

SEMINAR ANNOUNCEMENT

MONDAY, FEBRUARY 27, 2006

11:00 AM - ROOM 364 SIRRINE HALL

FROM STRUCTURE TO FUNCTION: DESIGNING ORGANIC MATERIALS FOR THIN FILM ELECTRONICS

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Abstract:

The investigation of organic materials as the active component in semiconducting devices has been of great interest for several years. Despite many advances in terms of device performance, there are still major pitfalls in terms of processability that limit their commercial use. This seminar will highlight the design, synthesis, and characterization of novel oligomeric and dendritic organic semiconductors that have been used to prepare functional ultrathin films, with an emphasis on solution processability. Several new approaches to ultrathin film processing are described, including: the synthesis of water-soluble oligothiophenes, layer-by-layer deposition of phthalocyanines, cyclohexyl functionalized oligomers, and organic “electroactive surfactant”- capped inorganic semiconductor nanocrystals. The performance of these materials as the active component in organic thin film transistors and photovoltaic cells are described.