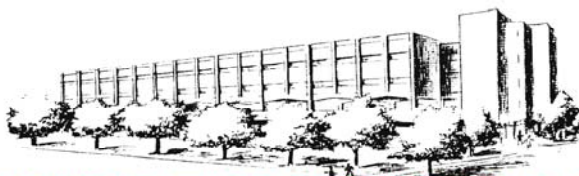


UNIVERSITY OF CONNECTICUT



INSTITUTE OF MATERIALS SCIENCE

POLYMER PROGRAM SEMINAR

“Fluorescent Conjugated Polymer Chemosensors Based on Inorganic-Organic Hybrid Structures”

**Prof. Wayne E. Jones
SUNY Binghamton**

**Friday, March 6, 2009
11 AM, IMS Room 20**

Developing chemosensory devices selective for transition metals and other pollutants represents a critical need for the environmental community. Fluorescent conjugated polymer chemosensors have several advantages over small molecule sensors due to their high sensitivity, processibility, and ease of modification. Previously, our group has synthesized a series of fluorescent polymer chemosensors with a poly[p-(phenyleneethylene)-alt-(thienyleneethynylene)](PPETE) conjugated backbone. The transition metal loading dependence of these materials provides fundamental information regarding the role of energy transfer in the fluorescent chemosensor quenching mechanism. Recently, this work has been extended by addition of a N,N,N'-trimethylethylenediamino receptor group which undergoes photoinduced electron transfer (PET) to the polymer exciton. Upon binding to analytes such as protons or some transition metal cations, the PET process is disabled and the emission from the polymer is enhanced. This system has been found to be particularly sensitive to Hg^{2+} ions that cause the fluorescence of the polymer to increase by a factor of ~ 2.7 . Synthesis, characterization and photophysical behavior of this polymer will be discussed as well as its application to future “Turn-on” sensor designs.

**Coffee will be served at 10:45AM outside the seminar room.*

**For further information, please contact YH Chudy at 860.486.3582 of yhchudy@ims.uconn.edu*