

**CORE-CM SEMINAR**  
**Michigan State University**

**Dr. Antoine Kahn**  
**Princeton University**  
**Dept. of Electrical Engineering**

***Organic Electronics: a fast-developing world of interfaces***

Organic Electronics has been the topic of considerable materials, physics and device research over the past two decades. Significant and steady improvements are being recorded in the efficiency of organic light-emitting diodes and solar cells, or in charge carrier mobility of organic field-effect transistors. Central to this progress is a better understanding and control of interface materials and structures. Interfaces between active layers, electrodes, other organic films or dielectrics control charge injection and collection, charge separation, and charge transport through devices. Efficient contacts to wide band gap, low electron affinity or high ionization energy organic semiconductors are challenging. This talk focuses on three methods / materials that provide solutions for (i) high or (ii) low work function contacts, and for (iii) spatially confined doped contacts to polymer films, based respectively on (i) transition metal oxides, (ii) on ultra-thin films of polymers containing aliphatic amine groups, and (iii) transfer and lamination of 20-30 nm thin polymer films.

**Thursday, October 10, 2013**  
**12:00 PM**  
**Room 1400 – BPS**  
**Professor Pengpeng Zhang – Host**