.M. Jonaid
A02.1	8/2/2022	9:30 AM	9:45 AM	25	Visualizing Aerosol Phase Phenomena with Liquid Phase Transmission Electron Microscopy	Yuhang Wang
A02.1	8/2/2022	9:45 AM	10:00 AM	26	Examining Deposition Dynamics of Silver onto Gold Nanorods with Liquid Phase Transmission Electron Microscopy	Amy Chen
A02.2	8/2/2022	10:30 AM	11:00 AM	27	Ultrahigh temperature in situ TEM based small-scale mechanical characterization	Shen Dillon
A02.2	8/2/2022	11:00 AM	11:15 AM	28	Enabling Structure-Property Correlation in Electrochemical Cell Transmission Electron Microscopy Studies of Electrocatalysts	Aram Yoon
A02.2	8/2/2022	11:15 AM	11:30 AM	29	Temperature Mapping with STEM Atomic Scale Debye-Waller Thermometry	Menglin Zhu
A02.2	8/2/2022	11:30 AM	11:45 AM	30	Determining Atomic Structure of Grain Boundaries and Heterostructure Interfaces at Solid-State Electrode/Electrolyte Heterostructures in Lithium Based Oxides	Connor Murrill
A02.2	8/2/2022	11:45 AM	12:00 PM	31	Site-specific sample preparation by concentrated Ar ion milling for post-mortem atomic resolution imaging of rapidly solidified Al-Cu thin films after pulsed laser melting	Cecile Bonifacio
A02.3	8/2/2022	1:30 PM	2:00 PM	32	In-Situ Liquid Phase Transmission Electron Microscopy of the Electropolymerization of Poly(3,4-ethylenedioxythiophene) (PEDOT)	David Martin
A02.3	8/2/2022	2:00 PM	2:15 PM	33	Operando electron microscopy of electrochemically driven structural changes in nanoparticle catalysts with controlled size	Serin Lee
A02.3	8/2/2022	2:15 PM	2:30 PM	34	Molecular Mechanism of Copper-based Catalytic Reaction of Water Oxidation. In-situ Electrochemical Liquid Phase Transmission Electron Microscopy Study.	Alla Sologubenko
A02.3	8/2/2022	2:30 PM	3:00 PM	35	A02 - Studying diffusion of colloidal nanoparticles in solution using liquid phase TEM and machine learning	Vida Jamali
A02.4	8/3/2022	8:30 AM	9:00 AM	36	Approaches to Monitoring Structural Modification Using In Situ Electron Microscopy	Thomas Willum Hansen
A02.4	8/3/2022	9:00 AM	9:15 AM	37	Deactivation Mechanism of Ni Nanoparticles in Dry Reforming of Methane Revealed by Operando TEM	Milivoj Plodinec
A02.4	8/3/2022	9:15 AM	9:30 AM	38	Facet-controlled Single Atom Catalysts for Efficient CO Oxidation	Wenjie Zang
A02.4	8/3/2022	9:30 AM	9:45 AM	39	Dynamic Structural Changes due to Metal-Support Interaction under Reactive Conditions.	Hannes Frey
A02.4	8/3/2022	9:45 AM	10:00 AM	40	Quantifying atomic scale oxidation dynamics of Cu using in situ ETEM and advanced data analysis	Meng Li
A02.5	8/3/2022	10:30 AM	11:00 AM	41	Probing Response and Functionality in Active Materials Systems with In Situ Electron Microscopy	Peter Crozier
A02.5	8/3/2022	11:00 AM	11:15 AM	42	Beyond In Situ ETEM Imaging: Unveiling the Size-dependent Oxidation Mechanism of Metallic Nanoparticles by Individual Nanoparticle-level Oxidation Kinetic Analysis	Rajat Sainju
A02.5	8/3/2022	11:15 AM	11:30 AM	43	Oscillatory Behavior of NiAu Nanocatalyst in Wet Gas Environment	Xiaoben Zhang

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
A02.5	8/3/2022	11:30 AM	11:45 AM	44	Applications of Environmental SEM as In Situ Surface Science Tool with Atomic Layer Sensitivity	Marc Willinger
A02.5	8/3/2022	11:45 AM	12:00 PM	45	Detecting and Characterizing the Fluxionality in Pt Nanoparticles	Advait Gilankar
A02.6	8/3/2022	2:00 PM	2:15 PM	47	In-Situ TEM Study of Chemo-Mechanical Degradation Pathways of LiNiO2-Derived Layered Oxide Cathodes for Lithium-Ion Batteries	Chunyang Wang
A02.6	8/3/2022	2:15 PM	2:30 PM	48	In Situ TEM Observation of Spinel-Structured ZnFe2O4 as a Low-Temperature CO2 Splitting Agent	Mengsha Li
A02.6	8/3/2022	2:30 PM	2:45 PM	49	Controlled Growth of High-Index Faceted Nanoparticles Using the Gas Phase Environmental Cell TEM	Kunmo Koo
A02.6	8/3/2022	2:45 PM	3:00 PM	50	In-situ Observation of the Degeneration Dynamics of Cu Nanowires under Carbon Dioxide Environment	Xiaobing Hu
A02.6	8/3/2022	1:30 PM	2:00 PM	51	Quantitative Analysis of Environmental Transmission Electron Microscopy Data	Renu Sharma
A03.1	8/1/2022	2:00 PM	2:15 PM	53	Correlated XRM and 3D FIB-SEM Workflow to Investigate the Structure-Property Relationship of Si-Based Battery Anode Materials	Stephen Kelly
A03.1	8/1/2022	2:15 PM	2:30 PM	54	Synchrotron Holotomography on Silicon-Based Anode Materials for Improved Lithium Ion Batteries	Fereshteh Falah Chamasemani
A03.1	8/1/2022	2:30 PM	2:45 PM	55	Multimodal 3D Characterisation of Carbon-based Perovskite Solar Cells	Jebin Jestine
A03.1	8/1/2022	2:45 PM	3:00 PM	56	Advanced Crack Analytics on 3D X-ray Tomography of Irradiated Silicon Carbide Claddings	Fei Xu
A03.2	8/2/2022	8:30 AM	9:00 AM	57	Simultaneous Neutron and X-ray Tomography for Materials Research	Jacob LaManna
A03.2	8/2/2022	9:00 AM	9:15 AM	58	Investigations of Silicon-Based Anodes for Li-Ion Batteries Using X-Ray and Neutron 3D/4D Imaging Techniques	Erik Lübke
A03.2	8/2/2022	9:15 AM	9:30 AM	59	4D Reconstructions from Microscale Photogrammetry: Correlation of 3D Surface Representations with SIMS to Link Microstructural Topography and Chemical Information	Alexander Ost
A03.2	8/2/2022	9:30 AM	9:45 AM	60	Cryo-Electron Tomography for Imaging and Quantitative Analysis of Beam-Sensitive Fuel Cell Materials	Robin Girod
A03.2	8/2/2022	9:45 AM	10:00 AM	61	Great White Pelican Mandible as Bioinspiration for Vehicle Design - Structural Bioprospecting Via X-Ray Micro-CT and Finite Element Analysis	Nicola Thomas
A03.3	8/2/2022	10:30 AM	11:00 AM	63	4D Investigation of new Aluminum Alloy for Additive Manufacturing	Katrin Bugelnig
A03.3	8/2/2022	11:00 AM	11:15 AM	65	Large Volume 3D Electron Backscatter Diffraction Characterization of Lath Martensite in 13%Cr-4%Ni Stainless Steel by Xe Plasma FIB	Nabil Bassim
A03.3	8/2/2022	11:15 AM	11:30 AM	64	Correlative micro-compression and 3D X-ray nanotomography study of the fracture behavior of TCP phases in an additively manufactured Ni-base superalloy	Michael Sommerschuh
A03.3	8/2/2022	11:30 AM	11:45 AM	66	Crystal structure and defect analysis of colloidal supraparticles by lab-based X-ray microscopy	Silvan Englisch
A03.3	8/2/2022	11:45 AM	12:00 PM		New Insights in Materials Characterization – Spectral Computed Tomography	Wesley De Boever
A03.4	8/2/2022	1:30 PM	2:00 PM	67	Visualizing Structural Transitions and Electric Potentials via 4DSTEM	Anuj Pokle
A03.4	8/2/2022	2:00 PM	2:15 PM	68	Insight Into Precipitation Synergy of Nano β-NiAl + Cu + Carbide in Austenitic Steel by Atom-Probe Tomography	Colin Stewart
A03.4	8/2/2022	2:15 PM	2:30 PM	69	Thermal Stability of Au@Pt Nanoparticles Investigated by Electron Tomography	Adrián Pedrazo-Tardajos
A03.4	8/2/2022	2:30 PM	2:45 PM	70	3D nanoscale imaging of semiconductor films for GAA (gate all around) device development	Pritesh Parikh
A03.4	8/2/2022	2:45 PM	3:00 PM	71	Multi-Axis Acquisition Schemes for Scalar and Vector Electron Tomography	George Lewis
A04.1	8/2/2022	1:30 PM	2:00 PM	76	4D-STEM of Beam-sensitive Materials	Karen C Bustillo
A04.1	8/2/2022	2:00 PM	2:15 PM	77	Dose-efficient defect contrast with 4D-STEM	Stephanie Ribet
A04.1	8/2/2022	2:15 PM	2:30 PM	78	Electron Microscopy View on Organic Mixed Ionic-Electronic Conductors Using 4D-STEM and HRTEM	Yael Tsarfati
A04.1	8/2/2022	2:30 PM	3:00 PM	79	Applications of Low Dose Electron Ptychography.	Angus Kirkland
A04.2	8/3/2022	8:30 AM	9:00 AM	80	Lattice-Vibration Limited Resolution, 3D Depth Sectioning and High Dose-Efficient Imaging via Multislice Electron Ptychography	Zhen Chen
A04.2	8/3/2022	9:00 AM	9:15 AM	81	A New Approach for 3D Quantitative STEM Using Defocus Corrected Electron Ptychography	Ali Mostaed
A04.2	8/3/2022	9:15 AM	9:30 AM	82	4D-STEM Measurement of Thickness and Orientation by Bloch Wave Dynamical Diffraction Matching	Steven Zeltmann
A04.2	8/3/2022	9:30 AM	9:45 AM	83	A Facile Method for Improving Quantitative 4D-STEM	Bryan Esser
A04.2	8/3/2022	9:45 AM	10:00 AM	84	Structured Illumination Electron Ptychography at the Atomic Scale	Hannah DeVyldere
A04.3	8/3/2022	10:30 AM	11:00 AM	85	Assisting 4D-STEM data processing with unsupervised machine learning	Yimo Han
A04.3	8/3/2022	11:00 AM	11:15 AM	86	Utilising Unsupervised Machine Learning on Correlated EDS and 4DSTEM Data for Investigating the Structural Ordering Within Co2FeSi Thin Films	Ercin Duran
A04.3	8/3/2022	11:15 AM	11:30 AM	87	Exploring the Validity Limits of Direct Ptychographic Methods to Analyse 4D Scanning Transmission Electron Microscopy Datasets	Laura Clark
A04.3	8/3/2022	11:30 AM	11:45 AM	88	100,000 Diffraction Patterns per Second with Live Processing for 4D-STEM	Benjamin Plotkin-Swing
A04.4	8/3/2022	1:30 PM	2:00 PM	90	Fluctuation Cepstral STEM for Imaging Disordered Materials	Saran Pidaparthy
A04.4	8/3/2022	2:00 PM	2:15 PM	91	4D STEM with an Ultrafast Camera Reveals Mesoscale Structure in Anisotropic Molecular Glass Thin Films	Debaditya Chatterjee
A04.4	8/3/2022	2:15 PM	2:30 PM	92	A Quantitative Understanding of the Short Range order in Disordered Rocksalt Cathode Materials	Emma Hedley
A04.4	8/3/2022	2:30 PM	3:00 PM	93	Relaxation and strain in moiré superlattices	Kate Groschner
A04.5	8/4/2022	8:30 AM	9:00 AM	94	Seeing the Structure and Structural Evolution of Nano-crystallites in Soft Materials Using 4D Scanning Confocal Electron Diffraction	Mingjian Wu
A04.5	8/4/2022	9:15 AM	9:30 AM	96	Accuracy, Reproducibility, and Calibration in 4D-STEM	Benjamin Savitzky
A04.5	8/4/2022	9:30 AM	9:45 AM	97	Measuring Antiferromagnetism at the Angstrom Scale using 4D-STEM	Jeffrey Huang
A04.5	8/4/2022	9:45 AM	10:00 AM	98	Polar nano-domains in barium hexaferrite revealed with multislice electron ptychography	Harikrishnan K. P.
