We are pleased to invite you to a workshop on

Correlative materials characterization

Organized by Czech Optical Cluster October 7th, 2021 | 9:00 - 16:30 CEST Brno, Czech Republic or online (hybrid event)

Register here

The workshop will be dedicated to the exciting field of Correlative Materials Characterization and Correlative Imaging. The aim is to bring together communities from Material and Life Science, discuss and explore common interests in this microscopy phenomenon. The subject is open to all relevant microscopy techniques used for correlative material characterization. The main focus will be on Electron microscopy, Atomic Force Microscopy, X-Ray microscopy, and light microscopy in various forms.

Main speakers:



Ehrenfried Zschech CTO & Co-founder of deepXscan

Correlative Material Characterization - Current Status and Perspectives



Pavel Tomančák MPI Dresden, Germany -CEITEC, Czech Republic

Combining dynamical and ultrastructural studies to gain biological insights



Umberto Celano University of Twente

Correlative Scanning Probe Microscopy in Site-specific **Analysis of Nanoelectronics**

Partners and supporters







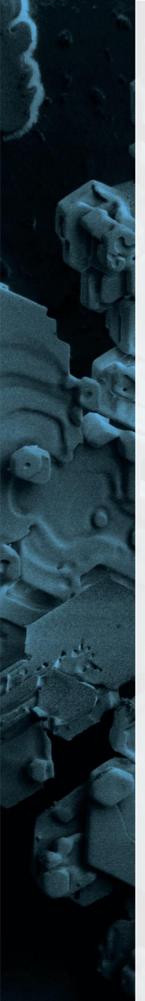












Workshop program:

Opening session (09:00 - 10:30)

Chair: Jan Neuman, NenoVision

09:00 09:10 Welcome speech

Ilona Müllerová, VP CAS

09:10 09:50 Correlative Materials Characterization – Current Status and

Perspectives, Ehrenfried Zschech, deepXscan

O9:50 10:05 Correlative Cryo-Microscopy of Vitrified Bio-Samples

09:50 10:05 Correlative Cryo-Microscopy of Vitrified Bio-Samples *Miloš Hovorka, Thermo Fisher Scientific*

10:05 10:20 Correlation of microscopy techniques for materials science research Tomáš Šamořil, TESCAN

10:20 10:30 Correlative microscopy using AFM in SEM Veronika Hegrová, NenoVision

Coffee break - 10:30 - 10:45

Correlative microscopy in materials science (10:45 - 12:15)

Chair: Michal Urbánek

10:45 11:15 Correlative Scanning Probe Microscopy in Site-specific Analysis of Nanoelectronics, Umberto Celano, University of Twente

11:15 11:30 Correative microscopy of magnetic nanostructures

Ondřej Wojewoda

11:30 11:45 Contamination mitigation strategy for electron microscopy/spectroscopy Eliška Mikmeková (online)

11:45 12:00 How to streamline AI application in materials science Carlosa Barbosa, ScienceDesk (on-line)

12:00 12:15 Prospects of correlative microscopy in steel research

Lunch break - 12:15 - 13:30

Correlative microscopy in Life Science (13:30 - 15:00)

Šárka Mikmeková

Chair: Jiří Nováček

13:30 14:00 Combining dynamical and ultrastructural studies to gain biological insights

Pavel Tomančák, MPI Dresden, Germany - CEITEC, Czech Republic

14:00 14:15 Cryo-SEM and Raman spectroscopy in microbiology Kamila Hrubanova, ISI Brno

14:15 14:30 TBA

Marie Vancova, BC CAS

14:30 14:45 Setup for correlative light and electron microscopy at cryo-conditions

Jana Moravcova, CEITEC MU

14:45 15:00 TBA

Ales Benda, BIOCEV

Coffee break - 15:00 - 15:15

Panel discussion (15:15 - 16:30)

Chair: Jiří Očadlík

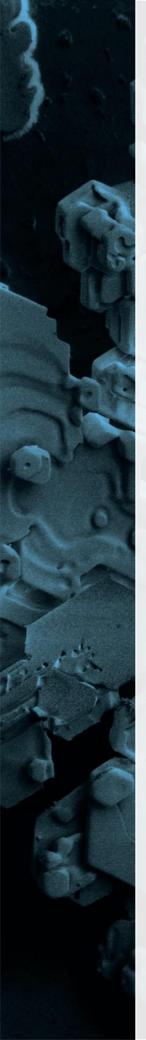
Speakers: Ehrenfried Zschech, deepXscan

Pavel Tomančák, MPI Dreseden, CEITEC

Dirk van der Wal, TESCAN

Tomáš Vystavěl, Thermo Fisher Scientific

Jan Neuman, NenoVision



Key note speakers biographies



Ehrenfried Zschech is CTO and Co-Founder of deepXscan GmbH, Dresden, Germany. His responsibilities include R&D in the field of high-resolution X-ray imaging and the development of customized solutions for a broad range of applications. He holds an adjunct professorship at

Faculty of Chemistry of Warsaw University as well as honorary professorships for Nanomaterials at Brandenburg University of Technology Cottbus and for Nanoanalysis at Dresden University of Technology. Ehrenfried Zschech is Member of the Senate of the European Materials Research Society (E-MRS) and Honorary Member of the Federation of the European Materials Societies (FEMS). In 2019, he was awarded with the FEMS European Materials Gold Medal.



Pavel Tomančák is a Senior Research Group Leader at Max Planck Institute of Molecular Cell Biology and Genetics (MPI-CBG), Dresden, Germany, and since 2021 also the director of the CEITEC consortium in Brno, Czech Republic. His research is focused on understanding

how embryonic development evolves. He has developed novel imaging approaches to study animal embryos based on Selective Plane Illumination Microscopy (OpenSPIM) including advanced quantitative 3D image analysis (open source project Fiji). Dr. Tomančák is an EMBO member since 2016, and his research was supported by ERC Starting and Advanced grants



Umberto Celano is a Principal Member of Technical Staff with imec (Belgium) and Asst. Professor at the University of Twente (The Netherlands), with expertise in materials analysis for semiconductor technology, device physics and nanoscale functional materials. He has

an electrical engineer background and a master's in nanoelectronics. He received his Ph.D. in Physics from the University of Leuven - KU Leuven (Belgium) in 2015, working to establish a novel three-dimensional nanoscale imaging technique that combines sensing with sub-nm material removal to study materials in confined volumes. Currently, Dr. Celano's research interests encompass nanoelectronics, nanophotonic, functional materials and VLSI materials analysis. In these areas, he conducted research in various institutions including KU Leuven, Osaka University and Stanford University.



EVROPSKÁ UNIE Evropský fond pro regionální rozvoj Operační program Podnikání a inovace pro konkurenceschopnost

