

Experimental Condensed Matter Physics Principal Investigators' Meeting

POSTER SESSION I Monday, September 28, 2015

1. *Spin effects in magnetic and non-magnetic 2d correlated insulators*
Phil Adams, Louisiana State University
2. *Atomic engineering oxide heterostructures: materials by design*
Harold Hwang, SLAC National Accelerator Laboratory
3. *Magnetic thin films*
Axel Hoffmann, Argonne National Laboratory Argonne
4. *Spin-coherent transport under strong spin-orbit interaction*
Jean Heremans, Virginia Polytechnic Institute and State University
5. *Electronic and photonic phenomena of graphene, boron nitride and graphene/boron nitride heterostructures*
Dimitri Basov, University of California, San Diego
6. *Quantum coherence and random fields at mesoscopic scales*
Tom Rosenbaum, University of Chicago
7. *Topological superconductor core-shell nanowires*
Judy Cha, Yale University
8. *High-bandwidth scanning hall probe imaging of driven vortices in periodic potentials*
Stuart Field, Colorado State University
9. *Emerging materials*
John Mitchell, Argonne National Laboratory
10. *Atomic layer controlled growth of artificially engineered pnictide superlattices by design*
Chang-Beom Eom, University of Wisconsin
11. *Colloidal quantum dot films, transport and magneto-transport*
Philippe Guyot-Sionnest, University of Chicago
12. *Antiferromagnetism and superconductivity*
Bill Halperin, Northwestern University
13. *Tuning phase transformations for designed functionality*
Athena Sefat, Oak Ridge National Laboratory
14. *Thermalization of artificial spin ice and related frustrated magnetic arrays*
Peter Schiffer, University of Illinois, Champaign
15. *Magneto-transport in GaAs two-dimensional hole systems*
Mansour Shayegan, Princeton University
16. *Experimental study of quantum critical fluctuations in two-dimensional superconducting cuprate films*
Tom Lemberger, Ohio State University

17. *Charge and energy transfer in molecular superconductors and molecular machines*
Saw-Wai Hla, Ohio University
18. *High-speed rotational anisotropy second harmonic generation study of a 112-type iron-based superconductor*
Dave Hsieh, California Institute of Technology
19. *Electronic complexity of epitaxial rutile heterostructures*
Hanno Weitering, Oak Ridge National Laboratory
20. *Nonlinear transport in mesoscopic structures in the presence of strong many-body phenomena*
Jon Bird, University of Buffalo
21. *Correlated electrons in graphene at the quantum limit*
Philip Kim, Harvard University
22. *Spectroscopic investigations of novel electronic and magnetic materials*
Jan Musfeldt, University of Tennessee
23. *Transport studies of quantum magnetism: physics and methods*
Minhyea Lee, University of Colorado
24. *Epitaxial complex oxides*
Ho Nyung Lee, Oak Ridge National Laboratory
25. *Studies of multiband and topological superconductors*
Qi Li, Pennsylvania State University
26. *Investigating the magnetic, electronic, and lattice degrees of freedom that determine the emergent properties of complex transition metal compounds*
Rongying Jin (Louisiana State University) and John DiTusa (Louisiana Consortium for Neutron Scattering)

Experimental Condensed Matter Physics Principal Investigators' Meeting

POSTER SESSION II Tuesday, September 29, 2015

1. *Charge inhomogeneity in correlated electronic systems*
Barry Wells, University of Connecticut
2. *Understanding topological pseudospin transport in Van der Waals' materials*
Kin Fai Mak, Pennsylvania State University
3. *Experimental studies of correlations and topology in two dimensional hybrid structures*
Jinhai Mao, Rutgers University (Eva Andrei PI)
4. *Fermi gases in bichromatic superlattices*
John Thomas, North Carolina State University
5. *Spin wave interactions in metallic ferromagnets*
Kristen Buchanan, Colorado State University
6. *Photonic systems*
Thomas Koschny, Ames Laboratory (Joe Shinar FWP)
7. *Engineering of mixed pairing and non-Abelian Majorana states of matter in chiral p-wave superconductor Sr_2RuO_4 and other materials*
Ying Liu, Pennsylvania State University
8. *Probing nanocrystal electronic structure and dynamics in the limit of single nanocrystals*
Moungi Bawendi, Massachusetts Institute of Technology
9. *Magneto-optical study of correlated electron materials in high magnetic fields*
Dmitry Smirnov, Florida State University
10. *Spectroscopy of degenerate one-dimensional electrons in carbon nanotubes*
Jun Kono, Rice University
11. *The electron response of artificial 2D heterostructures*
Rick Osgood, Columbia University
12. *Novel behavior of ferromagnet/superconductor hybrid systems*
Norman Birge, Michigan State University
13. *Probing electron correlations in 1D electronic materials using single quantum channels*
Jeremy Levy, University of Pittsburgh
14. *Synthesis and observation of emergent phenomena in Heusler compound heterostructures*
Chris Palmstrøm, University of California, Santa Barbara
15. *Magnetic nanosystems: making, measuring, modeling, and manipulation*
Ruslan Prozorov, Ames Laboratory
16. *Dynamics of electronic interactions in superconductors and related materials*
Dan Dessau, University of Colorado

17. *Structured light-matter interactions enabled by novel photonic materials*
Natasha Litchinitser, SUNY Buffalo
18. *Electron spectroscopy*
Tony Valla, Brookhaven National Laboratory (Peter Johnson FWP)
19. *Science of 100 Tesla*
Neil Harrison, Los Alamos National Laboratory
20. *Bose-Einstein condensation of magnons and potential device applications*
John Ketterson, Northwestern University
21. *Engineering topological superconductivity towards braiding Majorana excitations*
Leonid Rokhinson, Purdue University
22. *Nanostructure studies of strongly correlated materials*
Doug Natelson, Rice University
23. *Novel sample structures and probing techniques of exotic states in the 2nd Landau level*
Gabor Csathy and Mike Manfra, Purdue University
24. *Topological materials with complex long-range order*
James Analytis, University of California, Berkeley
25. *Nanoscale magnetic Josephson junctions and superconductor/ferromagnet proximity effects for low-power spintronics*
Ilya Krivorotov, University of California, Irvine, co-PI Oriol Valls, University of Minnesota
26. *Linear and nonlinear optical properties of metal nanocomposite materials*
Richard Haglund, Vanderbilt University