

Characterization of micro- and nano-materials, Key aspect: “Heterogeneous catalysis: fundamentals, materials, and applications”

Summer School 2024 / Compact Course

(LV: 150360, Module: 13016; CP: 6)

Language: English

September 9th – 13th, 2024, Cottbus, Main Campus, Building LG 1A, Room 304

	Monday, 09/09/2024 Fundamentals & Characterization	Tuesday, 10/09/2024 Synthesis & Characterization	Wednesday, 11/09/2024 Characterization & Catalytic Applications	Thursday, 12/09/2024 Practical Training	Friday, 13/09/2024 Practical Training
8:50	<i>Welcome & Opening Remarks</i>				
09:00-10:30	Jolla Kullgren Uppsala University, Sweden <i>Heterogeneous catalysis and theoretical modeling</i>	Michael Reichling University of Osnabrück, Germany <i>Surface chemistry revealed by atomic force microscopy</i>	Christian Papp FU Berlin, Germany <i>Investigating model catalysis by near-ambient pressure XPS</i>	<i>Low-Energy Electron Diffraction (LEED),</i> <i>Atomic Layer Deposition (ALD),</i> <i>X-ray Photoelectron Spectroscopy (XPS),</i> <i>Photoemission Electron Microscopy (PEEM), and</i> <i>Catalysis experiments.</i> Exact time schedule to be announced during the lectures.	<i>Low-Energy Electron Diffraction (LEED),</i> <i>Atomic Layer Deposition (ALD),</i> <i>X-ray Photoelectron Spectroscopy (XPS),</i> <i>Photoemission Electron Microscopy (PEEM), and</i> <i>Catalysis experiments.</i> Exact time schedule to be announced during the lectures.
10:30-11:00	Coffee Break				
11:00-12:30	Fabian Mauß BTU Cottbus-Senftenberg <i>Introduction to reaction kinetics</i>	Lindsay Merte Malmö University, Sweden <i>Surface X-ray diffraction for in situ studies of model catalysts</i>	Francesca Toma Helmholtz-Zentrum hereon, Germany <i>CO₂ (photo)electroreduction: fundamentals and case examples</i>		
12:30-14:00	Lunch Break				
14:00-15:30	Kannan Balasubramanian HU Berlin, Germany <i>Fundamentals of electrocatalysis</i>	Arturo Martinez-Arias ICP-CSIC, Madrid, Spain <i>Synthesis of nanostructured catalysts</i>	Vivien Günther LOGE GmbH, Cottbus <i>Heterogeneous catalyst modelling at the microscopic scale for power-2-x applications</i>		
15:30-16:00	Coffee Break				
16:00-17:30	Matthias Steimecke MLU Halle, Germany <i>Electrocatalysis and in-situ characterization</i>	Ehrenfried Zschech BTU Cottbus-Senftenberg <i>Platinum-free electrocatalysts - X-ray (spectro)microscopy</i>	Stefan Kotrel BASF, Ludwigshafen, Germany <i>Harnessing the Power of Catalysts: Innovations for Sustainable Processes</i>		
17:30-...	BBQ				