

**Location** Howell Science Complex PE 212

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**Purpose** To provide research support in biomedical optics.

**Capabilities** Automated Imaging Spectrometer for laser Raman spectroscopy from 200 to 2000 nm with a resolution of 0.1 nm; incorporated with a confocal microscope for micro Raman spectroscopy of biological and chemical analysis;  
Laser Tweezers System complete with video CCD camera for measurement of antibody-antigen interaction force, fluorescence and Raman spectroscopy of particles ranging from 0.2 to 100 microns; also includes high power laser scissors (up to 1.0J per pulse). Microfluidic device design and implementation for single particle Raman spectroscopy. Ultrafast pulsed laser sources tunable from 700 to 980 nm, pulse width of 100 fs or 1ps, power up to 1.0W at a repetition rate of 76 MHz, synchronized repetition. Pulse picker with EOM selects femto or pico second pulses with a rate from 1.0 kHz to 250 kHz. Single photon detectors for ultrafast fluorescence and CARS spectroscopy.