Carl Zeiss AURIGA 40 CrossBeam Focused Ion Beam Scanning Electron Microscope

Specifications:

- SEM and FIB column at an angle of 54°
- SmartSEM Software from Zeiss
- Electron source: Schottky field emitter
- Electron column with Gemini electron optics: High resolution even at low beam energy (e.g. 1 kV).
- Gemini Beam Booster technology: Integrated beam deceleration for small probe size and high signal-to-noise ratio
- Electron high tension: 0.1 – 30 kV
- Multi-hole aperture: 6 different apertures 7.5 – 120 µm for different electron probe currents
- Charge compensator for studying non-conductive samples: Only for SEM imaging
- Detectors:

Detector	Signal
BSE-detector (Manually movable)	Backscattered electrons (BSE)
Everhart-Thornley-Detector/SE2	Secondary electrons
InLens-detector (Behind the objective lens)	Secondary electrons
Energy-selective-back-scatter-detector (EsB)	Low-energy BSE (below 1.5 kV)
Scanning transmission electron microscope (STEM)-detector	Transmitted electrons

- Ion beam: Ga LMIS and Canion column from Orsay physics
- Apertures: 7 different apertures (e.g. 10, 30, 50, 100, 200, 400 and 600 µm). Changeable according to the needed ion beam currents.
- Ion-beam currents: 1pA - 30 nA
- Zeiss gas injection system (GIS): Pt, W, C, XeF_2, $MgSO_4.7H_2O$
- Autoprobe 200 micromanipulator from Omniprobe
- Evactron 25 plasma cleaner from XEI Scientific Inc
- No EDX or EBSD detectors !