

Symposium Organizers

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Coorganized by the
DFG Research Training Unit GRK1896:

In situ Microscopy with Electrons, X-rays
and Scanning Probes



<https://www.grk1896.forschung.fau.de/>

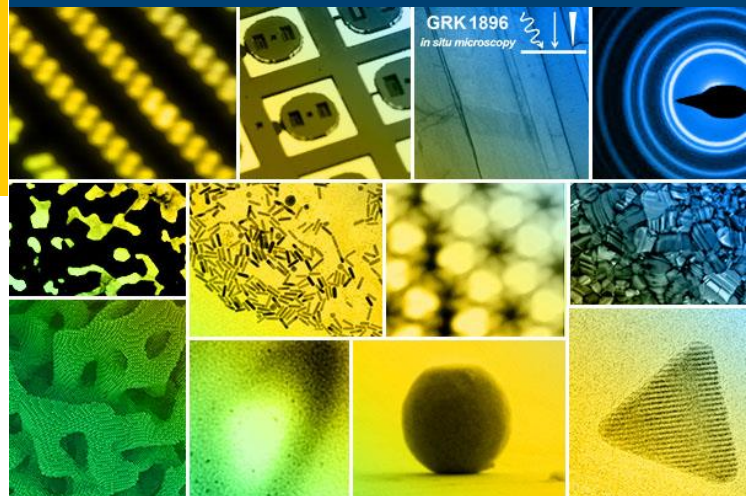
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Forschungsgemeinschaft



Symposium „Correlative and *in situ* microscopy in materials research“

01.- 04. April 2019

Universität Regensburg
Universitätsstraße 31
93040 Regensburg



Symposium

“Correlative and *in situ* microscopy in materials research”

The past few years have seen extremely fast developments in the field of microscopy using electrons/ions, X-rays/neutrons and scanning probes which open up many new opportunities for materials research. The increased spatial and energy resolution of microscopic and spectroscopic techniques enables unique insights into the interrelation of materials structure and physical/chemical properties down to the atomic scale. Moreover, microscopic processes and defect mechanisms can be directly monitored using a variety of *in situ* techniques with improved temporal resolution. In order to most efficiently use these new opportunities for materials research the choice of the most appropriate method(s) to tackle the specific materials problem at hand is absolutely key. Moreover, the research can profit a lot from the combined use of complementary techniques and the correlation of their specific information content. For example, combining microscopy, scattering and spectroscopy techniques does not only allow to improve the statistical significance of microscopic observations but also provides unique insights into structure-property relations. Moreover, correlative microscopy enables bridging length scales and linking macroscopic materials properties to microscopic structure and processes.

The symposium aims at bringing together an interdisciplinary group of researchers who either develop advanced microscopy techniques or apply them to address specific materials problems (or both). All contributions employing microscopy, scattering and spectroscopy techniques based on electrons/ions or X-rays/neutrons, scanning probes and related modelling and simulation approaches are highly welcome. Special emphasis is given to *in situ* and correlative microscopy techniques and their application to unravel structure-property-process relations of materials.

Invited Speakers

- ✓ Karsten Albe (TU Darmstadt)
- ✓ Roland Bennewitz (INM Saarbrücken)
- ✓ Megan Cordill (ESI Leoben)
- ✓ Gerhard Dehm (MPI Düsseldorf)
- ✓ Christoph Kirchlechner (MPI Düsseldorf)
- ✓ Christian Kübel (KIT)
- ✓ Gema Martínez-Criado (CSIC)
- ✓ Knut Müller (ER-C Jülich)
- ✓ Velimir Radmilovic (University of Belgrad)
- ✓ Tim Salditt (University of Göttingen)
- ✓ Oliver Seeck (DESY)
- ✓ Hans-Georg Steinrück (SLAC Stanford)
- ✓ Francois Vurpillot (University of Rouen)

Abstract submission until 01.12.2018:

<https://www.dpg-tagung.de/r19/submission.html?language=en>

- 1) MM: Metal and Material Physics Division
- 2) Topical session: Correlative and *in situ* Microscopy in Materials Research