

EUROMAT 2017/ Symposia Structure/Area D

Title: Materials Science with Synchrotron Radiation X-rays		
Organizer	Institution	Contact email
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Summary		
D.1	<p>This symposium intends to bridge the gap between the available modern X-ray synchrotron radiation techniques and innovative materials research. It aims at fostering the dialog between materials scientists and experts in X-ray methods.</p> <p>Thanks to orders of magnitude improvements in source brilliance and increased availability, great progress in the application of X-ray methods to materials science has been made. An improved control of the space-time structure of the probing X-ray photons and the concurrent development of sophisticated experimental set-ups and data analysis schemes is resulting in highly refined characterization of materials and devices.</p> <p>We welcome abstracts on:</p> <ul style="list-style-type: none"> • Novel applications of X-ray synchrotron methods to the study and characterization of advanced materials and devices. • New instruments, methods and/or analysis tools and protocols. • Complementary studies with laboratory x-rays sources. <p>The program will be defined with particular attention to the following focus topics:</p> <ul style="list-style-type: none"> • Development of <i>in situ</i> environmental stages for real and reciprocal space imaging and their applications • Coherent imaging and developments in image reconstruction • 3D diffraction imaging • X-ray microscopy • Joint XAS/XES investigations of advanced materials • Spatially resolved spectroscopy (including XAS, XRF, XPS, XPEEM) of advanced materials and devices. • Spectroscopic studies of transient states • Local structure of dopants/defects by spectroscopy and <i>ab-initio</i> simulations • Oxide ultra thin films: defectivity and reactivity • Ordering at the meso- and nano-scale • Surface, interface and adsorption studies <p>KEYNOTE TALKS</p> <ul style="list-style-type: none"> • Prof. Éric Collet, Institut de Physique de Rennes, FR <i>"Revealing multiscale photoswitching processes in spin-crossover molecular materials with ultrafast X-ray science"</i> • Prof. Oskar Paris, Institut für Physik, Montanuniversitaet Leoben, AT 	

"In-situ Small Angle X-ray Scattering characterization of nanoporous materials for actuation and energy applications"

HIGHLIGHT TALKS

- Dr. Eric Maire, INSA de Lyon, Laboratoire MATEIS, FR
"Diffraction, phase and attenuation imaging for ductile damage"
- Dr. Gema Martinez Criado, Instituto de Ciencia de Materiales de Madrid, ES
"Spectroscopic studies of advanced materials with nanobeams"
- Dr. Lucia Amidani, ESRF, FR
"XAS/XES studies of advanced materials"
- Dr. Matteo Amati, ELETTRA Sincrotrone Trieste, IT
"Towards ambient pressure in the characterization of materials at the micro- and nano-scale by scanning photoemission imaging and spectromicroscopy"
- Mr. Bernard Ennis, Principal Researcher, Tata Steel RD&T, DL
"Interplay between banding and the work hardening behaviour in a dual phase steel with improved formability"