

**KIT Facilities, Equipment and Resources available for PIRE**

The Institute of Mechanical Process Engineering and Mechanics (MVM/KIT) can provide a broad spectrum of analytical instruments for particle analysis and separation technology from the lab scale to the pilot scale. The following list of equipment gives a rough but not complete overview.

- SAXS X-ray small angle scattering, laser diffraction
- PCS Photo Correlation Spectrography
- Coulter Counter
- Zeta-sizer
- Acousto-Sizer
- AFM Atomic Force Microscope
- CPS Analytical Disc Centrifuge
- REM, TEM
- Porometer
- BET for measuring of surface areas
- Analytical balances
- $\mu$ -CT for structure analysis
- low-field and high field NMR
- Torsion and Capillary Rheometers
- Ring Shear Cell and Jenicke Shear Cell
- Lumifuge, Lumireader
- Lab Scale Filter Cells, Compressibility/Permeability Cell
- Lab Scale Beaker Centrifuge
- Chamber and diaphragm filter presses, vacuum-drum filter, vacuum belt filter, FEST pressure filter, cross-flow membrane filter, DYNO-filter (dynamic cross flow)
- Pusher centrifuge, peeler centrifuge, inverting filter centrifuge, vertical filter centrifuge, decanter centrifuge

The institute (MVM/KIT) is equipped with laboratory rooms and a technical center for pilot installations, workshops for metal processing, electric installations and electronics. The size of this facilities is big enough for its ~100 staff members (about 50 PhDs).

The high-performance computing clusters of the KIT (e.g. ForHLR I and II) can be used as well as the compute cluster at MVM/KIT (512 Cores) and IANM2/KIT.

To enable computational work beyond a single node on supercomputers, the applicants will apply for computing time at national supercomputing centers such as HLRS (Stuttgart) and LRZ (Munich).