

Session Program

13-17 Sept 2021

**EUROPEAN CONGRESS AND EXHIBITION ON
ADVANCED MATERIALS AND PROCESSES -
EUROMAT 2021**

***D1_Advanced microscopy in materials
research***

Virtual

Monday 13 September

11:00

D1_Advanced microscopy in materials research: D1_1_Multi-dimensional and in-situ/ dynamic microscopy

Session | Location: Room 12

11:00-11:40

3D investigation of realistic nanomaterials under relevant conditions (Keynote)

Speaker

Sara Bals

11:40-12:00

Direct observation of Tungsten impurity diffusion in Aluminum using in situ high resolution STEM

Speaker

Dr Peter Schweizer

12:00-12:20

Structural evolution of FeCoNi(AlMn)_x high-entropy alloy and impact on magnetic properties: nano-scale STEM-EELS investigations

Speaker

Dr Calliope Bazioti

12:20-12:40

X-ray Live View of Nanomaterials Chemistry

Speaker

Mr Lukas Grote

12:40

14:00

D1_Advanced microscopy in materials research: D1_2_High spatial resolution microscopy and diffraction in two and three dimensions

Session | Location: Room 12

14:00-14:20

Magnetic nanostructure of a spinodally decomposed Cu₅₂-Ni₃₄-Fe₁₄ alloy (Highlight)

Speaker

Thomas Radlinger

14:20-14:40

Micromechanical behavior of silicon stainless steel alloys using in-situ EBSD

Speaker

Mr Prince Setia

14:40-15:00

Automatic characterization of dislocations using Scanning Electron Microscopy images

Speaker

Mr Julien Gallet

15:00-15:20

eCHORD as a tool to characterize internal misorientation of strained samples

Speaker

Mr Romain Facchinetti

15:20–15:40

Ex situ Transmission X-ray Microscopy of 3D-printed 316L stainless steel**Speaker**

Dr Meriem Ben Haj Slama

15:40

16:00

D1_Advanced microscopy in materials research: D1_3_In-situ, Operando and Dynamic Microscopy**Session** | **Location:** Room 12

16:00–16:20

Coupling a continuous-wave laser with an SEM for in-situ laser scanning: insight into microstructure evolution during additive manufacturing (Highlight)**Speaker**

Dr Juan Guillermo Macias Santos

16:20–16:40

In situ Transmission Electron Microscopy investigation of AM microstructure during solid-state thermal cycling**Speaker**

Dr Meriem Ben Haj Slama

16:40–17:00

In situ observation of precipitation processes in aluminum alloys via high-resolution STEM**Speaker**

Dr Evelin Fisslthaler

17:00–17:20

Metallic nanoparticles as thermometers in everyday in situ TEM experiments**Speaker**

Mr Robert Krisper

17:20–17:40

Accurate strain field measurement during strip rolling by a novel Integrated Digital Image Correlation framework**Speaker**

Prof. Johan Hoefnagels

17:40

Tuesday 14 September

09:50

D1_Advanced microscopy in materials research: D1_4_Micro- and Nano-chemical spectroscopy I

Session | Location: Room 12

09:50–10:30 **Spectroscopic STEM imaging in 2D and 3D (Keynote)**

Speaker

Prof. Gerald Kothleitner

10:30–10:50 **Soft X-ray analysis for high resolution spectroscopy at low voltages**

Speaker

Dr Serguei Matveev

10:50–11:10

Correlative Raman microscopy, SEM and EDX - fundamental consideration and project examples

Speaker

Harald Fitzek

11:10–11:30

Correlative Raman spectroscopy and EBSD for orientation and strain state analysis in MAX phases

Speaker

Mr Jack Lyons

11:30

11:50

D1_Advanced microscopy in materials research: D1_5_Micro- and Nano-chemical spectroscopy II

Session | Location: Room 12

11:50–12:10

Introducing the term “probe high tension” and extreme x-ray collection efficiency on Spectra Ultra S/TEM (Highlight)

Speaker

Anil Yalcin

12:10–12:30

Optimization of STEM-EDX quantification to understand Si and Sn incorporation mechanisms in SiGeSn/GeSn heterostructure

Speaker

Mr Florian Castioni

12:30–12:50

Visualization of chemical bonding in a silica-filled rubber nanocomposite using STEM-EELS

Speaker

Dr Yohei Sato K.

12:50–13:10

Post-processing paths for orbital mapping of rutile by STEM-EELS

13:10

Speaker

Mr Michael Oberaigner

15:20

D1_Advanced microscopy in materials research: D1_6_Soft Matter Microscopy and Surface Microscopy and Spectroscopy**Session** | **Location:** Room 12

15:20–15:40

Visualising cellular structures with nanocomputed tomography (Highlight)**Speaker**

Prof. Håvard J Haugen

15:40–16:00

From 2D self-assembly to 3D thin film crystal: A joint experimental-modelling study for lead phthalocyanine, a prototypical molecular semiconductor**Speaker**

Mr Yansong Hao

16:00–16:20

The novel approach to correlative microscopy and advanced surface characterization using AFM-in-SEM system**Speaker**

Mrs Veronika Hegrova

16:20–16:40

Automated characterisation with SEM: A tool for rapid analysis using Image Processing and Artificial Intelligence**Speaker**

Mr George Bakas

16:40