

**Characterization of micro- and nano-materials, focus topic:
“In-situ and operando techniques for studying physical and chemical
processes”**

Summer School 2026 / Compact Course
(LV: 150360, Module: 13016; CP: 6)
Language: English

September 7th – 11th, 2026, Cottbus, Main Campus, Building LG 1A, Room 304

	Monday, 07/09/2026 Principles & Characterization	Tuesday, 08/09/2026 Characterization & Applications	Wednesday, 09/09/2026 Materials & Applications	Thursday, 10/09/2026 Practical Training	Friday, 11/09/2026 Practical Training
08:50	<i>Welcome & Opening Remarks</i>				
09:00-10:30	Gareth Parkinson TU Vienna, Austria <i>To be announced</i>	Joachim Wollschläger University of Osnabrück, Germany <i>X-ray diffraction and epitaxial growth</i>	Vedran Vonk DESY, Germany <i>In-situ studies of pulsed laser deposition using X-ray diffraction</i>	<i>Atomic Layer Deposition (ALD),</i> <i>X-ray/Ultra-violet Photoelectron Spectroscopy (XPS/UPS).</i> The exact time schedule will be announced during the lectures.	<i>Atomic Layer Deposition (ALD),</i> <i>X-ray/Ultra-violet Photoelectron Spectroscopy (XPS/UPS).</i> Exact time schedule will be announced during the lectures.
10:30-11:00	Coffee Break				
11:00-12:30	Arik Beck KIT, Germany <i>Introduction to reaction kinetics</i>	Stefan Förster Martin-Luther-University Halle, Germany <i>X-ray photoemission studies of solar cells</i>	Lars Mohrhusen University of Oldenburg, Germany <i>STM and XPS of 2D materials</i>		
12:30-14:00	Lunch Break				
14:00-15:30	Gregor Vonbun-Feldbauer TU Hamburg, Germany <i>Introduction to DFT, molecular dynamics, etc.</i>	Paola Luches Modena, Italy <i>X-ray Absorption Spectroscopy at synchrotrons and free-electron lasers: principles and applications to functional nanomaterials</i>	Oliver Bierwagen Paul-Drude-Institute, Germany <i>(Benefits of) in-situ methods beyond RHEED for controlling and understanding molecular beam epitaxy</i>		
15:30-16:00	Coffee Break				
16:00-17:30	Ehrenfried Zschech BTU <i>In-situ nano-XCT to study kinetic processes</i>	Subhashis Gangopadhyay BITS Pilani, India <i>To be announced</i>	To be announced		
17:30-...	BBQ				