# Details

## transmission electron microscopy - center of the Faculty of Engineering Kiel (TEM )

The TEM Center of the Faculty of Engineering at the Christian-Albrechts-University in Kiel provides the opportunity to study the chemical, morphological and structural properties of micro and nanomaterials at three Transmission Electron Microscopes (TEM), a scanning electron microscope (SEM), and an X-ray diffractometer (XRD). TEM techniques include high-resolution electron diffraction (HRTEM), high-resolution electron diffraction (SAED), energy-dispersive X-ray spectroscopy (EDX), electron energy loss spectroscopy (EELS), Lorentz microscopy (LTEM), tomography, and in situ methods (heating, cooling, and biasing). Additionally to the microscopy itself, various possibilities for sophisticated preparation of samples are available. The scientific director of the TEM Center is at the same time the leader of the group “Synthesis and Real Structures”, at the moment Prof. Dr. Lorenz Kienle. A TEM coordinator is responsible for the organization of the current projects including accounting. One scientist oversees the XRD and SEM. A technician is in charge of the preparation laboratories. A controlled and transparent access is assured for all scientists at the university.

**Address:** Kaiserstr. 2
24143 Kiel
Schleswig-Holstein
Deutschland
**To website**

## Host Institution

**Technische Fakultät, Christian-Albrechts-Universität Kiel**
Kaiserstr. 2
24143 Kiel
Schleswig-Holstein
Deutschland
http://www.uni-kiel.de

## Scientific Domain

**Primary Subjects:**
- Chemistry
- Materials Science and Engineering

**Secondary Subjects:**
- Medicine
- Physics
- Computer Science, Electrical and System Engineering

## Category

Analytical Facilities

## Scientific Services

The services offered are composed by sample preparation, measurements at the transmission electron microscope, as weil as the anafysis of the collected data. measurements at the TEM include: common bright field microscopy High resolution (HRTEM + HRSTEM) Scanning TEM (STEM) in different Modes (BF, (HA)ADF, ABF, e-ABF, SE) Selected area electron diffraction (SAED) Lorentz microscopy (L TEM) Electron energy loss spectroscopy (EELS) Energy filtered TEM (EFTEM) Tomography Precession electron diffraction (PED) Scanning electron microscopy (SEM) X-ray diffraction (XRD)

## Scientific Equipment

- TEM: FEI Tecnai F30 G2 STwin
- TEM: JEOL JEM-2100
- STEM: JEOL JEM-ARM200F NEOARM

- SEM: Zeiss Gemini 55 Ultraplus
- XRD: Diffractometer Rigaku
- Ultramicrotom
- Ion polishing system
- Diamond belt saw
- Ultrasonic Disc Cutter
- Dimpling device
- Electrolytic thinning
- Grinding and polishing system
- Ultrasonic bath
- Plasma Cleaner
- Stereomicroscopes

## Keywords

- Transmission Eelectron Microscopy
- Material analysis

## Networks

## Users per annum

**Internal Users:** ca. 80
**External Users in total:** 30
**External Users:** 20
**External Users in the EU:** 5
**External Users outside of EU:** 5