Details

Siegen Micro- and Nanoanalytics Facility (MNaF)

The Micro and Nanoanalytics Facility MNaF is the central competence center for complementary material characterization and is an important platform for interdisciplinary materials research at the Faculty of Science and Technology of the University of Siegen. The MNaF is home to modern characterization instrumentation as well as to a large number of sample preparation tools and makes these and the associated methodological expertise available to uni-internal users and external cooperation partners. These include advanced light, electron and ion microscopy, X-ray diffraction and tomography and scanning probe techniques. In addition, MNaF users have access to state-of-the-art micro- and nanoanalytical methods, such as aberration-corrected S/TEM, atomic probe tomography and advanced synchrotron X-ray techniques, beyond the equipment available at the facility. In addition to this portfolio, MNaF offers user trainings, dedicated courses and professional characterization service. The Core Facility is led by the MNaF Executive Board, which consists of the heads of the involved expert groups. The board further develops the center according to user needs. In addition to the members of the MNaF Executive Board, the managing director is the central contact for external cooperation requests and ensures the best possible support for our device users.

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To website

Host Institution

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Scientific Domain

Primary Subjects:
- Chemistry
- Physics
- Mechanical and Industrial Engineering
- Materials Science and Engineering
- Computer Science, Electrical and System Engineering

Secondary Subjects:
- Biology
- Medicine
- Geosciences (including Geography)
- Thermal Engineering/Process Engineering
- Construction Engineering and Architecture

Category

Micro- and Nanotechnology facilities

Scientific Services

The MNaF offers comprehensive instrumentation and the most important methods of microstructure and nanostructure characterization for material research. The possibilities of use range from the own use of large equipment by qualified users to qualified services in material research, quality control and damage analyses for external cooperation partners as well as industrial customers. These services include scientific consulting on the optimal use of characterization methods, service measurements on customer samples, data analysis and reporting. The portfolio of the MNaF comprises the following methods: - Advanced light microscopy - Scanning electron and

scanning ion microscopy - Transmission electron microscopy - X-ray diffraction and tomography - Scanning probe techniques In addition, there are comprehensive offers for the preparation of, e.g., samples for light, scanning and transmission electron microscopy.

Scientific Equipment

- FEI F200X S/TEM
- FEI NanoLab 600 DualBeam SEM
- Ultra 55 FESEM
- FEI FEG 250 ESEM
- X-ray photo-electron spectrometer XPS
- Atomic-force microscope AFM
- Secondary-ion mass spectrometry TOF-SIMS
- Jeol JSM-IT300 SEM
- Cross-section polisher IB-19500CP
- PANalytical Empyrean XRD
- SEM/TEM sample preparation

Keywords

- transmission electron microscopy TEM
- scanning electron microscopy SEM
- focussed ion-beam microscopy FIB
- X-ray diffraction XRD
- secondary-ion mass spectroscopy SIMS
- X-ray photo-electron spectroscopy XPS
- nanoanalytics
- microanalytics
- material characterisation
- chemical analysis
- material research
- sample preparation
- damage analysis
- quality control

Networks

Users per annum

Internal Users: 100
External Users in total:
External Users: 25
External Users in the EU: 0
External Users outside of EU: 0