



NANOMETRIC MATERIALS IN OPTICAL AND MAGNETIC STRATEGIES FOR DISEASE DIAGNOSIS

**Wednesday, October 31, 2007
Burchard Room 118, Time 11 am**

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The drive for early disease detection, the growing threat of bioterrorism, and a vast range of challenges more generally in biotechnology have markedly amplified the demand for ultrasensitive, high-speed diagnostic tests. This presentation describes efforts to develop platforms and readout methodologies that potentially address demands in this arena through a coupling of nanometric labeling with surface enhanced Raman spectroscopic, micromagnetic, and scanning probe microscopic readout concepts. Strategies will be described for the fabrication and read-out of chip-scale platforms and nanometric sized labels that can be used with each novel readout modality. Examples will focus on the use of protein arrays as platforms targeted for immunoassays in early disease diagnosis and the rapid, ultralow level detection of cancer markers and viral pathogens. Each example will also discuss challenges related to sensitivity and nonspecific adsorption and to fluid manipulation.

Light refreshments will be served prior to seminar



**Co-sponsored by the Department of Chemistry
and Chemical Biology (CCB)**