

## Detailed Program

<b>Monday June 25</b>	
19.00 - 21.00	Welcome Reception, building 306

<b>Tuesday June 26</b>		
8.30-9.00	Opening of Scandem 2018, building 303A	
9.00-10.00	P1: <b>Ib Chorkendorff</b> - Catalysis: A Key Materials for Converting Power into Chemicals and Fuels	
10.00-10.30	Coffee break & Exhibition b303A + b306	
10.30-11.30	P2: <b>Lone Gram</b> - Vizualising Bacteria and their Behaviour	
	Session A, b303A A41 – <b>Jacob R. Bowen</b>	Session B, b303A A42 – <b>Thomas W. Hansen</b>
11.30-11.45	A-I1: <b>Goran Drazic</b> - Scanning Transmission Electron Microscopy of Polar Nano-regions and Atomic Scale	B-O1: <b>Yong Wang</b> - In-situ visualizing the dynamic behaviors of nanocatalysts under gas environment
11.45-12.00	Chemical Composition Fluctuations Study in Paraelectric (Ba, Sr)TiO <sub>3</sub> Ceramics	B-O2: <b>Carina B. Maliakkal</b> - In-situ Compositional Analysis of Catalyst Particle During GaAs Nanowire Growth in an Environmental TEM
12.00-12.15	A-O1: <b>Monia R. Nielsen</b> - Pressure Induced Effects During in situ Characterization of Supported Metal Catalysts	B-O3: <b>Stig Helveg</b> - Observing Catalyst Structures and Dynamics at Atomic-Resolution
12.15-12.30	A-O2: <b>Francis Leonard Deepak</b> - Direct Atomic-Scale Observation of Droplets Coalescence Driven Nucleation and Growth of Supported Bismuth Nanocrystal in the TEM	B-O4: <b>Debora Keller</b> - In Situ Gold Nanoparticle Formation in a Free-Standing Ionic Liquid Layer Triggered by Heat and Electron Irradiation
12.30-13.30	Lunch b306	
13.30-14.15	K1: <b>Lucy Collinson</b> - Correlative Imaging: From Cells to Stars	
14.15-15.00	K2: <b>Jeppe Vang Lauritsen</b> - Visualizing the Atomic-scale Structure and Dynamics on Catalyst Materials using Scanning Probe Microscopy	
15.00-15.30	Coffee break & Exhibition b303A + b306	
15.30-17.00	Company Presentations	
17.00-19.00	Poster Session b306	

