

Programme

Tuesday 1 March 2022
(CET 14:00; GMT 13:00; EST 08:00)

Session One	
14:00 13:00 08:00	Welcome
14:05 13:05 08:05	<i>Visualizing Bottom-up and Top-down Formation of Nanomaterials in Liquids with Transmission Electron Microscopy</i> Utkur Mirsaidov National University of Singapore, Singapore
14:45 13:45 08:45	<i>Bio-Geo-Material Interfaces on Earth Sciences</i> Liane G. Benning GFZ Potsdam, Germany
15:25 14:25 09:25	Techno Bite: Jeol, JEM-F200 and SerialEM – a robust STEM tomography platform 
15:30 14:30 09:30	Techno Bite: Thermo Fisher Scientific, Cryo-Dual Beam sample preparation – current state of technology and opportunities for life and material sciences 
15:35 14:35 09:35	Break
POSTER SESSION	
15:40 14:40 09:40	<i>Hemorheology of erythrocytes influenced by plasmonic nanoparticles assessed with the combined application of optical tweezers and conventional microscopy modalities</i> Igor Meglinski
15:45 14:45 09:45	<i>Electron ptychographic imaging of polyvinyl alcohol ordering</i> Botao Hao
15:50 14:50 09:50	<i>From Cryo to Crystal: Using 3D cryo-TEM to measure nanoparticle interactions during self-assembly in emulsion droplets</i> Maarten Bransen
15:55 14:55 09:55	<i>Ex-situ study of the formation of CeO₂ mesocrystals</i> Diana Piankova
16:00 15:00 10:00	<i>Resolving the Bone-Bacteria Interface in Bisphosphonate-Related Osteonecrosis of the Jaw</i> C. Micheletti
16:05 15:05 10:05	Techno Bite: Oxford Instruments NanoAnalysis, Characterising biomaterial and tissue interactions using multi-colour electron microscopy 
16:10 15:10 10:10	<i>Imaging chemical processes at the atomic-scale</i> Stig Helvig National Centre for Nano Fabrication and Characterization, DTU, Denmark
16:50 15:50 10:50	End of Session

Session Two	
18:30 17:30 12:30	<i>Towards Microsecond Time-Resolved Cryo-Electron Microscopy</i> Ulrich Lorenz <i>EPFL, Switzerland</i>
19:10 18:10 13:10	<i>Dose- and sampling- efficient electron phase contrast imaging</i> Penghan Lu <i>Ulm University, Germany</i>
19:50 18:50 13:50	Break
20:00 19:00 14:00	<i>Volume CLEM: Bigger, better, faster, more...</i> Lucy Collinson <i>The Francis Crick Institute, London, UK</i>
20:40 19:40 14:40	<i>Opening Windows into the Cell: Bringing Structure to Cell Biology using Cryo-Electron Tomography</i> Elisabeth Villa <i>UCSD, USA</i>
21:20 20:20 15:20	End of Day

Wednesday 2 March 2022

Focus Lecture Series

“Advances in Analytical Cryo-Electron Microscopy: From sample preparation to data acquisition to data analysis”

Session One	
14:00 13:00 08:00	Welcome
14:05 13:05 08:05	<i>Operando and in situ in a TEM imaging in a cryogenic temperature range</i> Martial Duchamp Nanyang Technological University, Singapore
14:45 13:45 08:45	<i>Nanoscale Electrode Interfaces Revealed with Cryo-Electron Microscopy</i> Katherine Jungjohann NREL, USA
15:25 14:25 09:25	Techno Bite: ExpressLO, Cryo-EXLO FIB Preparation for Cryo-TEM 
15:30 14:30 09:30	Techno Bite: Gatan, Low Dose, Low Temperature Imaging of Beam Sensitive Battery Materials  
15:35 14:35 09:35	Break
POSTER SESSION	
15:40 14:40 09:40	<i>Cryo-SEM Analysis of a Gel-like State of Nickel Hydroxide Created by Electrochemical Aging</i> Alexi L. Pauls
15:45 14:45 09:45	<i>Temperature-dependent growth of PbI₂ platelets at the surfaces of triple-halide perovskite films</i> Dan Ralf Wargulski
15:50 14:50 09:50	<i>Ag nanoparticles prepared using ionomer as a size regulator and their catalytic performance for oxygen reduction reaction</i> Yi Yang
15:55 14:55 09:55	<i>Controlling the CeO₂ crystallization pathway in nanoscale Liquid-phase TEM – Comparison to GammaCell</i> Dr Hannes Zschiesche
16:00 15:00 10:00	<i>Iodine vapor staining reveals the unmineralized-mineralized interfaces in bone tissue facilitating osteocyte network tomography with FIB-SEM</i> Mahdi Ayoubi
16:05 15:05 10:05	Techno Bite: MiTeGen, Innovations in Cryo-EM Sample Preparation 
16:10 15:10 10:10	TBC Prof Robert Thorne Cornell University, USA
16:50 15:50 10:50	End of Session

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Session Two	
18:30 17:30 12:30	<i>4D-STEM of soft materials</i> Andrew Minor UC Berkeley, USA TBA
19:10 18:10 13:10	<i>Assessing LN2 Cooled Cryogenic Stages for Atomic Resolution and 4D-STEM Imaging</i> Miaofang Chi ORNL, USA
19:50 18:50 13:50	Break
20:00 19:00 14:00	<i>Cryogenic EELS at the atomic scale</i> Berit Goodge Cornell University, USA
20:40 19:40 14:40	<i>Denoising Electron Energy Loss Spectra using Convolutional Autoencoders</i> Mark Oxley ORNL, USA
21:20 20:20 15:20	End of Day