



# PCCM-IRG3 WORKSHOP

## RECENT ADVANCES IN MICRO AND NANO CONTACTS

OCTOBER 23 & 24, 2006  
BOWEN HALL AUDITORIUM, PRINCETON UNIVERSITY

### *Day 1: Monday October 23, 2006*

8:00 a.m. – 8:25 a.m. Registration  
8:25 a.m. – 8:30 a.m. Welcome and opening remarks

### **Session 1 – Contacts in Organic Electronics**

8:30 a.m. – 9:15 a.m. Stephen Forrest (University of Michigan)  
*Making Organic Devices and Nanostructures via Contact Printing and Other Devices*

9:15 am – 10:00 a.m. David Srolovitz (Yeshiva University)  
*Atomic Simulations of Contacts and Material Transfer*

10:00 a.m. – 10:30 a.m. Coffee Break

10:30 a.m. – 11:15 a.m. Mark Hybertsen (Columbia University)  
*Renormalization of Molecular Electronic Levels at Metal-Molecule Interfaces*

11:15 a.m. – 12:00 p.m. Xiaoyang Zhu (University of Minnesota)  
*Electron Tunneling Through Monolayers*

12:00 p.m. – 1:30 p.m. Lunch

### **Session 2 – Experimental Techniques**

1:30 p.m. – 2:15 p.m. David Cahen (Weizmann Institute)  
*Understanding electronic transport across molecules: Are We Asking Relevant Questions and Doing Relevant Experiments?"*

2:15 p.m. – 3:00 p.m. Antoine Kahn (Princeton University)  
*Electronic structure of organic interfaces: From molecular monolayer to multi-layer films*

3:00 p.m. – 3:30 p.m. Coffee Break

3:30 p.m. – 4:15 p.m. Pradeep Guduru (Brown University)  
*Contacts of Rough Surfaces*

4:15 p.m. – 5:00 p.m. Kyle Vanderlick (Princeton University)  
*Interfacial Force Microscopy as a Tool for Probing Contacts: Two Case Studies*

5:00 p.m. – 6:00 p.m. Open Discussion  
Moderators: Giacinto Scoles & David Srolovitz (Princeton University)

6:00 p.m. – 8:00 p.m. Dinner at Prospect House

***Day 2: Tuesday October 24, 2006***

**Session 3 – Modeling of Contacts**

8:30 a.m. – 9:15 a.m. Herbert Hui (Cornell University)  
*Modeling of Small Contacts*

9:15 a.m. – 10:00 a.m. Christof Woll (Bochum University)  
*Organic electronics: towards the realization of an ideal device*

10:00 a.m. – 10:30 a.m. Coffee Break

10:30 a.m. – 11:15 a.m. Annabella Selloni (Princeton University)  
*Modeling of Molecular Junctions*

11:15 a.m. – 12:00 p.m. Roberto Car (Princeton University)  
*Theory of Electron Transport through Molecular*

12:00 p.m. – 1:30 p.m. Lunch

**Session 4 – Applications**

1:30 p.m. – 2:15 p.m. John Bassani (University of Pennsylvania)  
*Transitions in the Mechanics of Adhesion*

2:15 p.m. – 3:00 p.m. Wolé Soboyejo (Princeton University)  
*Modeling of Small Contacts: From Thin Films to Biological Cells*

3:00 p.m. – 3:30 p.m. Coffee Break

3:30 p.m. – 4:15 p.m. Giacinto Scoles (Princeton University)  
*Electron Tunneling in Nanocontacts: An Experimental Approach*

4:15 p.m. – 5:00 p.m. Cherie Kagan (IBM)  
*Applications of Molecular Electronics*

5:00 p.m. – 5:45 p.m. Open Discussion  
Moderators: Antoine Kahn & Kyle Vanderlick (Princeton University)

5:45 p.m. – 6:00 p.m. Closing Remarks