<b>Wednesday June 27</b>		
	Session C, b303A A41 - <b>Jacob R. Bowen</b>	Session D, b303A A42 – <b>Kristian Mølhave</b>
8.30-8.45	C-O1: <b>Svetlana Alekseeva</b> - Grain Boundary Mediated Hydriding Phase Transformations In Individual Polycrystalline Metal Nanoparticles	D-I1: <b>Utkur M. Mirsaidov</b> - Visualizing nanoparticle self-assembly in solution using in situ TEM
8.45-9.00	C-O2: <b>Kræn Christoffer Adamsen</b> - Adsorption and Diffusion of NH <sub>3</sub> on Anatase-TiO <sub>2</sub> (101)	
9.00-9.15	C-O3: <b>Martin Sláma</b> - Preparation of Aluminum Specimen with Gallium and Xenon Plasma Focused Ion Beam for Further Nano-characterization	D-O1: <b>Ursula Ludacka</b> - Measuring And Controlling Free-Standing Two Dimensional Materials
9.15-9.30	C-O4: <b>Lisa Lautrup</b> - Characterisation of $\gamma'$ / $\gamma''$ precipitates of Electron Beam Melted Alloy 718 using TEM methods	D-O2: <b>Søren Raza</b> - In situ electron energy-loss spectroscopy for nanoscale optical devices
9.30-9.45	C-O5: <b>Matteo Todeschini</b> - Elevated Temperature In-situ Transmission Kikuchi Diffraction: a Powerful Tool for the Characterization of Ultra-thin Metal Films for Nanofabrication Applications	D-O3: <b>Anna Elsukova</b> - Organic ice resist lithography with an environmental TEM
9.45-10.00	C-O6: <b>Ingemar Persson</b> - Substitution of Inherent Surface Terminations of 2D Titanium Carbide	D-O4: <b>Murat Nulati Yesibolati</b> - Fast Brownian Dynamics of Nanoparticles Observed in Liquid Phase Scanning Transmission Electron Microscopy
10.00-10.30	Coffee break & Exhibition b303A + b306	
10.30-11.15	K3: <b>Farah Ahmed</b> - X-ray Microtomography – A Versatile Tool	
11.15-12.30	Scandem: General Assembly	
12.30-13.30	Lunch b306	
	Session G, b303A A41 – <b>Anders Bjorholm Dahl</b>	Session H, b303A A42 - <b>Rodolphe Marie, Michael Lisby</b>
13.30-13.45	G-I1: <b>Ida-Maria Sintorn</b> - Image analysis for automated screening and analysis of biological samples using MiniTEM	H-I1: <b>Thomas Walter</b> - Big data approaches for computational phenotyping
13.45-14.00		
14.00-14.15	G-O1: <b>Eija Jokitalo</b> - Practical Considerations in Image Analysis of Biological Specimens	H-I2: <b>Gustavo de Medeiros</b> - Quantitative Imaging of Intestinal Organoid Development
14.15-14.30	G-O2: <b>Espen D. Bøjesen</b> - Revealing Regions of Correlated Structure in Disordered Carbons by Scanning Electron Nano Beam Diffraction	
14.30-14.45	G-O3: <b>Andreas Delimitis</b> - Refinement Strategy in the Rotation Electron Diffraction Technique	H-O1: <b>Sofia Kamlund</b> - Characterizing Cancer Stem Cell Movement and Division using Digital Holographic Imaging in Combination With Fluorescence
14.45-15.00	G-O4: <b>J. Fatermans</b> - Bayesian Analysis of Noisy Scanning Transmission Electron	H-O2: <b>Kim I. Mortensen</b> - How To Characterize Individual Nano-Size

	Microscopy Images for Single Atom Detection	Liposomes With Simple Self-Calibrating Fluorescence Microscopy
15.00-15.15	G-O5: <b>Kirsten I. Kling</b> - Point of Origin? Application of Automated Mineralogy in Archaeology	H-O3: <b>Meriem Er-Rafik</b> - How Nanoparticles Disturb The Lipid Bilayer Vesicles
15.15-15.30	G-O6: <b>Vedrana Andersen Dahl</b> - Deformable Curves for Outlining Objects Directly From Projections	H-O4: <b>Luis Toledo</b> - Quantitative Image Based Cytometry For Cell Biology Research
17.00-19.00	Boat trip, Copenhagen	
19.00-23.00	Conference Dinner, Hotel Admiralen, Copenhagen	

<b>Thursday June 28</b>		
9.00-9.45	K4: <b>Quentin Ramasse</b> - Balancing Spatial, Energy and Momentum Resolutions in Electron Energy Loss Spectroscopy	
9.45-10.30	K5: <b>Emmanuelle Guillard</b> - Versatile image processing with Python and scikit-image, application to ultrafast in situ microtomography	
10.30-11.00	Coffee break & Exhibition b303A + b306	
	Session E, b303A A41 – <b>Shima Kadkhodazadeh</b>	Session F, b303A A42 – <b>Sebastian Horch, Carsten Gundlach</b>
11.00-11.15	E-I1: <b>Matthieu Kociak</b> - Nanooptics in the electron microscope	F-I1: <b>Mariam Andersson</b> - Using X-ray Imaging to Visualise the 3D Architecture of White Matter
11.15-11.30		
11.30-11.45	E-O1: <b>Turkka Salminen</b> - Cathodoluminescence measurements with an EDS detector	F-O1: <b>Christian D. Damsgaard</b> - In situ Characterization of Catalysts: Combining X-ray and electron microscopy
11.45-12.00	E-O2: <b>Devendra Singh Negi</b> - Probing Three Dimensional Magnetic Information using Electron Vortex Beams with Nanometre-Scale Depth Resolution	F-O2: <b>Casper Hempel</b> - Soft X-ray Imaging of Endothelial Cells and Their Glycocalyx
12.00-12.15	E-O3: <b>Frank Niessen</b> - A systematic comparison of on-axis vs. off-axis transmission Kikuchi diffraction	F-O3: <b>Thomas Maagaard</b> - Combining Ultra High Vacuum Scanning Tunneling Microscopy and Electrochemistry for Surface Studies of Model Catalysts
12.15-12.30	E-O4: <b>William Tiddi</b> - Organic Ice Resists	F-O4: <b>Sarah R. McKibbin</b> - Detailed Surface Examinations of III-V Nanowires by Scanning Probe and X-ray Photoelectron Spectroscopy Techniques
12.30-13.30	Lunch b306	
13.30-13.45	Closing Remarks	