A04.6	8/4/2022	1:30 PM	2:00 PM	99	Quantitative Measurement of Electric Fields in Microelectronics Devices by In-Situ Pixelated STEM	Victor Boureau

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
A04.6	8/4/2022	2:00 PM	2:15 PM	100	Imaging Sensitive Catalyst Active Site Structure by 30 keV Electron Ptychography	Michael Zachman
A04.6	8/4/2022	2:15 PM	2:30 PM	101	Investigating the Ferroelasticity Governing the Dynamics of Improper Ferroelectric Domain Walls by In-Situ Biasing 4D-STEM	Michele Conroy
A04.6	8/4/2022	2:30 PM	2:45 PM	102	Correcting Scan Distortions in Cryogenic 4DSTEM Acquisitions using Affine Transformations	Jacob Smith
A04.6	8/4/2022	2:45 PM	3:00 PM	103	In situ 4D-STEM of martensitic phase transformation in NiTi	Jennifer Donohue
A05.1	8/1/2022	1:30 PM	1:45 PM	104	Strategies for Standardizing EDS Measurements	Nicholas Ritchie
A05.1	8/1/2022	1:45 PM	2:00 PM	105	What Can One Do With a Million X-rays?	Marek Vaňatka
A05.1	8/1/2022	2:00 PM	2:15 PM	106	Using 3D Reconstruction Technique Along with Monte Carlo Modelling for Quantitative Characterizations of Fracture Surface of Monel Alloy	SeyedMahmoud Bayazid
A05.1	8/1/2022	2:15 PM	2:30 PM	107	Deep Learning-based Blind Denoising for Enhancing Energy-dispersive X-ray Spectroscopy (EDS) Images.	Jack Taylor
A05.1	8/1/2022	2:30 PM	3:00 PM	108	Practical Aspects of X-Ray Mapping in Electron Probe Microanalysis of Minerals	Karsten Goemann
A05.2	8/2/2022	8:30 AM	9:00 AM	109	Crystallographic Controls on Porosity in Exhumed Metamorphic Rocks	Alexandra Nagurney
A05.2	8/2/2022	9:00 AM	9:15 AM	110	Mapping of Space Weathering Features and Vesicle Contents in Lunar Soils	Katherine Burgess
A05.2	8/2/2022	9:15 AM	9:30 AM	111	Unmixing Mineral Phases, Improving Quantification: Use Machine Learning to Understand Deep-Mantle with STEM-EDS Data	Hui Chen
A05.2	8/2/2022	9:30 AM	9:45 AM	112	Enhanced Compositional Mapping on the SEM Through Combined EDS-WDS Mapping in AZtecWave	Rosie Jones
A05.2	8/2/2022	9:45 AM	10:00 AM	113	On the accuracy of the composition-by-difference method for determining lithium content in oxides	Jonathan Lee
A05.3	8/2/2022	10:30 AM	11:00 AM	114	SEM-EDS mapping at the nanoscale – the low voltage approach	Ifat Kaplan-Ashiri
A05.3	8/2/2022	11:00 AM	11:15 AM	115	SEM EDS Mapping of Ultra-Low Energy X-rays Using a Silicon Nitride Window Silicon Drift Detector	Shangshang Mu
A05.3	8/2/2022	11:15 AM	11:30 AM	116	In situ EBSD Studies of Blocky Grain Growth in Welded Zircaloy-4	T Ben Britton
A05.3	8/2/2022	11:30 AM	11:45 AM	117	Detecting Temperature-Induced Strain Changes using In Situ Transmission Kikuchi Diffraction	Yueyun Chen
A05.3	8/2/2022	11:45 AM	12:00 PM	118	Local stress measurements in microelectronic devices using HREBSD	Tim Ruggles
A05.4	8/2/2022	1:30 PM	1:45 PM	119	Electrons rock: multiscale analysis of subgrain deformation boundaries in Antarctic garnets	Berit Goodge
A05.4	8/2/2022	1:45 PM	2:00 PM	120	Quantitative WDS Compositional Mapping Using the Electron Microprobe	Julie Chouinard
A05.4	8/2/2022	2:00 PM	2:15 PM	121	Quantitative Compositional Wavelength-Dispersive Mapping of Particles from the Moon.	Emma Bullock
A05.4	8/2/2022	2:15 PM	2:30 PM	122	Quantitative EPMA and Compositional Mapping of Nakhlite Northwest Africa 14369	Paul Carpenter
A05.4	8/2/2022	2:30 PM	3:00 PM	123	Using an EPMA to map Ionsdaleite in ureilite meteorites	Nicholas Wilson
A05.5	8/3/2022	8:30 AM	9:00 AM	124	Imaging Trace Elements in the Geosphere with Synchrotron Radiation-based X-ray Fluorescence Microscopy	Ryan Tappero
A05.5	8/3/2022	9:00 AM	9:15 AM	125	Micro-XRF Mapping of Chemically Zoned Beryl: Fast, Non-Destructive, and Precise	Tina Hill
A05.5	8/3/2022	9:15 AM	9:30 AM	126	Application of Quantitative and Qualitative Mapping of Materials in Forensic Practice	Marek Kotrlý
A05.5	8/3/2022	9:30 AM	9:45 AM	127	Subcellular Mapping of Trace Elements in Plants Using High Resolution Secondary Ion Mass Spectrometry (NanoSIMS)	Katie Moore
A05.5	8/3/2022	9:45 AM	10:00 AM	128	Automated Quantitative Mapping of Ore Minerals by Multispectral Reflected-Light Microscopy	Juan Carlos Catalina
A06.1	8/2/2022	10:30 AM	11:00 AM	139	Mysterious Field Evaporation Behavior of Hydrogen in Aluminium Based Material Analyzed with Atom Probe Tomography	Loïc Rousseau
A06.1	8/2/2022	11:00 AM	11:15 AM	140	Hydrogen Trapping in Fully Martensitic Steels using Atom Probe Tomography	Rekha M Y
A06.1	8/2/2022	11:15 AM	11:30 AM	141	Laser Ablation Sample Preparation for grain boundary analysis of H in Atom Probe Tomography	Martina Heller
A06.1	8/2/2022	11:30 AM	11:45 AM	142	Solving Peak Tail Overlaps in Atom Probe Tomography using Convolutional Networks	Martin Meier
A06.1	8/2/2022	11:45 AM	12:00 PM	143	Analysis of Multiple-ion Events in Atom Probe Tomography Studies of MoNbTi and HfNbTaTiZr Refractory High Entropy Alloys	Patrick Callahan
A06.2	8/2/2022	1:30 PM	2:00 PM	144	Dynamic observation of electro-assisted Fe oxidation by Operando Atom Probe	Sten Lambeets
A06.2	8/2/2022	2:00 PM	2:15 PM	145	Fully Automated Data Acquisition and Reporting for Semiconductor Dopant Analysis	Katherine Rice
A06.2	8/2/2022	2:15 PM	2:30 PM	146	A Standards-based Approach to Dopant Quantification Using Atom Probe Tomography	Karen DeRocher
A06.2	8/2/2022	2:30 PM	2:45 PM	147	AP Suite Extension Infrastructure	James Payne
A06.2	8/2/2022	2:45 PM	3:00 PM	148	APT_PyControl, an Open-source Python Atom Probe Tomography Control Software Package	Mehrpad Monajem
A06.3	8/3/2022	8:30 AM	9:00 AM	149	3D-Atomic-Scale Analysis of Magnetoelectric Multiferroic Topologies via Scanning Transmission Electron Microscopy and Spectroscopy Complemented by Atom Probe Tomography	Michele Conroy
A06.3	8/3/2022	9:00 AM	9:15 AM	150	Nanoscale Spatial and Chemical Exploration of Porcine Trabeculae Bone using Atom Probe Tomography	Yanru Ren
A06.3	8/3/2022	9:15 AM	9:30 AM	151	Atom Probe Tomography of Catalyst Nanoparticles	Nora Vorlaufer
A06.3	8/3/2022	9:30 AM	9:45 AM	152	Carbon capping for specimen preparation of atom probe samples with features of interest near the surface.	Edwin Supple
A06.3	8/3/2022	9:45 AM	10:00 AM	153	The Effect of ω- and α-Phase Precipitation on the β-Phase Lattice Parameters During 400°C aging in Ti-11Cr(at.%)	JoAnn Ballor
A07.1	8/4/2022	8:30 AM	8:45 AM	157	Imaging the Electronic Structure of Strained Epitaxial Monolayer Graphene	Sujitra Pookpanratana
A07.1	8/4/2022	8:45 AM	9:00 AM	158	Imaging atomically thin transition metal dichalcogenides using deep ultraviolet photoelectron emission microscopy	Alex Boehm
A07.1	8/4/2022	9:00 AM	9:15 AM	159	Metrology of sample preparation for electron microscopy: Application to strain measurements	Pawel Nowakowski
A07.1	8/4/2022	9:15 AM	10:00 AM	160	The Reproducibility Crisis, a Comprehensive Set of Guides on XPS, and Better Data Fitting/Chemometrics of XPS Data	Tahereh Avval
A07.2	8/4/2022	1:30 PM	2:00 PM	161	Detectability & Sensitivity vs Incident Beam Energy in Modern Analytical Electron Microscopes	Nestor Zaluzec

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
A07.2	8/4/2022	2:00 PM	2:15 PM	162	Effect of Sampling on Geometric Phase Analysis Sensitivity for Strain Measurement in Scanning Transmission Electron Microscopy	Alexandre Pofelski
A07.2	8/4/2022	2:15 PM	2:30 PM	163	Integrated Nanophotonic Electron Beam Modulators Enable Ultra-High Precise Method for Calibrating EELS Spectrometers	Alexey Sapozhnik
A07.2	8/4/2022	2:30 PM	2:45 PM	164	A Low-Noise, Two-Channel STEM EBIC Metrology System	William Hubbard
A07.2	8/4/2022	2:45 PM	3:00 PM	165	High-Speed, High-Precision, and High-Throughput Strain Mapping with Cepstral Transformed 4D-STEM Data	Dasol Yoon
A08.1	8/4/2022	8:30 AM	8:45 AM	168	Towards quantification of the reaction product in oxygen-evolving oxides by operando electron energy-loss spectroscopy in liquids	Tzu-Hsien Shen
A08.1	8/4/2022	8:45 AM	9:00 AM	169	Benefits of Nanoscale Operando Experiments in Environmental Transmission Electron Microscopy for Solid Oxide Fuel Cell Devices	Matthieu Bugnet
A08.1	8/4/2022	9:00 AM	9:15 AM	170	Water Condensation / Evaporation Experiments in ETEM using a Thermoelectric Microcooler	Joseph VAS
A08.1	8/4/2022	9:15 AM	9:30 AM	171	Effect of Induced Stimuli on the Leakage Current of Operative Oxide-based Devices Inside a TEM	Oscar Recalde
A08.1	8/4/2022	9:30 AM	10:00 AM	172	Probing structural changes in nanoparticles during CO-oxidation reaction via In Situ TEM	Utkur Mirsaidov
A08.2	8/4/2022	1:30 PM	1:45 PM	173	In-situ (S)TEM Study of Synthesis and Degradation Process of Titanium-Based MXene Lithium-ion Anodes	Mounib Bahri
A08.2	8/4/2022	1:45 PM	2:15 PM	174	Relevance of In-Situ Electrochemical STEM Observations to Li-Metal Batteries for Evaluating Performance	Katherine Jungjohann
A08.2	8/4/2022	2:15 PM	2:30 PM	175	Capturing Reaction Kinetics of Atomically thin Device Materials by High-throughput in-operando SEM	Ye Fan
A08.2	8/4/2022	2:30 PM	2:45 PM	176	Stability of Fe Electrode in Alkaline Electrolyte	Shu Fen Tan
A08.2	8/4/2022	2:45 PM	3:00 PM	177	Battery in situ Electrical Testing in FIB-SEM	Libor Novak
A08.3	8/4/2022	3:30 PM	3:45 PM	178	Structure and Field Evolution of Magnetic Skyrmions in Co/Pt-Based Multilayers by In-Situ Electron Holography	Ingrid Marie Andersen
A08.3	8/4/2022	3:45 PM	4:00 PM	179	In-situ TEM and Spectroscopy Studies of Nanoscale Perpendicular Magnetic Tunnel Junction	Hwanhui Yun
A08.3	8/4/2022	4:00 PM	4:15 PM	180	In-situ Study of Skyrmions at High Resolution using Differential Phase Contrast Microscopy	Hui Ru Tan
A08.3	8/4/2022	4:15 PM	4:30 PM	181	In-situ transmission electron microscopy study of the impact of external electric field in 2D perovskites	Romika Sharma
A08.3	8/4/2022	4:30 PM	5:00 PM	182	Development of Operando X-ray Ptychography at the Advanced Light Source	David Shapiro
A09.1	8/3/2022	8:30 AM	9:00 AM	185	Atomistic Modeling of Ultrashort Pulse Laser-Induced Generation of Crystal Defects	Leonid Zhigilei
A09.1	8/3/2022	9:30 AM	9:45 AM	186	Merging Machine Learning and TriBeam Tomography for 3D Defect Detection in an AM CoNi-Based Superalloy	James Lamb
A09.1	8/3/2022	9:45 AM	10:00 AM	187	Femtosecond Laser Heat Affected Zones in Aluminum	Renae Gannon
A09.2	8/3/2022	10:30 AM	11:00 AM	188	Probing material dynamics with an SEM at nanometer length and picosecond time-scales	Vasudevan Iyer
A09.2	8/3/2022	11:00 AM	11:15 AM	189	The Preparation of Large Area Transmission Kikuchi Diffraction Samples From Bulk Material Without Requiring Lift Out	Pat Trimby
A09.2	8/3/2022	11:15 AM	11:30 AM	190	Opportunities and Challenges of Ultra Short Pulsed Lasers with Dual Focused Ion Beams for Characterization of Full-Scale Electronic Devices	Julia Deitz
A09.2	8/3/2022	11:30 AM	11:45 AM	191	A Multislice Approach to Quantify Laser-Induced Lattice Temperature from Ultrafast Electron Diffraction Measurements of Single-Crystal Films	Daniel Durham
A09.2	8/3/2022	11:45 AM	12:00 PM	192	Fast Fabrication of Micropillars for Micromechanical Testing Using a Combined fs-Laser – FIB/SEM Approach	Tim Schubert
A10.1	8/3/2022	8:30 AM	9:00 AM	194	Cantilevered Plates for Micrometrology	Ryan Tung
A10.1	8/3/2022	9:00 AM	9:15 AM	195	Photothermal cantilever excitation: unlocking new methods in atomic force microscopy.	Edward Nelson
A10.1	8/3/2022	9:15 AM	9:30 AM	196	Probing and manipulating a single chemical bond using scanning probe microscopy	Pengcheng Chen
A10.1	8/3/2022	9:30 AM	10:00 AM	197	Measuring Dynamics in Energy Materials Using Functional Atomic Force Microscopy	Rajiv Giridharagopal
A10.2	8/3/2022	10:30 AM	11:00 AM	198	The Spatially-Resolved Illumination of Chemical Processes by Means of Mass Spectrometry Imaging: from Click-Chemistry to Biogenesis	Gregory Fisher
