



SPIN-MEDIATED MAGNETIC BEHAVIOR IN HYBRID METAL-SEMICONDUCTOR SYSTEMS

*Army Research Office
Multi-Disciplinary University Research Initiative*

KICKOFF MEETING AGENDA

*November 5, 2008
Elings Hall, Room 1601
University of California, Santa Barbara*

8:30am-9:00am Light Breakfast

9:00am-9:10am Introductory Remarks
John Prater, Army Research Office

Session I

ELECTRICAL CONTROL OF MAGNETIC DYNAMICS IN HYBRID METAL- SEMICONDUCTOR SYSTEMS

9:10am-10:10am Program Overview
Dan Ralph, Cornell University

**10:10am-10:30am Engineering active interfaces between ferromagnetic
metals, tunnel barriers, and semiconductors**
Robert Buhrman, Cornell University

10:30am-10:45am Break

10:45am-11:05am Electrically controlled exchange biasing
Stuart Wolf, University of Virginia

11:05am-11:25am Electric field control of magnetism using multiferroics
Ramamoorthy Ramesh, University of California, Berkeley

11:25am-11:45am Theory effort in spin injection, torque and control
Lu Sham, University of California, San Diego

**11:45am-12:05pm Single spin control in diamond and hybrid
semiconductor structures**
David Awschalom, University of California, Santa Barbara

12:05pm-1:30pm Lunch (Elings Hall Main Foyer)

Session II
**ROOM-TEMPERATURE SPIN-MEDIATED COUPLING IN HYBRID
MAGNETIC, ORGANIC, AND OXIDE STRUCTURES AND DEVICES**

- 1:30pm-2:30pm** **Program Overview**
Michael Flatté, University of Iowa
- 2:30pm-2:50pm** **Spintronic Organics for Hybrid Systems**
Markus Wohlgenannt, University of Iowa
- 2:50pm-3:10pm** **Magnetic Nanostructures for Hybrid Systems**
Andrew Kent, New York University
- 3:10pm-3:40pm** **Break**
- 3:40pm-4:00pm** **Many-Body Theory of Spin Dynamics and Spin Transport**
Giovanni Vignale, University of Missouri
- 4:00pm-4:20pm** **Effective Low-Energy Theories of Spin Interactions, Dynamics and Transport**
Michael Flatté, University of Iowa
- 4:20pm-4:40pm** **Nanoscale measurement and control of spin-mediated interactions**
Jeremy Levy, University of Pittsburgh
- 4:40pm-5:00pm** **Magnetic/Spin Mediated Interaction in Complex Oxides**
Yuri Suzuki, University of California, Berkeley
- 5:00pm-5:30pm** **Program Manager Meeting (Closed Session)**
- 6:00pm-7:30pm** **Dinner**
The Faculty Club, UC Santa Barbara