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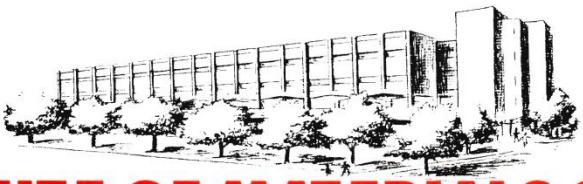

INSTITUTE OF MATERIALS SCIENCE

POLYMER PROGRAM SEMINAR

"Photoisomerization Mechanisms of Chromophores Ubiquitous in Materials Science: A Mechanistic Study of *ortho*-Substituted *cis*-Fluoroazobenzene"

Prof. William J. Brittain
Texas State University

Friday, September 19, 2014
11:00 AM, IMS Room 20

Azobenzene is a ubiquitous chromophore in biological and materials chemistry. The reversible cis-trans photoisomerization occurs with little degradation and effects a large dipole moment and molecular shape change. Substitution is used to alter photoisomerization kinetics and incorporation into hybrid systems. We will present results on photoinduced changes in DNA and peptide hybrids. Cis-azobenzene with at least one ortho-fluorine on each aromatic ring exhibits through-space spin coupling in the {1H}19F NMR spectrum. We have investigated this nonobonded interaction using density functional theory, crystallography and multinuclear NMR. We have developed a model for a conformational structural manifold that provides a qualitative explanation of NMR data.

**For further information, please contact YH Chudy ychudy@ims.uconn.edu*

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