A10.2	8/3/2022	11:00 AM	11:15 AM	199	Spectro-Nanoscopy of Ultrathin Films of Organic and Biological Specimens via Infrared Photo-induced Force Microscopy (IR PiFM)	Padraic O'Reilly
A10.2	8/3/2022	11:15 AM	11:30 AM	200	nano-FTIR Correlation Nanoscopy for Organic and Inorganic Material Analysis	Tobias Gokus
A10.2	8/3/2022	11:30 AM	11:45 AM	201	Predicting Prostate Cancer Directly from Tissue Images using Deep Learning on Mass Spectrometry Imaging and Whole Slide Imaging Data	Md Inzamam Ul Haque
A10.2	8/3/2022	11:45 AM	12:00 PM	202	Imaging Biological Specimens by STEM-in-SEM and Comparison with TEM	Erich Müller
A10.3	8/3/2022	1:30 PM	2:00 PM	203	Recent innovations and perspectives in TOF-SIMS	Felix Kollmer
A10.3	8/3/2022	2:00 PM	2:30 PM	204	SIMS imaging performed on Focused Ion Beam - based platforms	Jean-Nicolas Audinot
A10.3	8/3/2022	2:30 PM	3:00 PM	205	Expanded materials sample platforms for advanced surface analysis of energy materials	Chris moffitt
A10.4	8/4/2022	8:30 AM	8:45 AM	206	Application of Electron Back Scattering Diffraction in Facet Crystalline Orientation Analysis	Josiah Dubovi
A10.4	8/4/2022	8:45 AM	9:00 AM	207	Quick and Correlative TOF-SIMS Analysis of Dispersoid Content in Powder Feedstock and Printed Oxide Dispersion Strengthened Alloys	Laura Wilson
A10.4	8/4/2022	9:00 AM	9:30 AM	208	New Horizons in Multi-technique Auger Electron Spectroscopy: Surface Sensitive Chemical Imaging on the Nano-scale of Additive Manufacturing Materials	Ashley Maloney
A10.4	8/4/2022	9:30 AM	9:45 AM	209	Multi-Modal Identification of Feldspar and Iron Oxide Phases in Granite Using Raman Spectroscopy in the Electron Microscope	Justin Morrow
A10.4	8/4/2022	9:45 AM	10:00 AM	210	Mapping Surface Corrosion Damages of C1018 Carbon Steel When Exposed to High Temperature Environment	Mohammad Haque
A10.5	8/4/2022	1:30 PM	2:00 PM	211	Ambient Mass Spectrometry Imaging of Lipid Molecules from Alive Cells and Tissues	Heejin Lim

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
A10.5	8/4/2022	2:15 PM	2:30 PM	212	Development and Validation of In-Situ Specimen Orientation Method for Quantitative SEM/EDS Analysis	Clay Klein
A10.5	8/4/2022	2:30 PM	3:00 PM	213	Correlated Materials Characterization via Multimodal Chemical Imaging and Data Analytics	Olga Ovchinnikova
A10.6	8/4/2022	3:30 PM	3:45 PM	214	SIMS Uranium Isotope Analysis of NIST Standard Glasses to Determine Detection Limits	Kimberly Wurth
A10.6	8/4/2022	3:45 PM	4:15 PM	215	Quantitative Piezoresponse Force Microscopy Informed by Cantilever Vibrations	Jason Killgore
A10.6	8/4/2022	4:15 PM	4:45 PM	216	XPS Surface analysis augmented using correlative spectroscopy and microscopy	Tim Nunney
A10.6	8/4/2022	4:45 PM	5:00 PM	217	Structural analysis of liquid-exfoliated graphene as building-blocks for anti-corrosion thin films	Wen Qian
B01.1	8/2/2022	10:30 AM	11:00 AM	226	MicroED conception and current practices.	Tamir Gonen
B01.1	8/2/2022	11:00 AM	11:30 AM	227	Progress Towards More Accurate and Precise MicroED Measurements	Matthew Mecklenburg
B01.1	8/2/2022	11:30 AM	12:00 PM	228	A Complete Micro-Electron Diffraction (MicroED) Solution for Fast Structure Determination for Macromolecules and Small Molecules	Natalie Young
B01.2	8/2/2022	1:30 PM	2:15 PM	229	Electron Counting and Phasing in MicroED	Johan hattne
B01.2	8/2/2022	2:15 PM	2:30 PM	230	Crystal Structure Determination of Gramicidin by Microcrystal Electron Diffraction	Nicole Hoefer
B01.2	8/2/2022	2:30 PM	2:45 PM	231	Applying the Semi-Automated MicroED Processing Pipeline, AutoMicroED	Samantha Powell
B01.2	8/2/2022	2:45 PM	3:00 PM	232	A Computer Program for Objective Point Symmetry Classifications of Electron Diffraction Spot Patterns with Apparent Hexagonal or Rectangular-Centered Lattice Metric	Lukas von Koch
B02.1	8/1/2022	1:30 PM	2:00 PM	233	Co-factor interactions in alpha and beta-coronavirus core polymerase complexes	Robert Kirchdoerfer
B02.1	8/1/2022	2:00 PM	2:15 PM	234	Mechanism of signal sequence handover from NAC to SRP on ribosomes during ER-protein targeting	Ahmad Jomaa
B02.1	8/1/2022	2:15 PM	2:30 PM	235	Structural studies of Dicer-2 complexes	Helen Donelick
B02.1	8/1/2022	2:30 PM	3:00 PM	236	Sleeping Beauty Redux – Resting Ribosomes in Neurons	Sarah Loerch
B02.2	8/2/2022	8:30 AM	9:00 AM	237	Integrative structural analysis of human nuclear pore complex	Shyamal Mosalaganti
B02.2	8/2/2022	9:00 AM	9:15 AM	238	Cryo-ET Structural Studies of Ty1 Retrotranspon Capsids	Bryan Sibert
B02.2	8/2/2022	9:15 AM	9:30 AM	239	Elucidating the 3D Structure of β-(1,3)-glucan Synthase from Candida glabrata by Subtomogram Averaging	Jennifer Jiang
B02.2	8/2/2022	9:30 AM	9:45 AM	240	Investigating the Ultrastructural Effects of F-BAR Proteins on Neuritogenesis by CLEM and Cryo-ET	Joseph Kim
B02.2	8/2/2022	9:45 AM	10:00 AM	241	Visualizing the Macro- and Micronutrient Distribution of Toxic Cyanobacteria in Two and Three Dimensions	Bobby Duersch
B02.3	8/2/2022	10:30 AM	11:00 AM	242	Free energy profiles from single-molecule cryoEM	Julian Giraldo-Barreto
B02.3	8/2/2022	11:00 AM	11:15 AM	243	Conformational dynamics of the CCT protein folding machine	Shuxin Wang
B02.3	8/2/2022	11:15 AM	11:45 AM	244	Cryo-EM Studies of Genome Organisation and Transcription Complexes	Seychelle Vos
B02.3	8/2/2022	11:45 AM	12:00 PM	245	Molecular Structure Determination Extrapolated to Zero Dose with an Electron Cryomicroscope	Katerina Naydenova
B03.1	8/2/2022	1:30 PM	2:00 PM	246	The case for lower voltage TEMs: A 100 keV FEG for high resolution microscopy	Mohamed El-Gomati
B03.1	8/2/2022	2:00 PM	2:15 PM	247	Breaking to the Subnanometer Resolution Range of Cryo-EM SPA Reconstructions Obtained from 120 kV LaB6 TEM	Simonas Masiulis
B03.1	8/2/2022	2:15 PM	2:30 PM	248	Large-Format Direct Detection Camera for Cryo-EM at 100 keV	Brian Lee
B03.1	8/2/2022	2:30 PM	2:45 PM	249	First Results from a Novel CMOS Detector Optimised for 100keV CryoEM	Liam O'Ryan
B03.1	8/2/2022	2:45 PM	3:00 PM	250	Apollo: A Novel Event-Based Direct Detector for Cryo-EM	Benjamin Bammes
B03.2	8/3/2022	8:30 AM	9:00 AM	251	Laser-based phase contrast	Holger Mueller
B03.2	8/3/2022	9:00 AM	9:15 AM	252	Cryogenic Electron Ptychographic Single Particle Analysis	Xudong Pei
B03.2	8/3/2022	9:15 AM	9:30 AM	253	Dose-efficient tcBF-STEM with information retrieval beyond the scan sampling rate for imaging frozen-hydrated biological specimens	Yue Yu
B03.2	8/3/2022	9:30 AM	9:45 AM	254	Probing Biological Materials by Vibrational Analysis in the Electron Microscope	Ondrej Krivanek
B03.2	8/3/2022	9:45 AM	10:00 AM	255	Curiously Absent Knock-On Damage of Lithium Metal at Cryogenic Temperatures	Matthew Mecklenburg
B03.3	8/3/2022	10:30 AM	11:00 AM	257	CryoDRGN2: Ab initio neural reconstruction of dynamic macromolecular machines	Ellen Zhong
B03.3	8/3/2022	11:00 AM	11:15 AM	258	3D Flexible Refinement: Structure and Motion of Flexible Proteins from Cryo-EM	Ali Punjani
B03.3	8/3/2022	11:15 AM	11:30 AM	259	Second-order Total Variation for Compressed Sensing Cryo-ET and Subtomogram Averaging	Jan Böhning
B03.3	8/3/2022	11:30 AM	11:45 AM	260	Montage cryo-electron tomography: a high throughput and flexible data collection scheme to explore in-situ cellular landscapes while preserving high-resolution data	Jae Yang
B03.3	8/3/2022	11:45 AM	12:00 PM	261	Phantoms Improve Robustness of Deep Learning Automated Segmentation in Cryotomography	Jessica Heebner
B03.4	8/3/2022	1:30 PM	2:00 PM	262	Improving Cryo-EM Ice Thicknesses Workflows on the Chameleon Sample Preparation Device	Eugene Chua
B03.4	8/3/2022	2:00 PM	2:15 PM	263	MeasureIce: Accessible Ice Thickness Measurement for Single Particle Cryogenic Transmission Electron Microscopy	Hamish Brown
B03.4	8/3/2022	2:15 PM	2:30 PM	264	Optimization of CryoEM Sample Preparation: A New Freezing Strategy to Reduce the Time to Structure Loop	Ouliana Panova
B03.4	8/3/2022	2:30 PM	2:45 PM	265	Effects of chameleon Dispense-to-Plunge Time on Grid Characteristics, Sample Distribution, and Complex Denaturation of the Neisseria gonorrhoeae Ribonucleotide Reductase Inactive Complex	Talya Levitz
B03.4	8/3/2022	2:45 PM	3:00 PM	266	Cryo-EXLO for Cryo-TEM of FIB Specimens	Lucille Giannuzzi
B03.5	8/4/2022	8:30 AM	9:00 AM	267	New cryoEM Methods for Studying Native Biological Complexes, in situ and in Action	Z. Hong Zhou
B03.5	8/4/2022	9:00 AM	9:15 AM	268	National Center for In-situ Tomographic Ultramicroscopy and the Waffle Method: An Approach for Cryo-FIB/SEM Thin Lamellae Preparation	Daija Bobe
B03.5	8/4/2022	9:15 AM	9:30 AM	269	A Next Generation Cryo-FIB Microscope for High-Throughput Cryo-Electron Tomography	Alexander Rigort
B03.5	8/4/2022	9:30 AM	9:45 AM	270	Expediting Cryo-EM Grid Optimization by Utilizing Statistical Analysis with JMP	Rose Marie Haynes
B03.5	8/4/2022	9:45 AM	10:00 AM	271	CryoDiscovery™: Public Data based AI/ML model enhancements for Cryogenic Electron Microscopy Image Analysis	Narasimha Kumar
B03.6	8/4/2022	1:30 PM	2:00 PM	272	Visualizing Single Molecule Identity and Sample Integrity in situ	Bronwyn Lucas

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
B03.6	8/4/2022	2:00 PM	2:15 PM	273	Data collection speedups in Leginon	Kashyap Maruthi
B03.6	8/4/2022	2:15 PM	2:30 PM	274	Smart Leginon: Fully Automated Cryo-EM Grid Screening for CryoEM using Leginon and Ptolemy	Huihui Kuang
B03.6	8/4/2022	2:30 PM	2:45 PM	275	SmartScope: Framework for unsupervised cryo-EM imaging	Jonathan Bouvette
B03.6	8/4/2022	2:45 PM	3:00 PM	276	A cryogenic fluorescence microscope retrofittable in coincidence with a FIB/SEM	Daan Boltje
B03.7	8/4/2022	3:30 PM	4:00 PM	277	Using inelastically scattered electrons to enhance imaging of biological macromolecules from any layer of a thick specimen	Joshua Dickerson
B03.7	8/4/2022	4:00 PM	4:15 PM	278	Investigating Direct Focused Probe Ptychography for Single Particle Analysis	Christoph Hofer
B03.7	8/4/2022	4:15 PM	4:30 PM	279	Distinguishing between Quaternary Symmetries and Pseudo-symmetries in a Prokaryotic Potassium Channel in both the open and closed Conformation	Peter Moeck
B03.7	8/4/2022	4:30 PM	4:45 PM	280	Particles Per Hour as a Metric for Single-particle Cryo-EM Data Collection Speed When Comparing Super-resolution and Hardware-binned Data	Jonathan Fay
B03.7	8/4/2022	4:45 PM	5:00 PM	281	On the Road to Correlative Cryo-Lift-Out, Fully Automated Waffles and Beyond – Make the Most out of your Tissue Sample	Jürgen Plitzko
B04.1	8/4/2022	8:30 AM	8:45 AM		Capturing the Evolution of the Oil-in-Water Emulsion Interface by Correlative Imaging	Xiao-Ying Yu
B04.1	8/4/2022	8:45 AM	9:00 AM		Development of CLEM workflows in cryo-Electron Tomography	Lydia-Marie Joubert
B04.1	8/4/2022	9:00 AM	9:15 AM	284	3D Fluorescence Localization in Frozen Cells for Targeted Lamella Milling for Electron Cryo-Tomography	Ernest van der Wee
B04.1	8/4/2022	9:15 AM	9:30 AM	285	Correlative cryo-FIB milling using METEOR, an integrated fluorescent light microscope	Marit Smeets
B04.1	8/4/2022	9:30 AM	9:45 AM	286	(Cryo-) Electron Microscopy Workflows of Interactions between Airborne Pollution Particles and Nasal Epithelial Cells	Victoria Garcia Giner
B04.1	8/4/2022	9:45 AM	10:00 AM	287	Correlating Multi-Pass Microscopy and Transmission Electron Microscopy for Biological Materials	Cheri Hampton
B04.2	8/4/2022	1:30 PM	1:45 PM	288	Indirect Correlative Light and Electron Microscopy (iCLEM) Coupled with Computational Modeling Reveals the Nanoscale Basis of Functional Heterogeneities within the Heart	Heather Struckman
B04.2	8/4/2022	1:45 PM	2:00 PM	289	Multimodal and correlative characterization of hybrid structures: application to materials for environmental remediation	Stephanie Ribet
B04.2	8/4/2022	2:00 PM	2:15 PM	290	Sub-micron scale chemical and mineralogical analyses on microbially induced calcium carbonate precipitates	Neerja Zambare
