

SATELLITE WORKSHOP - Photon Science



Coherent X-ray scattering and imaging

30. Jan. 2020

CFEL I-III, Bldg. 99 &
SemR FLASH, Bldg 28c

New coherent x-ray scattering techniques have been developed, implemented and exploited at several instruments of PETRA III. These instruments use forward or Bragg scattering geometries or apply nano-focusing capabilities as e.g. provided by the P10-GINIX (build by the group of Prof. T. Salditt).

This workshop aims to give a comprehensive overview of available research opportunities / activities employing coherent X-rays.

The first part of this satellite workshop will be shared with the "10th workshop on X-ray Nano-Imaging of Biological and Chemical Systems at PETRA III" and present highlight results of different imaging approaches. The 2nd half of the satellite workshop will present the current state of the P10 beamline followed by presentations covering recent research activities.

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PROGRAMME (Session I: CFEL I-III)

Session 1: Nano-imaging and P10 workshop session		Chair: G. Falkenberg	
13:00	Welcome & X-Ray Microscopy Today and at PETRA IV	Christian Schroer.	DESY / UHH
13:20	News from the Nanolab	Thomas Keller.	DESY
13:30	Sample cells for X-ray ptychography and nanotomography - towards operando chemical imaging of catalysts and functional materials	Thomas Sheppard	Karlsruhe Institute of Technology
14:00	Multi-scale tomography of heart tissue: from Cardiomyocyte to whole heart	Marius Reichardt	University of Göttingen
14:30	Revealing the organization of axonal bundles from synchrotron tomography using streamline tractography	Hans Martin Kjer	Technical University of Denmark
15:00	3D anatomy and spatial chemistry in animal-microbe symbioses – Correlative phase-contrast x-ray tomography, metabolite imaging and fluorescence microscopy	Benedikt Geier	MPI Marine Microbiology

15:30-
16:00 **Coffee break (30 Min.)**

Session 2: Opportunities @ P10		Chair: I. Vartaniants	
16:00	News/Updates from P10	Michael Sprung/ Markus Osterhoff Hendrik Rahmann	DESY/ University of Göttingen University of Siegen
16:20	Dynamics of liquid-liquid phase separation in protein solutions studied by low radiation dose XPCS		
16:40	X-ray induced dynamics in oxide glasses probed at inter-atomic length-scales	Francesco Dallari	University of Trento/DESY
17:00	Evolution of the strain field in Pt nanoparticles during CO oxidation using Bragg coherent imaging	Maxime Dupraz	ESRF/CEA
17:20	Correlation between Conductivity and Structure revealed by AXCCA in PbS Nanocrystal Superlattices	Dmitry Lapkin	DESY
17:40	Structural study of a single Au grain mesocrystal by Coherent X-ray Diffraction Imaging	Jerome Carnis	DESY
18:00	PETRA IV coherence properties	Ruslan Khubbutdinov	DESY
18:20	Closing remarks	Ivan Vartaniants/ Michael Sprung	DESY

18:25 **End of the workshop**