

Microscopy Characterisation of Organic-Inorganic Interfaces

THURSDAY, MARCH 7, 2019

08:00 *Registration*

08:55 *Welcome*

09:00 **Prof. Dr. Peter Fratzl**
"Multi-method imaging of bone tissues"
Max Planck Institute of Colloids and Interfaces, Germany

09:40 **Dr. Hiroshi Jinnai**
"Direct observation of organic-inorganic interface using electron tomography and AFM"
Tohoku University, Japan

10:20 **Dr. M. Falke**
"Quantitative element mapping with EDX"
Bruker Nano GmbH, Berlin, Germany



10:35 *Break (refreshments in the technical exhibition room)*

11:05 **Prof. Dr. Derk Joester**
"Chemical Imaging of Gradients and Interphases in Vertebrate Tooth Enamel"
Northwestern University, USA

11:45 **Prof. Dr. Christian Kumpf**
"Low Energy Electron Microscopy: A tool for real-time investigation of growth phenomena and phase transitions at surfaces"
Forschungszentrum Jülich, Germany

12:25 **Dr. J. Persson**
"JEOL TEM: Recent advances"
JEOL GmbH, Freising, Germany



12:40 **Dr. S. Kujawa**
"Recent advancements in STEM technology"
Thermo Fisher Scientific



12:55 *Lunch*

Program

- 14:00 **Prof. Dr. Dagmar Gerthsen**
"Correlative STEM and SEM imaging of organic solar cells in a scanning electron microscope"
Karlsruhe Institute of Technology, Germany
- 14:40 **Dr. Damien Alloyeau**
"Challenges and Opportunities in Transmission Electron Microscopy for Revealing the Fate of Inorganic Nanomaterials in the Body"
University Paris Diderot-Paris, France
- 15:20 **Dr. Wouter van den Broek**
"Prospects for lowering beam damage with compressed sensing in TEM"
Humboldt University of Berlin, Germany
- 16:00 *Break (refreshments in the technical exhibition room)*
- 16:30 **Prof. Dr. R. J. Dwayne Miller**
"Mapping Atomic Motions with Ultrabright Electrons: Fundamental Space-Time Limits to Imagine Chemistry and Biological Processes"
Max Planck Institute for the Structure and Dynamics of Matter, Germany
- 17:10 **Prof. Dr. Hans-Werner Fink**
"Holography with low-energy electrons: a tool for single molecule structural biology"
University of Zurich, Switzerland
- 17:50 **Dr. J. Simon**
"STEM at 30 kV – a new approach to organic and inorganic materials"
Hitachi High Technologies Europe, Krefeld, Germany
- 18:05 **Dr. A. Pakzad**
"K3 IS: Making Every Electron Count"
Gatan Inc. R&D Headquarters, Pleasanton, US
- 18:20 **Poster session**
- 19:00 *Dinner*
- 20:00 Open discussion / Poster session

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FRIDAY, MARCH 8, 2019

Focus Lecture Series:

Advances in imaging beam sensitive materials in the transmission electron microscope

08:55 *Welcome from the chairperson*

09:00 **Dr. Christopher J Russo**

"The energy dependence of contrast and damage in electron cryomicroscopy of biological molecules"

MRC Laboratory of Molecular Biology, United Kingdom

09:40 **Prof. Dr. Yu Han**

"High-resolution TEM of electron beam-sensitive crystalline materials"

King Abdullah University of Science and Technology, Saudi Arabia

10:20 *Break (refreshments in the technical exhibition room)*

10:50 **Prof. Dr. Harald Rose**

"Minimum-dose phase-contrast tomography by successive numerical optical sectioning employing the aberration-corrected STEM and a pixelated detector"

Ulm University, Germany

11:30 **Prof. Dr. Lena F. Kourkoutis**

"Mapping Physical, Chemical and Electronic Structure of Soft-Hard Interfaces by cryo-STEM"

Cornell University, USA

12:10 *Lunch*

13:20 **Dr. Lothar Houben**

"Cryo-scanning transmission electron microscopy of biological materials"

The Weizmann Institute of Science, Israel

14:00 **Dr. Tom Willhammar**

"Revealing structural details of organic & inorganic materials using electron diffraction"

Stockholm University, Sweden

14:40 *Break (refreshments in the technical exhibition room)*

Program

- 15:10 **Prof. Dr. Mihály Pósfai**
 "Interfaces of interest in environmental mineralogy"
 University of Pannonia, Hungary
- 15:50 **Prof. Dr. Jo Verbeeck**
 "Experimental strategies for beam damage reduction in the TEM"
 University of Antwerp, Belgium
- 16:20 ***Concluding remarks, Poster prize, Closing of the meeting***