B04.2	8/4/2022	2:15 PM	2:30 PM	291	Elemental co-localization of nutrients, C, Al, and Fe in soil minerals with electron microscopy and scatterplot-matrix analysis	Odeta Qafoku
B04.2	8/4/2022	2:30 PM	3:00 PM	292	A Workflow for Improving Nanoscale X-ray Fluorescence Tomographic Analysis	Yanqi Luo
B04.3	8/4/2022	3:30 PM	4:00 PM	293	Synchrotron radiation and laser light microscopy partnership for the study of biological systems: The case of soft X-ray tomography and structured illumination microscopy at cryogenic temperatures	Maria Harkiolaki
B04.3	8/4/2022	4:00 PM	4:15 PM	294	Developing a Practical Framework for Spatially Correlated Electron and X-ray High Resolution Chemical Imaging	Alice Dohnalkova
B04.3	8/4/2022	4:15 PM	4:30 PM	295	Laboratory Cryo Soft X-ray Tomography reveals Cellular Ultrastructure at the Nanoscale	Kenneth Fahy
B04.3	8/4/2022	4:30 PM	4:45 PM	296	Connected Microscopy to Characterise the Dermal Denticle of Raja clavata, the Thornback Ray	Jebin Jestine
B04.3	8/4/2022	4:45 PM	5:00 PM	297	Correlative Structure-Property Characterisation of the Leafcutter Ant (Atta cepholotes) Mandible	Richard Johnston
B05.1	8/3/2022	8:30 AM	9:00 AM	299	Use of scanning electron microscopy to evaluate and determine host:parasite interactions in a large animal model	Scott Bowdridge
B05.1	8/3/2022	9:00 AM	9:15 AM	300	Disruption of the cellular and extracellular morphogenesis of valve tissues in avian models of cyanotic heart defects	Rich Goodwin
B05.1	8/3/2022	9:15 AM	9:30 AM	301	MMP20-ablated Induced Aberrant Mineralization in Early Secretory Enamel	Ya-Hsiang Hsu
B05.1	8/3/2022	9:30 AM	10:00 AM	302	Bioforensic Microscopy Analysis of Infectious Organisms	Robert Pope
B05.2	8/3/2022	10:30 AM	11:00 AM	303	A Career Filled with Viruses	Cyntha Goldsmith
B05.2	8/3/2022	11:00 AM	11:15 AM	304	Understanding the Host-Pathogen Interactions of Pseudomonas aeruginosa with Lung Epithelial Cells.	Deepali Luthra
B05.2	8/3/2022	11:15 AM	11:30 AM	305	Utilizing Liquid-Electron Microscopy to Visualize SARS-CoV-2 Assemblies from COVID-19 Patients	Samantha Berry
B05.2	8/3/2022	11:30 AM	12:00 PM	306	NanoSuit method for the observation of living/hydrous organisms in an SEM	Yasuharu Takaku
B05.3	8/3/2022	1:30 PM	2:00 PM	307	Microwave Brain Tissue Processing: Making Life Easier for Ultrastructural Immunohistochemical Analysis of Synapses in Rodent Models of Neurodegeneration	Cindy Moore
B05.3	8/3/2022	2:00 PM	2:15 PM	308	Freeze Substitution and Low Temperature Processing of Cryo Protected Tissues into Lowicryl HM23 Resin for Correlated Light and Immunogold Electron Microscopy in Drug Discovery and Safety Assessment Research	Mike Reichelt
B05.3	8/3/2022	2:30 PM	3:00 PM	309	Using Computational Methods and 3D Volume EM Reconstructions to Examine Interactions Between Microglia and Oligodendrocyte Precursor Cells in Mouse Cortex.	JoAnn Buchanan
B06.1	8/4/2022	8:30 AM	8:45 AM	313	Super Resolution of gammaH2AX Substructure in Chromatin in GBM cells	LInda Yasui
B06.1	8/4/2022	8:45 AM	9:15 AM	314	Application of X-ray Computed Tomogrophy for High-Throughput Analysis in Drug Product Development at Micrometer and Nanometer Scale	Somya Singh
B06.1	8/4/2022	9:15 AM	9:45 AM	315	Quantitative bioimaging of therapeutic responses in the brain using deep learning	Meredith Calvert
B06.1	8/4/2022	9:45 AM	10:00 AM	316	Interferometric scattering microscopy of albumin-bound paclitaxel nanoparticles	Taylor Woehl
B06.2	8/4/2022	1:30 PM	2:00 PM	317	Molecular Imaging of Biological Samples in Pharmaceutical Development Using Mass Spectrometry Imaging and Machine Learning	Hang Hu
B06.2	8/4/2022	2:15 PM	2:30 PM	319	Dye free determination of NASH in human liver samples using NAD(P)H autofluorescence and machine learning analysis.	Jonathan Boyd
B06.2	8/4/2022	2:30 PM	2:45 PM	320	3D multiplex visualization of biologics and morphological marker distribution in intact tumors and brain using tissue clearing and lightsheet microscopy.	Niyanta Kumar

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
B06.2	8/4/2022	2:45 PM	3:00 PM	321	Elemental Analysis of Cosmetic Contact Lenses Reveals High Concentrations of Heavy Metals in Pigments Deposited on Cornea-Facing Surfaces.	Louise Hughes
B07.1	8/1/2022	1:30 PM	1:45 PM	323	3D Visualization of Structural and Protein Compositional Changes in Plakophilin-2 Deficient Hearts	Feng-Xia Liang
B07.1	8/1/2022	1:45 PM	2:15 PM	324	Volume Electron Microscopy to Provide Insight into the 3-Dimensional World of Cells and Tissues	Paul Verkade
B07.1	8/1/2022	2:15 PM	2:30 PM	325	Optimization of Scanning Electron Microscopy and Serial Block Face - Scanning Electron Microscopy for Investigating Bacteria and Whipworm Egg Interactions	Amicha robertson
B07.1	8/1/2022	2:30 PM	3:00 PM	326	Tips and Tricks for Volume Electron Microscopy Workflows in Plants	Kirk Czymmek
B07.2	8/2/2022	8:30 AM	8:45 AM	327	Thicker Sections (300-500 nm) Observed in the Conventional TEM May Reveal Extended Structures Not Recognized in Ultrathin Sections	Douglas Keene
B07.2	8/2/2022	8:45 AM	9:00 AM	328	Comparison of Ultrastructure Determined by Serial Block Face SEM and Focused Ion Beam SEM from Blood Platelets and Thrombi	Richard Leapman
B07.2	8/2/2022	9:00 AM	9:30 AM	329	Building a Volume EM Atlas of Whole Cells and Tissues with Enhanced FIB-SEM	C. Shan Xu
B07.2	8/2/2022	9:30 AM	9:45 AM	330	BIOLOGICAL MARKERS TO STUDY THE MORPHOLOGICAL MODIFICATIONS INDUCED BY PERINATAL ASPHYXIA	Francisco Capani
B07.2	8/2/2022	9:45 AM	10:00 AM	331	Parsing the Relationship Between 3View SBF-SEM Performance and Sample Preparation	Joseph Sall
B07.3	8/2/2022	10:30 AM	11:00 AM	332	Volume Imaging: From HeLa Cells to the Human Nervous System	Anna Steyer
B07.3	8/2/2022	11:00 AM	11:15 AM	333	3D Visualisation of Biological Species at Hard-Soft Bone Interfaces using Cryo FIB/SEM	Aekta Upadhyay
B07.3	8/2/2022	11:15 AM	11:30 AM	334	Effects of Chloramphenicol Treatment on Cellular Storage Granules and Membrane Structures in Rhodobacter sphaeroides	Daniel Parrell
B07.3	8/2/2022	11:30 AM	12:00 PM	335	Visualizing the intracellular niche of human-infecting microsporidia using serial block face scanning electron microscopy.	Noelle Antao
B07.4	8/2/2022	1:30 PM	1:45 PM	336	Laboratory Cryo Soft X-ray Tomography for Label-Free Imaging of Bulk Samples	Kenneth Fahy
B07.4	8/2/2022	1:45 PM	2:00 PM	337	Soft X-ray tomography: a mesoscale bio-imaging technique to study single cells in 3D with automated segmentation tools for several sub-cellular structures	Bieke Vanslembrouck
B07.4	8/2/2022	2:00 PM	2:15 PM	338	3D imaging and elemental analysis of biological samples	Yuuki Yamaguchi
B07.4	8/2/2022	2:15 PM	2:45 PM	339	Volume electron microscopy: taking the measure of cells in 3D	Kedar Narayan
B07.4	8/2/2022	2:45 PM	3:00 PM	340	Noise Reconstruction and Removal Network: a New Way to Denoise FIB-SEM Image	Katya Giannios
B08.1	8/3/2022	8:30 AM	8:45 AM	342	Object Segmentation on Cryo-electron Tomography Data	Lan Dang
B08.1	8/3/2022	8:45 AM	9:15 AM	343	Organelle segmentation facilitated by correlative light microscopy data	Ryan Lane
B08.1	8/3/2022	9:15 AM	9:30 AM	344	A Framework to Segment Cellular Ultrastructure from 3D Electron Microscopy Images of Human Biopsies	Archana Machireddy
B08.1	8/3/2022	9:30 AM	10:00 AM	345	Towards public archiving of large, multi-modal imaging datasets	Matthew Hartley
B08.2	8/3/2022	10:30 AM	10:45 AM	346	Visualizing Early HCoV-229E Viral Infection Events Using Correlative 2D Light and 3D Electron Microscopy Techniques	Alyssa Williams
B08.2	8/3/2022	10:45 AM	11:15 AM	347	Deconstructing the Nucleus to Elucidate Cellular Pliancy in the Retina	Marybeth Lupo
B08.2	8/3/2022	11:15 AM	11:30 AM	348	Quantitative Morphological Analysis of Super-resolution Images Provides Validation of Novel Therapies to Prevent Atrial Fibrillation	Louisa Mezache
B08.2	8/3/2022	11:30 AM	12:00 PM	349	Real-time 3D Tomographic Imaging of Biological Samples with Zooming to Features of Interest	Viktor Nikitin
B09.1	8/2/2022	10:30 AM	11:00 AM	350	Shiny Inoue, a life dedicated to education	Paul Maddox
B09.1	8/2/2022	11:00 AM	11:30 AM	351	Advancing Pharmaceutical Research through Innovations in Imaging	Bonnie Howell
B09.1	8/2/2022	11:30 AM	12:00 PM	352	Live cell imaging: The past, The present and future opportunities	simon watkins
B09.2	8/2/2022	1:30 PM	2:00 PM	353	Biological and Technological Tools to Probe Systems Level Structure of Human Oral Biofilms	Alex Lemus
B09.2	8/2/2022	2:00 PM	2:15 PM	354	Inspired By Shinya Inoue: Quantitative Orientation-Independent Differential Interference Contrast Microscopy	Yujin Bao
B09.2	8/2/2022	2:15 PM	2:45 PM	355	Elevating Polarized Light Microscopy to the Third Dimension	Rudolf Oldenbourg
B09.2	8/2/2022	2:45 PM	3:00 PM	356	Reflecting on the Past and Building the Future of Imaging at MBL: Carrying Forward Shinya Inoué's Legacy	Abhishek Kumar
B10.1	8/3/2022	8:30 AM	9:15 AM	357	Hybrid open-top light-sheet microscopy for multi-scale 3D imaging of cleared and expanded tissues	Adam Glaser
B10.1	8/3/2022	9:15 AM	10:00 AM	358	High-Resolution Chemical Imaging of Cells and Tissues	Lu Wei
B10.2	8/3/2022	10:30 AM	11:15 AM	359	Super-Resolution Microscopy Made Simple	Joshua Vaughan
B10.2	8/3/2022	11:15 AM	11:30 AM	360	Two-Color Fixed Cell Imaging Using Engineered Point Spread Functions – XPSF Family	Sanduni Fernando
B10.2	8/3/2022	11:30 AM	12:00 PM	361	Nanoscale Imaging of Biomolecules Using Molecule Anchorable Gel-enabled Nanoscale In-situ Fluorescence Microscopy	Aleksandra Klimas
B10.3	8/3/2022	1:30 PM	2:15 PM	362	Towards Quantitative Mapping of Organ-Wide Patterns with Whole Mount Imaging	Zhuhao Wu
B10.3	8/3/2022	2:15 PM	2:30 PM	363	Nearest Neighbor-Based Spatial Analysis of Fluorescence Microscopy Data Reveals Increased Association of NaV1.6 with Cardiac Dyads in Mouse Model of Type-2 Diabetes	Andrew Soltisz
B10.3	8/3/2022	2:30 PM	3:00 PM	364	Napari: A Python Multi-dimensional Image Viewer Platform for the Research Community	Chi-Li Chiu
C01.1	8/3/2022	1:30 PM	2:00 PM	367	e-DREAM - the European Distributed Research infrastructure for Advanced electron Microscopy	Regina Ciancio
C01.1	8/3/2022	2:00 PM	2:15 PM	368	Improving the Noise Floor and Speed of Your Detector: A Modular Hardware Approach for Under $1000	Jonathan J.P. Peters

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
C01.1	8/3/2022	2:15 PM	2:30 PM	369	Seamless communication between high-performance computing system and electron microscopes for on-demand automated data transfer and remote control	Debangshu Mukherjee
C01.1	8/3/2022	2:30 PM	3:00 PM	370	Lessons Learned in Building a Modern Microscopy Data Ecosystem at NIST	Joshua Taillon
C01.2	8/4/2022	8:30 AM	9:00 AM	371	Improved Throughput, Statistics, and Instrument Utilization with Automated Analytical Electron Microscopy	David Cullen
C01.2	8/4/2022	9:00 AM	9:15 AM	372	Pivot Point: The Key to TEM Automation	Matthew Olszta
C01.2	8/4/2022	9:15 AM	9:30 AM	374	Machine Learning-Driven Automated Scanning Probe Microscopy for Ferroelectrics	Yongtao Liu
C01.2	8/4/2022	9:30 AM	10:00 AM	373	Automated Spectrum Imaging Using Hybridized DMScript and Python Code in DigitalMicrograph	Liam Spillane
C01.3	8/4/2022	1:30 PM	2:00 PM	376	Development of a FAIR Data Management Infrastructure	Sherjeel Shabih
C01.3	8/4/2022	2:00 PM	2:15 PM	377	Retrofitting a Photoelectron Source: Improving Resolution & Functionality	Frances Quigley
C01.3	8/4/2022	2:15 PM	2:30 PM	378	Approaching Real-Time Low-Dose STEM: Image Recovery from Subsampled Measurements via Online Bayesian Dictionary Learning	Jack Wells
C01.3	8/4/2022	2:30 PM	3:00 PM	379	A Materials Scientist's CANVAS: A System for Controlled Alteration of Nanomaterials in Vacuum Down to the Atomic Scale	Clemens Mangler
