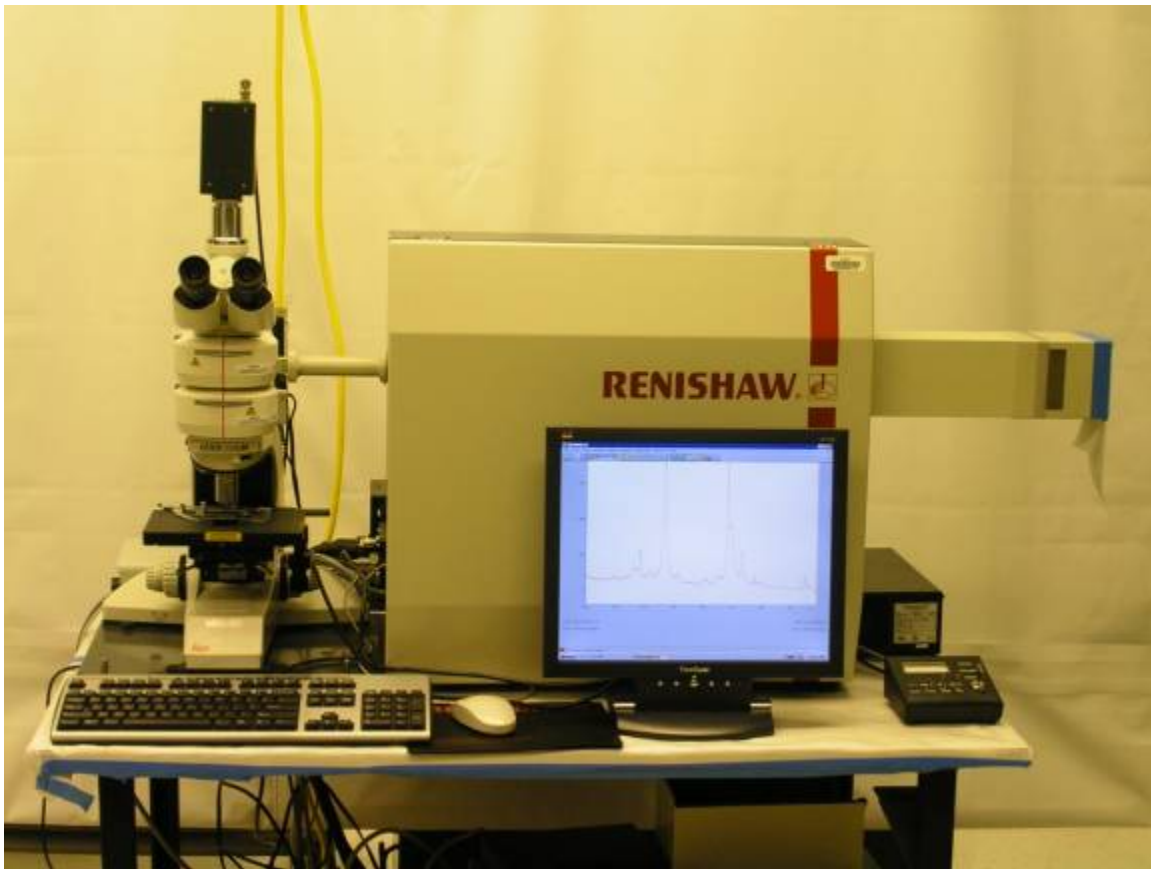


Renishaw RM1000 Research Laser Raman Microscope

is available for use at **Spectral Imaging Facility** to advance your research and teaching projects.

Laser Raman User Calendar



Renishaw RM1000 Research Laser Raman Microscope (motorized stage not shown)

Raman spectroscopy can determine the composition, the stress-strain state, crystal symmetry and orientation, and crystalline defects in a material.

Raman is commonly used to

- * Determine the molecular structure of organic and inorganic compounds for contamination analysis, material classification, and stress measurements
- * Characterize carbon layers (graphitic v. diamond)
- * Sense covalent bonding (complexes, metal bonding)
- * Classify material orientation (random v. organized structure)
- * Identifying organic functional groups and often specific organic compounds
- * Requires very little sample preparation and is generally non-destructive

The RM1000 is equipped with Argon 514nm and Diode 785nm lasers for excitation guided by the microprobe. The microscope-motorized stage allows mounting a variety of samples, to obtain 2D spectra from solid samples as small as 10 picograms to a resolution revealing active Raman components. Low noise Raman signals are collected through use of dual holographic Rayleigh filters. The extended scanning feature allows for the simultaneous detection of multiple wavelengths using an array detector for wide spectral coverage (9000 wave numbers) and at high resolution. The Raman spectrometer is PC based and integrated with the GRAMS spectra analysis application.

The Raman System is available for general research on recharge for training and use. The recharge rate for the Raman System is \$15/hr. You may access the Raman microscope with assistance or receive training from the facility's development engineer as the daytime calendar allows.

If you would like more information or arrange to see a demonstration of SIF instrumentation contact Alan Hicklin sif-info@ucdavis.edu.

The microscopes available to SIF users include:

Asylum Research MFP-3D BIO AFM and Olympus FV1000 laser scanning confocal microscope

Hitachi S-4100T FE-SEM and Oxford INCA Energy EDS

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