## Poster session Tuesday June 26, building 306

### Materials Science and Energy Materials

A-P1: **Mario Frederik Heinig** - Nanoscale Characterisation of the Adhesion Mechanism in Thin Metal Films for Plasmonic Applications

A-P2: **Mari Honkanen** - Regeneration of Sulfur-Poisoned Pd/Al<sub>2</sub>O<sub>3</sub> Catalysts

A-P3: **Antonius T. J. van Helvoort** - Characterisation of Beam Sensitive Quartz by Scanning TEM

A-P4: **Minnamari Vippola** - Microstructural Characteristics of Fretting Scars

A-P5: **Daniel Busse** - Transmission Electron Microscopy Studies of Manganese Perovskite Electrodes for Electrochemical Water Splitting

A-P6: **Annett Thøgersen** - Material properties of self-organizing aluminium nanowires in amorphous silicon

A-P7: **Zhaozong Sun** - Structural and Electronic Properties of Fe Dopants in Cobalt Oxide on Au(111) : Atomistic Insight into Synergistic Effects in Mixed Metal Oxide Electrocatalysts

A-P8: **Takeshi Kasama** - Quantitative Microscopic Characterisation of Natural 'Invisible' Gold

A-P9: **V. Asokan** - Microscopic investigations on the oxidation of silicon containing FeCrAl alloys

A-P10: **J. O. Nielsen** - Carbon and oxygen in electrodeposited Fe coatings

A-P11: **Hua Jiang** - Electron microscopy as a means to validate Raman spectroscopy for quantifying single-walled carbon nanotubes

A-P12: **S. Colding-Jørgensen** - 3D-Orientation Mapping of Nano-grains in Solid Oxide Electrochemical Cells using TEM

A-P13: **Niklas Mørch Secher** - Scanning Transmission Electron Microscopy Of Single Atoms And Dimers From Cluster Deposition

A-P14: **Alice Bastos S. Fanta** - Transmission Kikuchi Diffraction characterization of low dimensional materials

A-P15: **Jarle Hjelen** - Quantification of the Sigma Phase in Super Duplex Stainless Steel by Scanning Electron Microscopy

A-P16: **Nonappa** - Electron Tomography of Self-Assembled Metal Nanoparticle Superstructures

A-P17: **Krista Vajanto** - Jacket of Prof. Elias Lönnrot, collector of Kalevala epos

A-P18: **Yuliang Liu** - Post-mortem Analyses of Long-term Tested SOEC Cells in Co-electrolysis Mode

A-P19: **Gaurav Mohanty** - In-situ SEM nanomechanical testing

### In Situ Nanoscale Microscopy of Processes

B-P1: **S. Helveg** - Atomic-resolution imaging of heterogeneous catalysts at work

B-P2: **Sven Kayser** - 3D Chemical Analysis of Inorganic and Organic Nanostructures using ToF-SIMS and In-situ SPM

B-P3: **Min Tang** - Direct in Situ Monitoring of Nanoalloy Transformation Pathways

B-P4: **Trond Henninen** - Temperature Dependent Quasimolten Crystallinity of sub-nm Pt and Au Clusters Observed in 3D by Fast Dynamic STEM

B-P5: **Hongyu Sun** - Formation of Prussian Blue Nanocubes Studied by Liquid Cell Transmission Electron Microscopy

B-P6: **Søren B. Simonsen** - Electrochemical impedance spectroscopy TEM implementation for a model solid oxide electrolysis cell