C03.1	8/1/2022	1:30 PM	2:15 PM	381	Generating User Engagement in an Academic Core Research Facility	Brent GIla
C03.1	8/1/2022	2:15 PM	3:00 PM	382	Strategies for Establishing and Operating Microscopy Core Facilities in Non-R1 Institutions	Paul Eason
C04.1	8/1/2022	1:30 PM	2:00 PM	383	How to Get Something Out of Nothing (Almost!): Extracting Information from Noisy Data	Peter Crozier
C04.1	8/1/2022	2:00 PM	2:15 PM	384	Physics-Guided Machine Learning for the Analysis of Low SNR STEM-EDXS Data	Adrien Teurtrie
C04.1	8/1/2022	2:15 PM	2:30 PM	385	Simulation-Trained Machine Learning Models for Lorentz Microscopy	Arthur McCray
C04.1	8/1/2022	2:30 PM	2:45 PM	386	Large-scale Automated Analysis of High-Resolution Transmission Electron Microscopy Data Assisted by Deep Learning Neural Networks	Matthew Helmi Leth Larsen
C04.1	8/1/2022	2:45 PM	3:00 PM	387	Doing More with Less: Artificial Intelligence Guided Analytics for Electron Microscopy Applications	Sarah Akers
C04.2	8/2/2022	8:30 AM	9:00 AM	388	Artificial neural network for automatic alignment of electron optical devices	Enzo Rotunno
C04.2	8/2/2022	9:00 AM	9:15 AM	389	Compressive Hyperspectral Microscopy of Plasmonic Nanoparticles – Noise Characteristics and Performance Limits	George Lewis
C04.2	8/2/2022	9:15 AM	9:30 AM	390	Deep learning computer vision for anomaly detection in scanning transmission electron microscopy	Robert Klie
C04.2	8/2/2022	9:30 AM	9:45 AM	391	Versatile Automated Domain Mapping of 4D-STEM data utilising unsupervised ML algorithms and Bayesian Statistics	Andy Bridger
C04.2	8/2/2022	9:45 AM	10:00 AM	392	Convolutional Neural Network as a Solution to Segment and Classify High Resolution TEM Images to Obtain 3D Information	Matan Leibovich
C04.3	8/2/2022	10:30 AM	11:00 AM	393	4D-STEM Analysis with the Open Source py4DSTEM and crystal4D Toolkits	Colin Ophus
C04.3	8/2/2022	11:00 AM	11:15 AM	394	Strain Mapping from Electron Diffraction Patterns using a Fourier-space Complex Neural Network	Joydeep Munshi
C04.3	8/2/2022	11:15 AM	11:30 AM	395	Lossless Image Compression for 4D-STEM Datasets	Jacob Hinkle
C04.3	8/2/2022	11:30 AM	12:00 PM	396	Automated Acquisition and Deep Learning of 2D Materials on the Million-Atom Scale	Chia-Hao Lee
C04.4	8/2/2022	1:30 PM	2:00 PM	397	Infrastructure for Analysis of Large Microscopy and Microanalysis Data Sets	Jingrui Wei
C04.4	8/2/2022	2:00 PM	2:15 PM	398	Synthetic Data Curation Strategies for Robust Model Development: A Case Study with HRTEM Micrograph Segmentation	Luis Rangel DaCosta
C04.4	8/2/2022	2:15 PM	2:30 PM	399	Intelligent and Automatic Parameter Optimization for High-resolution Electron Ptychography	Michael Cao
C04.4	8/2/2022	2:30 PM	2:45 PM	400	Efficient Memory Storage and Linear Parallel Scaling for Large-Scale Electron Ptychography	Xiao Wang
C04.4	8/2/2022	2:45 PM	3:00 PM	401	Automatic and quantitative measurement of spectrometer aberrations in monochromated EELS	Yueming Guo
C04.5	8/3/2022	8:30 AM	8:45 AM	403	Python and FPGA-based Workflow for Automated and Interoperable Scanning Probe Microscopy	Shivaranjan Rghuraman
C04.5	8/3/2022	8:30 AM	9:00 AM	402	Exploiting automatic image processing and in-situ transmission electron microscopy to understand the stability of supported nanoparticles	Eric Stach
C04.5	8/3/2022	9:15 AM	9:30 AM	404	Compressed STEM Simulations	Alex Robinson
C04.5	8/3/2022	9:30 AM	9:45 AM	405	Application of Deep Unsupervised Convolutional Neural Networks to Denoise Large Temporally Resolved In Situ TEM Datasets	Adria Marcos-Morales
C04.5	8/3/2022	9:45 AM	10:00 AM	406	Nanoparticle Localization Using Gabor Filters	Andrei Hernandez-Robles
C04.6	8/3/2022	10:30 AM	11:00 AM	407	Maximizing Neural Net Generalizability and Transfer Learning Success for Transmission Electron Microscopy Image Analysis in the Face of Small Experimental Datasets	Katherine Sytwu
C04.6	8/3/2022	11:00 AM	11:30 AM	408	Tomviz: An Open-Source Platform for Electron Tomography	Jonathan Schwartz
C04.6	8/3/2022	11:30 AM	11:45 AM	409	Exploring Local Crystal Symmetry with Rotationally Invariant Variational Autoencoders.	Mark Oxley
C04.6	8/3/2022	11:45 AM	12:00 PM	410	Gated Dense Convolutional Neural Networks for Unbalanced Representations in STEM Tomography	Arda Genc
C05.1	8/3/2022	8:30 AM	9:00 AM	428	The Performance of Detectors for Diffraction-Based Studies in (S)TEM	Roberto dos Reis
C05.1	8/3/2022	9:00 AM	9:30 AM	422	Argon milling of bulk and post-FIB specimens for multi-length scale analyses by EBSD, TEM, and APT under controlled environments	Cecile Bonifacio
C05.1	8/3/2022	9:30 AM	10:00 AM	427	New Product Announcement – LEAP 6000XR, New Applications, New Performance	Robert Ulfrig
C05.1	8/3/2022	10:30 AM	11:00 AM	426	New Product Announcement – Invizo 6000, New Applications, New Performance	David Reinhard
C05.1	8/3/2022	11:00 AM	11:30 AM	423	Diffuse Scattering From a RAFA Lens Produced High-Intensity, Far-Focused, Small 3D Virtual Source	Rodney Herring
C05.1	8/3/2022	11:30 AM	12:00 PM	425	Millimeter-scale, large uniform area semiconductor device delayering for physical failure analyses and quality control	Pawel Nowakowski
P01.1	8/1/2022	1:30 PM	2:00 PM	429	New tools and new insights: Unravelling hydrogen effects in structural alloys	C. Cem Tasan

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
P01.1	8/1/2022	2:00 PM	2:15 PM	430	Insight on High Temperature Hydrogen Attack initiation and morphology on case studies - 3D FIB-SEM and TEM analyses for fine microstructural characterization of attacked low carbon steels	Camille Flament
P01.1	8/1/2022	2:15 PM	2:30 PM		Characterisation of deuterium distributions in corroded zirconium alloys using high-resolution SIMS imaging	Junliang Liu
P01.1	8/1/2022	2:30 PM	3:00 PM	432	Hydrogen localisation in metallurgical samples with high resolution Secondary Ion Mass Spectrometry imaging (NanoSIMS)	Katie Moore
P01.2	8/2/2022	8:30 AM	9:00 AM	433	The role of an Al-induced ferritic microfilm in martensitic steels on the hydrogen embrittlement mechanisms revealed by advanced microscopic characterization	Tom Depover
P01.2	8/2/2022	9:00 AM	9:15 AM	434	Effects of mechanical deformation on dislocation density, phase separation and hydrogen diffusion in 4130 steel	Zachary Buck
P01.2	8/2/2022	9:15 AM	9:30 AM	435	Hydrogen Embrittlement of Ni-Based Inconel 718 Superalloy	Hanlei Zhang
P01.2	8/2/2022	9:30 AM	10:00 AM	436	Electron Microscopic Investigation of Hydrogen Effects on Strain Localization and Martensitic Transformations in an Austenitic Stainless Steel.	Douglas Medlin
P01.3	8/2/2022	10:30 AM	11:00 AM	437	Characterization of hydrogen effect on mechanical properties of metals at different length scales	Afrooz Barnoush
P01.3	8/2/2022	11:00 AM	11:15 AM	438	Hydride formation and deformation mechanisms in commercially pure titanium	Stoichko Antonov
P01.3	8/2/2022	11:15 AM	11:30 AM	439	Cryogenic Focused Ion Beam Sample Preparation for the Analysis of Hydrogen in Zr Alloy APT Experiments	Megan Jones
P01.3	8/2/2022	11:30 AM	12:00 PM	440	In-situ Micromechanics of Hydrogen-induced Deformation in Pearlitic Steels	Hanyu Li
P01.4	8/2/2022	1:30 PM	2:00 PM	441	Visualization of Hydrogen-Trapping Sites in Steels by Atom Probe Tomography	Jun Takahashi
P01.4	8/2/2022	2:00 PM	2:15 PM	442	Imaging of hydrogen in metals using an atom probe with ultra-low hydrogen background	Peter Felfer
P01.4	8/2/2022	2:15 PM	2:30 PM	443	Exploiting Adsorption Dynamics in Atom Probe Tomography for accurate Measurements of Hydrogen Concentrations	Martin Meier
P01.4	8/2/2022	2:30 PM	2:45 PM	444	The Observation of H Isotope in Fe-Cr-Ni Model Stainless Steels at the Nano Scale using Atom Probe Tomography	Dallin Barton
P01.4	8/2/2022	2:45 PM	3:00 PM	445	Preliminary Atom Probe Tomography Evidence for Hydrogen Trapping at a Beta-Nb Second Phase Particle in a Neutron-Irradiated Zirconium Alloy	Benjamin Jenkins
P02.1	8/1/2022	1:30 PM	1:45 PM	451	Polarization-Induced Anisotropic Phonons at Ferroelectric-Insulator Interfaces	Chaitanya Gadre
P02.1	8/1/2022	1:45 PM	2:00 PM	452	Vibrational STEM-EELS simulations with the FRFPMS method: Applications and Advances	Paul Zeiger
P02.1	8/1/2022	2:00 PM	2:15 PM	453	Exploring Vibrational Spectroscopy of Quantum Materials in the Scanning Transmission Electron Microscope	Alexander Reifsnyder
P02.1	8/1/2022	2:15 PM	2:30 PM	454	STEM Imaging, Monochromated EELS, and Theory of Natural and Artificial Superlattices	Eric Hoglund
P02.1	8/1/2022	2:30 PM	3:00 PM	455	Emergent Phonon Phenomena at Interfaces probed by Vibrational EELS	Chaitanya Gadre
P02.2	8/2/2022	8:30 AM	8:45 AM	456	Detection limits for imaging chiral magnetic materials with 4-dimensional Lorentz scanning transmission electron microscopy	Xiyue Zhang
P02.2	8/2/2022	8:45 AM	9:00 AM	457	Methods for Multi-Layer van der Waals Heterostructures Topological Materials Discovery	David Bell
P02.2	8/2/2022	9:00 AM	9:15 AM	458	Reveal of Magnetic Domains and Tunable Supercell Structures in Two-dimensional Layered Oxide Thin Film via Differential Phase Contrast Imaging and Atomic-resolution STEM	Di Zhang
P02.2	8/2/2022	9:15 AM	9:30 AM	459	Unravelling Temperature-Dependent Ordered Skyrmion Phases in Magnetic Layered Materials using Lorentz transmission Electron Microscopy	Reed Yalisove
P02.2	8/2/2022	9:30 AM	9:45 AM	460	Room Temperature Néel-Type Skyrmions in a van der Waals Ferromagnet Revealed by Lorentz 4D-STEM	Yu-Tsun Shao
P02.2	8/2/2022	9:45 AM	10:00 AM	461	Magnetic signature in a topological Kagome magnet	Guangming Cheng
P02.3	8/2/2022	10:30 AM	11:00 AM	462	Identifying Possible Two-Level-System Sources in Superconducting Qubit with Advanced Electron Microscopy	Lin Zhou
P02.3	8/2/2022	11:00 AM	11:15 AM	463	In-Situ EBIC STEM: Automated Quantification	Grigore Moldovan
P02.3	8/2/2022	11:15 AM	11:30 AM	464	Characterization and Growth of Quad Unit Cell Linear Defects in Potassium Tantalate	Tim Eldred
P02.3	8/2/2022	11:30 AM	11:45 AM	465	Nanoscale engineering of magnetic textures in the layered magnet CrSBr using electrons and helium ions	Julian Klein
P02.3	8/2/2022	11:45 AM	12:00 PM	466	Real space demonstration of electric current-induced isolated skyrmion deformation.	Fehmi Yasin
P02.4	8/2/2022	1:30 PM	2:00 PM	467	Building Atomic and Plasmonic Devices via Electron Beams: from Desired Structures to Desired Properties	Kevin Roccapriore
P02.4	8/2/2022	2:00 PM	2:15 PM	468	Exploring the Cryogenic Phase Changes within 2D MoTe2 via TEM, 4DSTEM and Electron Spectroscopy Techniques	Samad Abdus
P02.4	8/2/2022	2:15 PM	2:30 PM	469	Atomic-Scale Phase Transformation of CrCl3 Elucidated by Cryo-STEM	Hsin-Yun Chao
P02.4	8/2/2022	2:30 PM	2:45 PM	470	In-situ Imaging of Thermally Activated Atomic Reconstruction of Twisted Bilayer Transition Metal Dichalcogenides	Yichao Zhang
P02.4	8/2/2022	2:45 PM	3:00 PM	471	Channeling-Induced Artifacts in Atom Tracking of Cations in Distorted Perovskites Imaged by HAADF-STEM	Michelle Smeaton
P02.5	8/3/2022	8:30 AM	9:00 AM	472	Imaging Charged Domain Walls in a 2D Ferroelectric	Edmund Han
P02.5	8/3/2022	9:00 AM	9:15 AM	473	Universal Torsional Periodic Lattice Distortion in Twisted 2D Materials	Suk Hyun Sung
P02.5	8/3/2022	9:15 AM	9:30 AM	474	Layer Stacking Determination in Topological Semimetal MoTe2 via STEM Imaging, Liquid He TEM, and Quantitative Electron Diffraction	James Hart
P02.5	8/3/2022	9:30 AM	9:45 AM	475	Probing Changes in the Electronic Structure and Chemical Bonding of Ti3C2 MXene Sheets with Electron Energy-Loss Spectroscopy	Asra Hassan
P02.5	8/3/2022	9:45 AM	10:00 AM	476	Mapping pm-scale Lattice Distortions and Measuring Interlayer Separations in Stacked 2D Materials by Interferometric 4D-STEM	Michael Zachman
P02.6	8/3/2022	10:30 AM	10:45 AM	477	Probing Sources of Decoherence at Defects and Interfaces in Superconducting Quantum Materials and Devices	Akshay Murthy
