

Nanotechnology Laboratory Facilities

Tool Platforms

Nanoimprint Lithography

- Molecular Imprints Imprio 55
- Trion Phantom II etcher
- Nanonex thermal imprint system

SCF Wafer Process Facility

- BOC Edwards DFP 200 Dense Fluid Processor High-precision Advanced Wafer Chamber
- SC Materials custom cold wall deposition chamber
- Novellus Systems 2" wafer research tools



Shared User Facilities

W. M. Keck Nanostructures Laboratory

- AFM
- VASE Ellipsometer
- Profilometer
- SAXS
- Confocal and Optical Microscopes

W. M. Keck Electron Microscopy Laboratory

- JEOL 6320 FESEM with EDS
- JEOL 300 kV TEM with STEM and EDS detector
- JEOL 200 kV and 100 kV TEMs

MRSEC Shared Experimental Facilities

Nanophysics Materials and Device Laboratory

Semiconductor VLSI Device Fabrication Facility

Surface Analysis Laboratory

Nanomagnetics Characterization Facility

Nanofabrication Laboratories

Clean Rooms

- 228 sq. ft. soft wall clean room (Conte B-261)
- 416 sq. ft. soft wall clean room (Conte B-442)
- 1,400 sq. ft. Class 1000 clean room (Conte B-132)

Process Capabilities

Metallization

- Thermal evaporation
- E-beam evaporation
- Sputtering

Deposition and Etch

- Deposition of Si, SiO₂, Si₃N₄, amorphous Si
- Etching of Si and derivatives, resists, IT, etc.

Lithography

- DUV Flood Exposure system
- Suss Microtec MA6 mask aligner
- E-beam writing

Wet Chemistry

- Acid etch
- Solvent rinse
- Wafer cleaning
- Electroplating

Metrology

- Optical microscopy
- Ellipsometry
- Profilometry
- Wafer probing