B-P7: **Reza Ghadimi** - New Insights in CMOS Based TEM Detector

B-P8: **Thomas W. Hansen** - Dynamics of Nanostructures: A quantitative approach using in situ Electron Microscopy

B-P9: **Christian F. Elkjær** - Imaging nanoparticle formation in heterogeneous catalysts

B-P10: **Kimmo Mustonen** - Ordered carbon van der Waals heterostructures

B-P11: **Jes Ærøe Hyllested** - Designing an Exchangeable Biprism for In-Situ Electron Holography

B-P12: **Wentao Yuan** - Real time Observation of Dissolution and Regrowth Dynamics of MoO<sub>2</sub> nanowires

B-P13: **Yijia Li** - Direct visualization of oxidation and reduction of FeO/Au(111) studied by time-resolved STM

B-P14: **Annett Thøgersen** - Investigating the reduction process of doped and undoped Ceria nanoparticles with in-situ TEM

### **Advances in electron microscopy: techniques, instrumentation and applications**

E-P1: **Ding Zhao** - Ice resists for 3D electron-beam processing: instruments in Denmark and China

E-P2: **Keith Dicks** - Superseding CCD with CMOS Technology in EBSD – Massively Increased Speed, Sensitivity and Resolution in a Single Detector

E-P3: **Max Maletta**: Cryo EM workflows for Single Particle Analysis and Tomography of hydrated, intact cells

E-P4: **D. Phifer** - Novel Automation Scripting for SEM & DualBeam

### **Novel applications for X-rays and SPM**

F-P1: **Tao Xu** - STM and XPS Studies of Titania-Ceria Mixed Oxide Thin Films

F-P2: **Julia E. Parker** - A Hard X-ray Nanoprobe for Multi-Modal Analysis at Diamond Light Source

F-P3: **Harpreet Singh Brar** - High Frequency Cantilever Evaluations for High Speed Atomic Force Microscopy in Liquid

## **Image and data analysis**

G-P1: **Julie S. Nilsen** - Large Area Crystal Phase Mapping by Scanning Electron Diffraction and Machine Learning Data Analysis

G-P2: **Nagatoshi Fujiwara** - The Morphology Affects Bacterial Virulence in Mycobacteria

G-P3: **Lin Zhu** - Automated Image and Analysis of Pharmaceutical Particles Using a Tabletop Low Voltage TEM

G-P4: **A. Brostrøm** - Quantifying Aerosol Size, Shape, and Composition Distributions via Impaction and Automated Electron Microscopy Analysis

G-P5: **Monica J. Emerson** - Understanding UD Fibre-reinforced Polymers through X-ray Imaging and Individual Fibre Tracking

G-P6: **Asm Shihavuddin** - Can we train a single deep learning model to detect and segment nuclei images acquired with any microscope or staining modality?

G-P7: **Louise Sternbæk** - Macrophage-uptake of sialic acid-targeted molecularly imprinted polymers (MIPs)

## **Imaging multicellular systems, Live imaging of single cells, Correlative Light and Electron Microscopy (CLEM)**

H-P1: **Jonathan Brewer** - Nanoscopic Structure of Spider Silk Revealed by Super resolved Raman and Helium Ion Microscopy

H-P2: **Kesara Anamthawat-Jónsson** - Fluorescence Imaging of Birch Mitosis and Meiosis

H-P3: **Adrianna Milewska** - Substrates For Identification Of The Bone Marrow Mesenchymal Stem Cells By Surface-Enhanced Raman Spectroscopy

H-P4: **Nedal Said** - Life Cycle of Bdellovibrio bacteriovorus imaged by Helium Ion Microscopy

H-P5: **Mériem Er-Rafik** - Efficiency of Antimicrobial Modified Hyperbranched Polyethyleneimine Polymers Analogous With Different Microstructures

H-P6: **Michael Lisby** - High-throughput screening for mitotic functions of TopBP1

H-P7: **Hiroyuki Yamada** - Structome analysis and three-dimensional reconstitution of Mycobacterium smegmatis cells

H-P8: **M. Baumgarten** - CLEM and SEM in inflammatory responses

H-P9: **O. A. Kudryavtseva** - Ultrastructural Dynamics of Podospora anserina Mycelium under Conditions of Long-Term Evolutionary Experiment