P02.6	8/3/2022	11:00 AM	11:30 AM	479	Autonomous Detection and Identification of Defects in Nanoscale Devices using Electron Diffraction Imaging	Jian-Min Zuo
P02.6	8/3/2022	11:30 AM	11:45 AM	480	Direct Measurement of Atomic Reconstruction, Strain, and Disorder in Moiré Materials using 4D-STEM	Madeline Van Winkle
P02.6	8/3/2022	11:45 AM	12:00 PM	481	Extending Bragg Interferometry for the Study of Magic Angle Trilayer Graphene	Kate Groschner

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
P02.7	8/3/2022	1:30 PM	1:45 PM	482	Probing three-dimensional chiral domain walls in polar vortices	Sandhya Susarla
P02.7	8/3/2022	1:45 PM	2:00 PM	483	Multi-scale Visualization of Ferroelectric Domains in a Magnetically Frustrated TbInO3 Thin Film	Hesham El-Sherif
P02.7	8/3/2022	2:00 PM	2:15 PM	484	In-situ Magnetic Domain Behavior in van der Waals Fe3GeTe2	Yue Li
P02.7	8/3/2022	2:15 PM	2:30 PM	485	Disentangling Exciton Linewidth Broadening Factors in Transition Metal Dichalcogenide Monolayer with Electron Energy Loss Spectroscopy	Fuhui SHAO
P02.7	8/3/2022	2:30 PM	2:45 PM	486	In-situ Lorentz imaging of room-temperature ferromagnetic domains in monolayer vanadium-doped WS2	Ariana Ray
P02.7	8/3/2022	2:45 PM	3:00 PM	487	Atomic resolution STEM imaging of novel Van der Waals materials synthesized by soft chemical methods	Guangming Cheng
P03.1	8/3/2022	1:30 PM	2:00 PM	489	Time-Resolved Analytical Electron Microscopy with Single Nanosecond Electron Pulses	Florian Banhart
P03.1	8/3/2022	2:00 PM	2:30 PM	490	Harnessing High Temporal Resolutions to Explore Fluxional Behavior on CeO2 Nanoparticles under Reducing Conditions	Peter Crozier
P03.1	8/3/2022	2:30 PM	3:00 PM	491	Probing graphene defect kinetics at millisecond time resolution using direct detection and machine learning	Chen Huang
P03.2	8/4/2022	8:30 AM	9:00 AM	492	Towards Microsecond Time-Resolved Cryo-Electron Microscopy	Ulrich Lorenz
P03.2	8/4/2022	9:00 AM	9:30 AM	493	Room Temperature Decoking of Catalyst Nanoparticles Using Localized Surface Plasmon Resonance Energy	Wei-Chang Yang
P03.2	8/4/2022	9:30 AM	10:00 AM	494	Advancements in UltraFast Electron Microscopy	Darrin Leonhardt
P05.1	8/1/2022	1:30 PM	1:45 PM	496	Exploring Calcium Phosphate Biomineralization Systems Using In Situ Liquid Phase Electron Microscopy	Liza-Anastasia DiCecco
P05.1	8/1/2022	1:45 PM	2:15 PM	497	Probing Reaction Intermediates, Kinetics, and Surface Chemistry during Nanoparticle Synthesis and Assembly with Liquid Phase TEM	Taylor Woehl
P05.1	8/1/2022	2:15 PM	2:30 PM	498	Ultra-Transparent Atomic Layer Deposition Membranes for Liquid Cell TEM	Rohan Dhall
P05.1	8/1/2022	2:30 PM	2:45 PM	499	Liquid Phase Transmission Electron Microscopy Visualization of Surface Pattern Formation during Chemical Reaction Driven Assembly of Nanoparticles	Thilini Dissanayake
P05.2	8/2/2022	8:30 AM	9:00 AM	501	Structure and Phase Stability in Extreme Environments Explored via In-situ TEM Experiments	Eric Lang
P05.2	8/2/2022	9:00 AM	9:15 AM	502	In-situ (S)TEM Investigation of Phase Transformation Mechanism in the Ni-rich Cathodes During Cycling	Ioannis Siachos
P05.2	8/2/2022	9:15 AM	9:30 AM	503	Surface modification of Au nanoparticles induced by time exposition under the electron beam in TEM: Understanding the formation of self-assembled Au nanoporous structures	Daniel Saldivar-Ayala
P05.2	8/2/2022	9:30 AM	9:45 AM	504	In Situ Observation of Disconnection-Mediated Grain Rotation	Yuan Tian
P05.2	8/2/2022	9:45 AM	10:00 AM	505	Structural Characterization of Gold Nanoparticles Using Liquid-phase 4D-STEM	Oliver Lin
P05.3	8/2/2022	10:30 AM	10:45 AM	506	Data Synchronization in Operando Gas and Heating TEM	Fan Zhang
P05.3	8/2/2022	10:45 AM	11:00 AM	507	Dynamic atomic-scale imaging of cluster-ion anti-perovskites using low-dose cryogenic HRTEM	Blanka Janicek
P05.3	8/2/2022	11:00 AM	11:30 AM	508	Efficient Sampling and Reconstruction Strategies for in-situ SEM/STEM	Nigel Browning
P05.3	8/2/2022	11:30 AM	11:45 AM	509	Rhodium Doping of Strontium Titanate for Enhanced Visible Light Absorption	Piyush Haluai
P05.3	8/2/2022	11:45 AM	12:00 PM	510	Revealing the Reaction Behavior of Co0.86Mn0.14O under H2 using in situ Closed-Cell Gas Reaction S/TEM	Kinga Unocic
P05.4	8/2/2022	1:30 PM	2:00 PM	511	Tacking Directional Movement of Nanomotors with Liquid Cell Electron Microscopy	Jiawei Wan
P05.4	8/2/2022	2:00 PM	2:15 PM	512	Direct Observation of Atomic Scale Diffusion Processes Using in situ HRSTEM	Peter Schweizer
P05.4	8/2/2022	2:15 PM	2:30 PM	513	Laser-Induced Dynamics of Nano-Energetic Systems via In-situ TEM	Suman Kumari
P05.4	8/2/2022	2:30 PM	3:00 PM	514	Atomic scale insights into Dynamic Phase Changes in 2D Materials during In-situ Thermal Processing	Jamie Warner
P05.5	8/3/2022	8:30 AM	8:45 AM	515	Operando Quantitative Electrochemical STEM Studies of Cu Underpotential Deposition on Nanocrystal Surfaces	Yao Yang
P05.5	8/3/2022	8:45 AM	9:15 AM	516	In-situ Liquid Phase TEM of Soft and Active Matter	Joseph Patterson
P05.5	8/3/2022	9:15 AM	9:30 AM	517	Detection of Adsorbates Induced Changes on Pt/CeO2 Catalyst using In Situ Electron Holography	Piyush Haluai
P05.5	8/3/2022	9:30 AM	9:45 AM	518	In-situ Electrokinetics Using Liquid Phase Transmission Electron Microscopy	Mads Larsen
P05.5	8/3/2022	9:45 AM	10:00 AM	519	Capturing High-Entropy Alloy Particle Growth by Liquid-Phase Transmission Electron Microscopy	Jiayue Sun
P05.6	8/3/2022	10:30 AM	10:45 AM	520	First Steps Towards In-Situ Heating Experiments of Monolithic LiNiO2 Particles in O2 Atmosphere	Thomas Demuth
P05.6	8/3/2022	10:45 AM	11:00 AM	521	Strain Distribution Analysis during Tensile Deformation of Silicon Nanowire with 4D-STEM	Sihan Wang
P05.6	8/3/2022	11:00 AM	11:15 AM	522	In-situ TEM laser heating for manipulation of cooling rates and observation of precipitate dissolution kinetics	Kathryn Small
P05.6	8/3/2022	11:15 AM	11:45 AM	523	Submillisecond Electron Microscopic Video Imaging for Cinematic Molecular Science	Koji Harano
P05.6	8/3/2022	11:45 AM	12:00 PM	524	Accessing chemically ordered phase in TaS2 via High Temperature In-situ TEM	Nishkarsh Agarwal
P06.1	8/3/2022	1:30 PM	2:00 PM	529	Multimodal Correlative Microscopy to Study the Chemical and Energetic Landscape of Alloyed Halide Perovskites	Kyle Frohna
P06.1	8/3/2022	2:00 PM	2:15 PM	530	Correlation Of Atomic Structure and Luminescence Of Two-dimensional MoSe2/WSe2 In-plane Nanodot Heterostructures	Saiphaneendra Bachu
P06.1	8/3/2022	2:15 PM	2:30 PM	531	(S)TEM Characterization of Functionalized Adamantanes by Low Dose EELS and PDF Analysis in their Pristine and Laser Irradiated States	Jürgen Belz
P06.1	8/3/2022	2:30 PM	2:45 PM	532	Unveiling single particle coupling of metallic nanoparticles and whispering gallery mode resonators.	Yves Auad
P06.1	8/3/2022	2:45 PM	3:00 PM	533	Thermal Effects on the Phonon Polariton Response of Nanoscale Cavities	Maureen Joel Lagos
P06.2	8/4/2022	8:30 AM	9:00 AM	534	The Prospect of Quantum-Optical Information Transfer using an Electron Microscope Beam	Ofer Kfir
P06.2	8/4/2022	9:15 AM	9:30 AM	536	Defocus Phase Contrast in Photon-Induced Near-field Electron Microscopy	John Gaida
P06.2	8/4/2022	9:30 AM	9:45 AM	537	Inelastic Holography and Interaction-Free Measurements with Interferometric STEM	Benjamin McMorran
P06.2	8/4/2022	9:45 AM	10:00 AM	538	Nanoscale Imaging of plasmonic hot spots in Au nanocapsule dimers by ultrafast electron microscopy	Ilke Arslan
P06.3	8/4/2022	1:30 PM	2:00 PM	539	Low Dimensional III-V and II-VI Semiconductors	Didem Dede

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
P06.3	8/4/2022	2:00 PM	2:15 PM	540	Using Cathodoluminescence from Continuous and Pulsed-Mode SEM to Elucidate the Nanostructure of Hybrid Halide Perovskite Materials	Jordi Ferrer Orri
P06.3	8/4/2022	2:15 PM	2:30 PM	541	Correlative Electron Energy-Loss Spectroscopy Bandgap Mapping and DFT Modeling in AlGaN Diodes	Julia Deitz
P06.3	8/4/2022	2:30 PM	3:00 PM	542	Photon-Correlation Cathodoluminescence Spectroscopy in a SEM: a tool to analyze the performance of optoelectronics devices	Sylvain Finot
P06.4	8/4/2022	3:30 PM	4:00 PM	543	Tuning the Optical Properties of 2D materials with Defects and Strain	Chia-Hao Lee
P06.4	8/4/2022	4:00 PM	4:15 PM	544	Probing Optical Phenomena of Si@MoS2 Core-Shell Architectures at Nanoscale by Valence EELS	Yea-Shine Lee
P06.4	8/4/2022	4:15 PM	4:30 PM	545	Exploring Mie Resonances, Anapole States, and Anapole-Exciton Polaritons in Nanopatterned TMD Materials Using STEM EELS	Andrew Yankovich
P06.4	8/4/2022	4:30 PM	4:45 PM	546	STEM-EELS Mapping of Eigenmodes and Coupling Effects of Photonic Silicon Nanocavities	Duncan Alexander
P06.4	8/4/2022	4:45 PM	5:00 PM	547	Infrared plasmons in single La-doped BaSnO3 nanocrystals revealed by monochromated STEM-EELS	Hongbin Yang
P07.1	8/1/2022	1:30 PM	2:15 PM	553	Real-time, On-Microscope Automated Quantification of Features in Microcopy Experiments Using Machine Learning and Edge Computing	Kevin G. Field
P07.1	8/1/2022	2:15 PM	2:30 PM	551	Laboratory-Based 3D X-ray Imaging of Neutron-Irradiated Ceramic Particle Nuclear Fuel	Nikolaus Cordes
P07.1	8/1/2022	2:30 PM	2:45 PM	552	Wavelet Transform U-Net for Reconstructed Image Denoising Toward High Throughput Neutron Tomography	Michael Daugherty
P07.1	8/1/2022	2:45 PM	3:00 PM	550	Automated Analysis of Grain Growth Under in-situ Irradiation Using Convolutional Neural Network	Xinyuan Xu
P07.2	8/2/2022	8:30 AM	9:00 AM	557	From Event Detection to Physical Hypothesis Learning via Automated and Autonomous Microscopy	Yongtao Liu
P07.2	8/2/2022	9:00 AM	9:15 AM	556	Identifying Chemical Disordering in Irradiated SiC Fiber-Reinforced SiC Matrix Composites with High-Throughput Correlative Microscopy	Keyou Mao
P07.2	8/2/2022	9:15 AM	9:30 AM	554	STEM-EELS Analysis of Niobium Oxide Multilayer Films for High Temperature Memristor Devices	Bradley De Gregorio
P07.2	8/2/2022	9:30 AM	9:45 AM	555	Real-time Multi-Object Tracking of Ion-irradiation Induced Defects in in situ TEM Videos	Rajat Sainju
P07.2	8/2/2022	9:45 AM	10:00 AM	558	Correlating Automated High-Throughput ADF-STEM and 4D-STEM Imaging for the Characterization of Irradiation-Induced Defects	Alex Lin
P07.3	8/2/2022	10:30 AM	11:00 AM	563	Coupling Extreme Environments in the SEM: Present and Future Developments	Eric Lang
P07.3	8/2/2022	11:00 AM	11:15 AM	561	Aqueous Corrosion of WCLL Breeder Blanket Structural Material Eurofer-97 for Nuclear Fusion Reactors	David Kumar
P07.3	8/2/2022	11:15 AM	11:30 AM	562	Evaluation of microstructural evolution in isothermally aged ferritic candidate cladding materials for sodium-cooled fast reactor applications	Benjamin Adam
P07.3	8/2/2022	11:30 AM	11:45 AM	559	New correlative microscopy approaches to understand the microstructural origins of creep cavitation in austenitic steels	Tomas Martin
P07.3	8/2/2022	11:45 AM	12:00 PM	560	Microanalysis of the effects of Tokamak Thermal Transients on Eurofer 97 steel	James Hargreaves
P07.4	8/3/2022	8:30 AM	9:00 AM	572	Bridging the Atomic Scale and the Mesoscale in the Characterization of Defect Production and Evolution in High Entropy Alloys	Farida Selim
P07.4	8/3/2022	9:00 AM	9:15 AM	571	Quantifying Defect Pathways for Disorder in La1-xSrxFeO3 / SrTiO3 Thin Films	Bethany Matthews
P07.4	8/3/2022	9:15 AM	9:30 AM	569	3D Nanoscale Analysis of Implanted Deuterium in Tungsten using Atom Probe Tomography	Martin Meier
P07.4	8/3/2022	9:30 AM	9:45 AM	570	Advanced Characterization of Fuel Cladding Chemical Interaction between U-10Zr Fuel and HT9 Cladding Tested in Fast Flux Test Facility	Yachun Wang
P07.4	8/3/2022	9:45 AM	10:00 AM	576	Integration of Gas-Cell TEM, Nano-calorimetry and RGA on Oscillating phenomena at High Temperatures in Catalysis	Dan Zhou
