“Thiophene Rust in Organic Electronics”

**Abstract.** The combination of Barbarella’s pioneering work on thiophene-1,1-dioxide (TDO) coupled with the development of Rozen’s reagent has allowed us to engineer materials for organic electronics. The controlled chemical oxidation of thiophene engages the lone-pair electrons in sulfur to bond with oxygen, generating TDO, a non-aromatic, diene-like building block with a strong dipole moment. When coupled with other conjugated systems, TDO lowers the LUMO of the resulting material. This talk will discuss the controlled chemical oxidation of polymers, in addition to the exceptional physical properties that arise from small molecules and polymers containing TDO. The importance of these materials in single-molecule electronics and third-generation solar cells will be emphasized.

**Thursday, March 19, 2015**
**5:00 PM**
Cram Conference Room - 3440 Molecular Sciences Bldg

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