Established in August 2005 through NSF MRI grant and University funding to provide imaging services to research groups on campus and off. The Facility encompasses 1000 sq. ft. in a modern laboratory located in the basement of the Chemistry Building. Full time staff is available to operate the microscopes, assist with sample preparation, imaging analysis, and training.

THE INSTRUMENTATION

Combined Atomic Force and Laser Scanning Confocal Microscope forging

ASYLUM RESEARCH MFP-3D AFM together with OLYMPUS AMERICA FLUOVIEW 1000 LSCM

HITACHI S-4100T FE-SEM with OXFORD INCA Energy EDS

RENISHAW RM-1000 Laser RAMAN

MICROSCOPE FEATURES

MFP-3D AFM
Scan size – 90 um x 90 um x 16 um (XYZ)
Samples in air or fluid media
Sample size - to 4” wafer and 20 mm thick

FLUOVIEW 1000
Six laser lines for excitation - 405, 457, 488, 515, 543, and 633 nm
60X 1.42 NA PlanAPO oil, 40X and 10X air objectives
Simultaneous AFM and LSCM scanning

S-4100T FE-SEM
Functional resolution – better than 2 nm
INCA Energy EDS (Energy Dispersive X-ray Spectrometer), Resolution 132 eV

RM1000 LASER RAMAN
Coverage 9000 cm⁻¹, Resolution < 1 cm⁻¹
50X 0.75 NA N Plan, 20X, and 5X air objectives
Excitation: 515 nm Argon and 785 nm diode

HOW DO YOUR SAMPLES LOOK AT NANO SCALE?

AFM-Confocal activated MAST cell on polylysine
AFM activated MAST cell IgE
bone marrow-derived mast cell on poly-L-lysine
4-channel Confocal pine pollen
SEM array of Carbon nanofiber
SEM PC12 cells on CNT array

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