P07.5	8/3/2022	10:30 AM	11:00 AM	574	In situ 4D-STEM imaging to develop a fundamental understanding of coupled transport of vacancies	Sean Mills
P07.5	8/3/2022	11:00 AM	11:15 AM	575	Real-Time and Correlative Imaging of Localised Corrosion Events by High-Speed Atomic Force Microscopy	Stacy Moore
P07.5	8/3/2022	11:30 AM	11:45 AM	577	Correlative Multimodal Microscopy using AFM-in-SEM in material science	Veronika Hegrova
P07.5	8/3/2022	11:45 AM	12:00 PM	578	Correlative Microscopy Reveals Air-Stable 2D Gallium-Intercalated Monolayer Epitaxial Graphene	Nabil Bassim
P07.6	8/3/2022	1:30 PM	2:00 PM	568	High Throughput Studies on Irradiated High Entropy Alloys	Mukesh Bachhav
P07.6	8/3/2022	2:00 PM	2:15 PM	566	Analysing the static corrosion of T91 in Liquid Lead and Bismuth Eutectic at the Atomic Scale	Minyi Zhang
P07.6	8/3/2022	2:15 PM	2:30 PM	567	Correlative Micro-CT and FIB-SEM Tomography for Refined Macro-scale Pore Volume Measurements in TPBAR LiAlO2 Pellets	Bethany Matthews
P07.6	8/3/2022	2:30 PM	2:45 PM	564	High Throughput Characterization to Quantify Microstructural Heterogeneities in Additively Manufactured Haynes 282	Avantika Gupta
P07.6	8/3/2022	2:45 PM	3:00 PM	565	Multi-Scale Characterisation Of Heat Treatment In Single Crystal Ni-based Superalloys	Victoria Strutt
P08.1	8/1/2022	1:30 PM	2:00 PM	580	Probing Atom Dynamics in Excited Nanocrystals	Stig Helveg
P08.1	8/1/2022	2:00 PM	2:15 PM	581	Optimizing STEM Imaging Conditions Toward Reliable Representation of Single Atom Catalysts	Haoyang Ni
P08.1	8/1/2022	2:15 PM	2:30 PM		iDPC, the Ultimate STEM Imaging Performance	Eric Van Cappellen
P08.1	8/1/2022	2:30 PM	2:45 PM	583	Sparsity and Noise Effects on the Reconstruction of Subsampled Scanning Transmission Electron Microscopy Data	Eduardo Ortega
P08.1	8/1/2022	2:45 PM	3:00 PM	584	Spatial Distribution of the Electron Dose and the Effects on Beam Damage in STEM	Daniel Nicholls
P08.2	8/2/2022	8:30 AM	9:00 AM	585	Combining Spatial and Temporal Resolution in Cryo-TEM of Device Materials	Nikita Dutta
P08.2	8/2/2022	9:00 AM	9:15 AM	586	Studying Electronic Structure in Two-Dimensional Functionalized MXenes with Cryo-STEM	Francisco Lagunas Vargas
P08.2	8/2/2022	9:15 AM	9:30 AM	587	Understanding Structural and Chemical Modifications of ZIF MOF Under Electron-Beam Irradiation using STEM-EELS	Supriya Ghosh
P08.2	8/2/2022	9:30 AM	9:45 AM	588	Electron Beam Damage Mechanisms in Solution Phase Electron Microscopy of Metal-Organic Frameworks	Karthikeyan Gnanasekaran
P08.2	8/2/2022	9:45 AM	10:00 AM	589	Comparing structural and functional changes of biomolecules under electron irradiation with liquid cell transmission electron microscopy	Trevor Moser

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
P08.3	8/2/2022	10:30 AM	11:00 AM	590	Analysis of Complex, Beam-Sensitive Systems by Electron Microscopy	martha Ilett
P08.3	8/2/2022	11:00 AM	11:15 AM	591	Resolving Electrode-Electrolyte Interfaces In Batteries With Low Dose Cryogenic Transmission Electron Microscopy	Zewen Zhang
P08.3	8/2/2022	11:15 AM	11:30 AM	592	The Importance of the σ-hole in the Self-Assembly of Halogenated Polypeptoids	Morgan Seidler
P08.3	8/2/2022	11:30 AM	11:45 AM	593	Overcoming Artifacts in Imaging Nanometer-thick Ionomer Layers in Anion Exchange Membrane Fuel Cells	Michael Colletta
P08.3	8/2/2022	11:45 AM	12:00 PM	594	Advances in beam-sensitive sample preparation and observation	Pawel Nowakowski
P08.4	8/2/2022	1:30 PM	2:00 PM	595	Latency dose formation in DMC by inelastic electron scattering	Petra Specht
P08.4	8/2/2022	2:00 PM	2:15 PM	596	How Low Can You Go: Pushing the Limits of Dose and Frame-time in the STEM	Tiarnan Mullarkey
P08.4	8/2/2022	2:15 PM	2:30 PM	597	Machine-Learning Assisted Exit-wave Reconstruction for Quantitative Feature Extraction	Matthew Helmi Leth Larsen
P08.4	8/2/2022	2:30 PM	2:45 PM	598	Electron Counted STEM-EELS Spectroscopy Optimized for low kV (< 80 kV) via Hybrid Pixel Detection	Liam Spillane
P08.4	8/2/2022	2:45 PM	3:00 PM	599	Electrostatic Switching for Spatiotemporal Dose Control in a Transmission Electron Microscope	Bryan Reed
P09.1	8/1/2022	1:30 PM	2:00 PM	608	In situ TEM study of ferroelectric oxide heterostructures	Myung-Geun Han
P09.1	8/1/2022	2:00 PM	2:15 PM	609	Operando observation of reversible oxygen migration and phase transitions in hafnia-based ferroelectric devices	Pavan Nukala
P09.1	8/1/2022	2:15 PM	2:30 PM	610	Determining the Polarization Fraction of Thin Film Ferroelectric HZO with STEM EBIC	Ho Leung Chan
P09.1	8/1/2022	2:30 PM	2:45 PM	611	Monitoring Bismuth Ferrite Domain Walls Behavior Under Electric Field With Atomic Resolution By In Situ Scanning Transmission Electron Microscopy	Oana-Andreea Condurache
P09.1	8/1/2022	2:45 PM	3:00 PM	612	Characterization of GaN E-mode HEMT Devices by In-Situ STEM Electrical Biasing	Abhas Mehta
P09.2	8/2/2022	8:30 AM	9:00 AM	613	Dynamic Atomic Behaviour, Ion Exchange and Chemical Synthesis studied using our Liquid Cell 2D Material Heterostructures and Scanning Transmission Electron Microscopy	Sarah Haigh
P09.2	8/2/2022	9:00 AM	9:30 AM	614	Towards Beyond-Lithium Batteries: New Insights from In Situ TEM Combined with Theoretical Modeling	Kai He
P09.2	8/2/2022	9:30 AM	9:45 AM	615	In Situ Phase Transformation during Sol-Gel Synthesis of Garnet Solid Electrolytes	Hongkui Zheng
P09.2	8/2/2022	9:45 AM	10:00 AM	616	New insights into the mechanisms of Ag-induced layer exchange from multimodal in situ studies in SEM and TEM	Peter Denninger
P09.3	8/2/2022	10:30 AM	11:00 AM	618	Robust Measurements of Functional Material Properties using in situ 4D-STEM	Colin Ophus
P09.3	8/2/2022	11:00 AM	11:15 AM	619	In Situ Transmission Kikuchi Diffraction Observation of Thin-Film GST Crystal Phase and Grain Evolution	Yueyun Chen
P09.3	8/2/2022	11:15 AM	11:30 AM	620	In situ TEM Study to Unravel Dynamic Processes and Phase Transition During the Synthesis of Ultrathin Crystalline ALD Nanotubes	Lilian Vogl
P09.3	8/2/2022	11:30 AM	11:45 AM	621	In-situ Imaging of Anisotropic Layer-by-layer Phase Transition in Few-layer MoTe2	Chia-Hao Lee
P09.3	8/2/2022	11:45 AM	12:00 PM	622	Structural modulations in quasi-one-dimensional transition metal chalcogenides: A combined DFT and STEM investigation	Guodong Ren
P09.4	8/2/2022	1:30 PM	2:00 PM	623	Evolution of Skyrmion Lattice Order in the van der Waals Ferromagnet Fe3GeTe2	Arthur McCray
P09.4	8/2/2022	2:00 PM	2:15 PM	624	Insights into the Origin of Skyrmion Pinning in [Pt/Co/Cu] Magnetic Multilayers	Binbin Wang
P09.4	8/2/2022	2:15 PM	2:30 PM	625	Magnetization Study of the Magnetocaloric Properties in La0.7Ca0.23Sr0.07MnO3 Manganite by In Situ Electron Holography	Arturo Galindo
P09.4	8/2/2022	2:30 PM	2:45 PM	626	Evolution of novel chiral spin textures in Fe/Gd based multilayer thin films	William Parker
P09.4	8/2/2022	2:45 PM	3:00 PM	627	Towards the in-situ detection of spin charge accumulation at a metal/insulator interface using STEM-EELS technique.	Khalil El hajraoui
P09.5	8/3/2022	8:30 AM	8:45 AM	628	Imaging stress induced domain movement and crack propagation by in situ loading in the transmission electron microscope	Oriol Gavalda-Diaz
P09.5	8/3/2022	8:45 AM	9:15 AM	629	Adventures in Atomic Resolution in situ STEM	Andreas Postl
P09.5	8/3/2022	9:15 AM	9:30 AM	630	Experimental Optimization and Data Analysis of In-Situ Electron Energy Loss Spectroscopy	Eoin Moynihan
P09.5	8/3/2022	9:30 AM	9:45 AM	631	In Situ Pyrolysis of 3D Printed Microstructures – an ESEM Study	Qing Sun
P09.5	8/3/2022	9:45 AM	10:00 AM	632	Modulating the O-binding energies of Mn-based perovskites to maximize solar thermochemical hydrogen production	Jamie Trindell
P09.6	8/3/2022	10:30 AM	10:45 AM	633	Role of Nanoscale Coherent Precipitates in Microstructure Evolution of NiTi-based Shape Memory Alloys	Eitan Hershkovitz
P09.6	8/3/2022	10:45 AM	11:15 AM	634	In situ Cryogenic STEM of Correlated Electronic Materials	Ismail El Baggari
P09.6	8/3/2022	11:15 AM	11:30 AM	635	Melting of polar vortex arrays in an oxide superlattice probed by in situ STEM EELS	Noah Schnitzer
P09.6	8/3/2022	11:30 AM	11:45 AM	636	Role of Defects and Structure Evolution Across Ferroelectric Phase Transitions Studied by Quantitative Aberration-Corrected STEM	Albina Borisevich
P09.6	8/3/2022	11:45 AM	12:00 PM	637	Engineering Charge Density Waves using Interleaved Polytype Heterostructures	Suk Hyun Sung
P10.1	8/1/2022	1:30 PM	2:00 PM	640	Application of a Novel Electron Energy Filter Combined with a Hybrid-Pixel Direct Electron Detector for the Analysis of Functional Oxides by STEM/EELS with Focus on Weak Signals and High Spatio-Temporal Resolution	Rolf Erni
P10.1	8/1/2022	2:00 PM	2:15 PM	641	Electronic-Structure Engineering Through Atomic-Scale Strain Control in Geometrically Frustrated Spinel LiV2O4	Yu-Mi Wu
P10.1	8/1/2022	2:15 PM	2:30 PM	642	Probing the structural and electronic couplings in rare-earth nickelate superlattices by STEM-EELS	Bernat Mundet
P10.1	8/1/2022	2:30 PM	2:45 PM	643	Characterization of Interfaces and Defects in Multiferroic Aurivillius Phase Thin Films by STEM and EELS-SI	Núria Bagués
P10.1	8/1/2022	2:45 PM	3:00 PM	644	Probing Defects in Epitaxially Grown Cubic Boron Nitride on Diamond	Andrew Lang
P10.2	8/2/2022	8:30 AM	9:00 AM	645	Detecting Exotic Vibrational States at Interfaces by Electron Microscopy	Xingxu Yan
P10.2	8/2/2022	9:00 AM	9:15 AM	646	Spectroscopy of Nanosphere-Substrate Coupling: The Role of Multipolar Surface Phonon Modes	Ka Yin Lee
P10.2	8/2/2022	9:15 AM	9:30 AM	647	Understanding the Surface Chemistry Dependent Plasmon Response in Ti3C2Tx MXenes using Monochromated STEM-EELS	Sudhajit Misra
P10.2	8/2/2022	9:30 AM	9:45 AM	648	Strain Relaxation and Excitonic Absorption of Atomic Reconstructed WSe2 Moiré Superlattices	Steffi Woo
P10.2	8/2/2022	9:45 AM	10:00 AM	649	Nanoscale Vibrational Spectroscopy to Probe Li Motion at Individual Interfaces in Battery Materials	Kartik Venkatraman

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
P10.3	8/2/2022	10:30 AM	11:00 AM	650	High resolution electron energy-loss spectroscopy for the study organic and biological systems in the scanning transmission electron microscope	David McComb
P10.3	8/2/2022	11:00 AM	11:15 AM	651	Compositional Analysis on Epoxy-resin/inorganic Interfaces using Scanning Transmission Electron Microcopy	Tomohiro Miyata
P10.3	8/2/2022	11:15 AM	11:30 AM	652	Few-tilt Electron Ptychotomography: A New Method to Determine the 3D Structure of 2D Materials with High-precision and Low-dose	Christoph Hofer
P10.3	8/2/2022	11:45 AM	12:00 PM	653	Observation of 2D Si-Vacancies Filled by Gallium Intercalation of Epitaxial Graphene	Nabil Bassim
P10.3	8/2/2022	11:30 AM	11:45 AM	654	A Hybrid Approach to Calibrate the Affine Transformation Between Scan-Camera Coordinates for 4D-STEM Datasets	Shoucong Ning
P10.4	8/2/2022	1:30 PM	2:00 PM	655	Developing Atomic-scale Understanding of Functional Materials	Arashdeep Thind
P10.4	8/2/2022	2:00 PM	2:15 PM	656	Atomic Resolution Investigation of Ultra-Low Energy Ion-Implanted Monolayer TMDs Using Scanning Transmission Electron Microscopy	Michael Hennessy
P10.4	8/2/2022	2:15 PM	2:30 PM	657	Bulk and surface exsolution produce a variety of Fe-rich and Fe-depleted ellipsoidal nanostructures in functional perovskite thin films	Komal Syed
P10.4	8/2/2022	2:30 PM	2:45 PM	658	Direct Visualization of Spinel-Like Rhodium Aluminate (RhAlOx) to Understand its Role in Rh/Al2O3-Based Three-Way Catalysts	Cheng-Han Li
P10.4	8/2/2022	2:45 PM	3:00 PM	659	Investigation of Chalcogenide Perovskite Thin Films Using Scanning Transmission Electron Microscopy (STEM)	Michael Xu
P10.5	8/3/2022	8:30 AM	9:00 AM	660	Modelling Spatially-Resolved Electron Energy-Loss Spectra in the Low-Loss Region	Andrea Konecna
