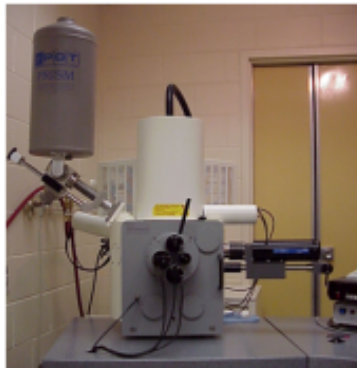


Microscopy

We have a range of microscopy facilities at Rutgers, including tools for scanning and transmission electron microscopy, scanning tunneling and atomic force microscopy, confocal microscopy, as well as optical and other methods.

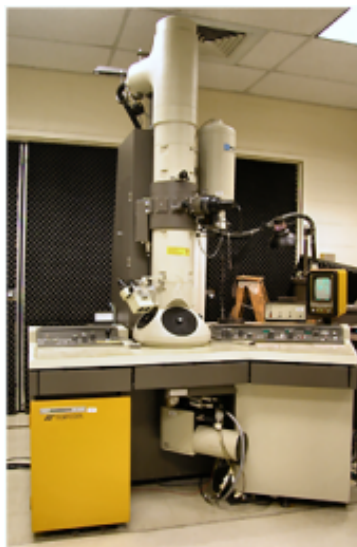
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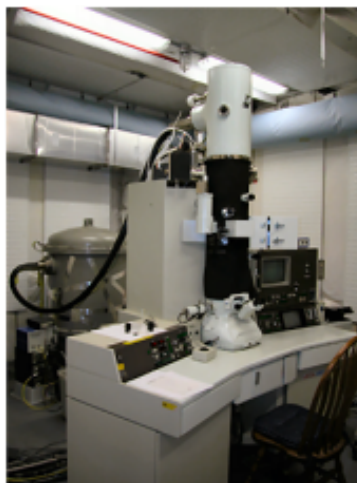
Field Emission Scanning Electron Microscope (FESEM) (ZEISS 982)

- Acceleration voltage 500V-30kV with ZrO-W Field emission source
- High resolution imaging with secondary and back-scatter electrons
- Image analysis and size quantification
- Chemical analysis and mapping with X-Ray energy dispersive spectroscopy (EDS)
- Crystal orientation and orientation mapping with electron backscatter diffraction (EBSD)



Transmission Electron Microscope (TEM) (Topcon 002B)

- Acceleration voltage 20-200kV with Lab6 electron source
- High resolution lattice imaging (HRTEM) and diffraction
- Nano-probe diffraction and convergent beam electron diffraction (CBED) analysis
- Chemical analysis and mapping with X-Ray energy dispersive spectroscopy (EDS)
- Chemical analysis with electron energy loss spectroscopy (EELS)
- Image simulation and diffraction analysis



Field Emission TEM/STEM, (JEOL 2010F)

- Acceleration voltage 20-200kV with ZrO-W field emission source
- Scanning Transmission Electron Microscopy (STEM) interface
- Digital imaging with 1Kx1K CCD camera
- BF/DF STEM detectors
- HADF STEM detector
- Electron Energy Loss (EELS) spectrometer
- 2Kx2K GATAN imaging EELS filter (GIF)
- Heating (1400K) and cooling (90K) holders
- Electron biprism for holography imaging of magnetic and electrical fields