P10.5	8/3/2022	9:00 AM	9:15 AM	661	Fine structure mapping in graphene: from electronic transitions to atomic orbitals	Matthieu Bugnet
P10.5	8/3/2022	9:15 AM	9:30 AM	662	The interface of the most polar layered oxide superconductor solved by coordinated experiments and theory	Berit Goodge
P10.5	8/3/2022	9:30 AM	9:45 AM	663	Exploration of Chemical Ordering in Ternary Pnictides Using Electron-Channeling-Based Methods	Allison Mis
P10.5	8/3/2022	9:45 AM	10:00 AM	664	Combining atomic-scale EDX with inelastic multislice simulations for quantitative chemical analysis of AlGaN/GaN 1 nm-thick quantum wells	Florian Castioni
P10.6	8/3/2022	10:30 AM	11:00 AM	665	Differential Phase Contrast Imaging by Magnetic-field-free Atomic Resolution Scanning Transmission Electron Microscope	Naoya Shibata
P10.6	8/3/2022	11:00 AM	11:30 AM	666	Advances in Imaging Magnetic Domains in Functional Materials using Lorentz microscopy	Charudatta Phatak
P10.6	8/3/2022	11:30 AM	11:45 AM	667	Imaging Nanomagnetism in 3D: Potential Improvements for Vector Electron Tomography Reconstruction	George Lewis
P10.6	8/3/2022	11:45 AM	12:00 PM	668	Emergent Interfacial Magnetism in Superconducting Cuprate-Manganate Superlattices	Nicolas Bonmassar
P10.7	8/3/2022	1:30 PM	2:00 PM	669	Cryogenic Electron Microscopy on Strongly Correlated Quantum Materials	Myung-Geun Han
P10.7	8/3/2022	2:00 PM	2:15 PM	670	Combining STEM Imaging and X-Ray Diffraction for Structure Determination of a New Highly Distorted Infinite-Layer Phase	Michelle Smeaton
P10.7	8/3/2022	2:15 PM	2:30 PM	671	The Advanced Characterization and Structure-Property Correlation of BaMnO3 for the Oxygen Reduction Reaction Using Electron Microscopy	Lucia Hughes
P10.7	8/3/2022	2:30 PM	2:45 PM	672	Atomic scale crystal field mapping of polar vortices in oxide superlattices	Sandhya Susarla
P10.7	8/3/2022	2:45 PM	3:00 PM	673	Tunable Microstructures in Entropy-Stabilized Oxide Thin Films Studied with Unsupervised Machine Learning Assisted Transmission Electron Microscopy	Leixin Miao
P10.8	8/4/2022	8:30 AM	8:45 AM	674	Application of 4D STEM and DPC techniques to study surface reconstruction of transition aluminas	Libor Kovarik
P10.8	8/4/2022	8:45 AM	9:00 AM	675	Effect of Ca Doping on the Microstructure and Mechanical Properties of Magnesium Aluminate Spinel	Alexander Campos Quiros
P10.8	8/4/2022	9:00 AM	9:15 AM	676	Crystal Surfaces and Their Role on Electrochemical Activity in MgV2O4 Crystals	Francisco Lagunas Vargas
P10.8	8/4/2022	9:15 AM	9:30 AM	677	Imaging Structural Defects and Associated Oxygen Positions in Li-rich Li1.2Ni0.13Mn0.54Co0.13O2	Weixin Song
P10.8	8/4/2022	9:30 AM	9:45 AM	678	4D-STEM Mapping of Nanoscale Structural Ordering in Cathode Materials	Wenxiang Chen
P10.8	8/4/2022	9:45 AM	10:00 AM	679	Correlating Surface Strain with Activity in Commercial Platinum Catalysts	Daniel Kelly
P10.9	8/4/2022	1:30 PM	2:00 PM	680	Mapping Local Structure, Electronic and Excitonic Properties at the 2D/3D Interface	Kate Reidy
P10.9	8/4/2022	2:00 PM	2:15 PM	681	Tracking degradation in individual catalyst nanoparticles under fuel cell-relevant cycling conditions by identical-location STEM	Haoran Yu
P10.9	8/4/2022	2:15 PM	2:30 PM	682	Determination of the thermal expansion coefficient and the local temperature measurements of BaTiO3 nanoparticles with nanometer resolution.	Bibash Sapkota
P10.9	8/4/2022	2:30 PM	2:45 PM	683	Measuring 3D Chemistry with Fused Multi-Modal Electron Tomography	Jonathan Schwartz
P10.9	8/4/2022	2:45 PM	3:00 PM	684	Correlated AFM/STEM study on the mechanical stiffness of defect-engineered graphene	Wael Joudi
P10.10	8/4/2022	3:30 PM	3:45 PM	685	Large-Aperture STEM Hexapole Cs-Corrector	Stephan Uhlemann
P10.10	8/4/2022	3:45 PM	4:00 PM	686	Exploiting the Full Potential of the Advanced Two-hexapole Corrector for STEM	Ryusuke Sagawa
P10.10	8/4/2022	4:00 PM	4:15 PM	687	The User Adjustable Pole-piece: Expanding TEM Functionality Without Compromise	Patrick McBean
P10.10	8/4/2022	4:15 PM	4:30 PM	688	Multi-Sun EELS: Ultra-High Energy Resolution combined with High Spatial Resolution and High Beam Current	Niklas Dellby
P10.10	8/4/2022	4:30 PM	5:00 PM	689	Development of a High Electron Energy-loss Spectrometry System for Advanced Scanning Transmission Electron Microscopy	Masashi Watanabe
P10.10	8/4/2022	4:45 PM	5:00 PM	690	Event-based hyperspectral EELS: towards nanosecond temporal resolution	Yves Auad
P11.1	8/3/2022	1:30 PM	2:00 PM	693	TEM analyses of carbonates from CM chondrites - Possible impact events revealed by pervasive microstructural features	Elena Dobrica
P11.1	8/3/2022	2:00 PM	2:15 PM	694	Textural and Compositional Studies of Sulfide-Metal Assemblages in CR Chondrites: Evidence for Nebular Sulfidization and Parent Body Oxidation	Sheri Singerling

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
P11.1	8/3/2022	2:15 PM	2:30 PM	695	Coordinated Analyses of an Altered Presolar Silicate Grain in the Miller Range 07687 Carbonaceous Chondrite	Laura Seifert
P11.1	8/3/2022	2:30 PM	3:00 PM	696	The Utility of X-ray Computed Tomography in Astromaterials Research and Curation: a Case Study from Martian Meteorites	Scott Eckley
P11.2	8/4/2022	8:30 AM	9:00 AM	697	The unrestrained use of Python libraries for bridging the gap between Planetary and Material Sciences.	Pierre-marie Zanetta
P11.2	8/4/2022	9:00 AM	9:15 AM	698	Electron Microscopy Investigations of Organic-Mineral Relationships in Returned Samples from Asteroid Ryugu	Rhonda Stroud
P11.2	8/4/2022	9:15 AM	9:30 AM	699	A Correlative Electron Microscopy Study of a Ru-rich Metal Grain from a Calcium-aluminum-rich Inclusion	Tarunika Ramprasad
P11.2	8/4/2022	9:30 AM	10:00 AM	700	Investigating the response of sulfides and Fe- oxides under space weathering conditions through the analysis of returned and experimental samples	Laura Chaves
P11.3	8/4/2022	1:30 PM	2:00 PM	701	Microstructural Characterization of Lunar Dust from the Apollo 11 Mission by Correlative Microscopy	Tai-Jan Huang
P11.3	8/4/2022	2:00 PM	2:15 PM	702	Influence of Frozen Curation on Volatile Retention in Pristine Apollo 17 Samples: Initial Results Using Aberration-Corrected STEM-EELS and EDS	Brittany Cymes
P11.3	8/4/2022	2:15 PM	2:30 PM	703	Evaluation of Space Weathering and Surface Exposure Timescales for Lunar Soils in Apollo 17 Core Sample 73002 through Electron Microscopy.	James McFadden
P11.3	8/4/2022	2:30 PM	3:00 PM	704	Electron Microscopy and Analysis of Martian Meteorite ALH84001 with Mochii ISS-NL on the International Space Station	Christopher Own
P12.1	8/1/2022	1:30 PM	2:00 PM	710	Spreading Happiness and Scientific Enlightenment: 40 years as a Friend and Colleague of John Spence	Stuart Lindsay
P12.1	8/1/2022	2:00 PM	2:30 PM	711	From John Spence's Postdoc Time in Oxford to my research on GaN and Graphene	Colin Humphreys
P12.1	8/1/2022	2:30 PM	2:45 PM	712	The Beauty and Clarity of a Well Designed Experiment	Philip Batson
P12.1	8/1/2022	2:45 PM	3:00 PM	713	John C.H. Spence – friend, teacher, mentor, scientific pioneer and visionary	Ondrej Krivanek
P12.2	8/2/2022	8:30 AM	9:00 AM	714	Seeing Electrons in Chemical Bonds – John Spence's Vision for Electron Microdiffraction and How to Realize it for Molecular Crystals	Jian-Min Zuo
P12.2	8/2/2022	9:00 AM	9:15 AM	715	Bouncing Around Between Real and Reciprocal Space with Electrons and X-rays, an Adventure with John Spence.	Peter Rez
P12.2	8/2/2022	9:15 AM	9:30 AM	716	John C. H. Spence's Career-Long Impact on me as his Early Graduate Student	Mark Disko
P12.2	8/2/2022	9:30 AM	9:45 AM	717	Scanning Precession Electron Diffraction and what we get out of such data in studies of Aluminium Alloys	Elisabeth Thronsen
P12.2	8/2/2022	9:45 AM	10:00 AM	718	Adventures in 4D-STEM, underpinned by the legacy of JCH Spence	Joanne Etheridge
P12.3	8/2/2022	10:30 AM	11:00 AM	719	John C. H. Spence and the Age of X-Ray Lasers	Henry Chapman
P12.3	8/2/2022	11:00 AM	11:15 AM	720	Coherence and Inelastic Scattering in Electron Microscopy	Christian Kisielowski
P12.3	8/2/2022	11:15 AM	11:30 AM	721	The Design and Operation of a New Relativistic Ultrafast Electron Diffraction and Imaging (RUEDI) National Facility in the UK	Nigel Browning
P12.3	8/2/2022	11:30 AM	12:00 PM	722	Structure Determination from Multiple-Scattering Electron Crystallography	Jeffrey Donatelli
X11	31-Jul-22	8:30 AM	5:00 PM		Explaining the New World Order of Biological Fluorescence Microscopy	Bob Price Jay Jerome
X12	31-Jul-22	8:30 AM	5:00 PM		Guidelines for Performing 4D-STEM Characterization from the Atomic to >Micrometer Scales: Experimental Considerations, Data Analysis and Simulation	David Muller Colin Ophus
X13	31-Jul-22	8:30 AM	5:00 PM		SerialEM for EM Data Acquisition	Cyndi Schwartz Jason de la Cruz
X14	31-Jul-22	8:30 AM	5:00 PM		In situ and Operando Approaches to TEM	Robert Sinclair Peter Crozier
X15	31-Jul-22	8:30 AM	5:00 PM		Cryo-STEM and EELS for Materials Sciences	Ismail El Baggari Myung-Geun Han Michael Zachman
X16	31-Jul-22	8:30 AM	5:00 PM		Data Analysis in Materials Science	Eric Prestat Joshua Taillon
X17	31-Jul-22	8:30 AM	5:00 PM		Biological EM Sample Processing	Ru-ching Hsia Alice Liang
X30	8/4/2022	8:30 AM	9:00 AM		Napari Open Source Image Viewer Overview *Presenting Author for B10.3 - Napari: A Python Multi-dimensional Image Viewer Platform for the Research Community	Chi-Li Chiu
X30	8/4/2022	9:00 AM	9:30 AM		Aivia Software Overview	Choi Won Yung
X30	8/4/2022	9:30 AM	10:00 AM		Visiopharm Software Overview	Brenna O'Neill
X31	8/4/2022	1:30 PM	2:00 PM		vEM in Plants *Presenting Author for B07.1 - Tips and Tricks for Volume Electron Microscopy Workflows in Plants	Kirk Czymmek
X31	8/4/2022	2:00 PM	2:30 PM		Building a Volume Electron Microscopy Community *Presenting Author for B07.1 - Volume Electron Microscopy to Provide Insight into the 3-Dimensional World of Cells and Tissues	Paul Verkade
X31	8/4/2022	2:30 PM	3:00 PM		vEM in Biological Systems *Presenting Author for B07.3 - Volume Imaging: From HeLa Cells to the Human Nervous System	Anna Steyer

Session	Date	Start Time	End Time	Presentation Number	Presentation Title	Presenting Author
X32	8/4/2022	3:30 PM	4:00 PM		Mechanistic Understanding and Technical Considerations for iDISCO Application *Corresponding Research Presentation B10.3 - Towards Quantitative Mapping of Organ-Wide Patterns with Whole Mount Imaging Presenting Author - Zhuhao Wu	Wei Wang
X32	8/4/2022	4:00 PM	4:30 PM		Using Expansion Microscopy for Nanoscale imaging of Biological Structures *Corresponding Research Presentation B10.2 - Super-Resolution Microscopy Made Simple Presenting Author - Joshua Vaughan	Marcus Woodworth
X32	8/4/2022	4:30 PM	5:00 PM		Light Sheet Sample Preparation Overview	TBD
X41	8/2/2022	11:00 AM	12:00 PM		Biological Sciences Tutorial - Applying CryoAPEX in the Cell Biology of RNA Viruses; A Question-Based Evolution of the Methodology	Ranjan Sengupta
X42	8/2/2022	2:00 PM	3:00 PM		Biological Sciences Tutorial - Indirect Correlative Light and Electron Microscopy (iCLEM)	Heather Struckman Rengasayee (Sai) Veeraraghavan
X43	8/3/2022	9:00 AM	10:00 AM		Physical Sciences Tutorial - A Multi-Modal Approach for Characterizing Battery Materials	Dr. Arnaud Demortiere
X44	8/3/2022	11:00 AM	12:00 PM		Physical Sciences Tutorial - Precession Electron Diffraction: A Little Bit of History, Basics, and Recent Developments in Projected Crystal Symmetry Quantifications	Peter Moeck
X91	8/4/2022	8:30 AM	10:00 AM		Microscopy Explorations for Families and Kids of All Ages	Elaine Humphrey Pat Connelly
X92	8/4/2022	1:30 PM	3:00 PM		Project MICRO	Elaine Humphrey Janet Schwarz Pat Connelly
X94	8/4/2022	3:30 PM	5:00 PM		STEM Roundtable: Building Skills for the Future	Lori Harvey