

A1: Phase-sensitive Probes of the Pairing Symmetry in Fe-Based Superconductors Room: OB 201

- A1.1** Parker, David: Possible suggestions for order parameter phase-sensitive experiments in the superconducting iron pnictides. 8:00AM
- A1.2** Zhang, Xiaohang: Josephson effect studies of pairing symmetry in Fe-based superconductors. 8:36AM
- A1.3** Chen, Ching-Tzu: Integer and half-integer flux-quantum transitions in a niobium/iron-pnictide loop. 9:12AM
- A1.4** Hicks, Clifford: Scanning SQUID microscopy studies of the penetration depth and pairing symmetry in Fe-pnictide superconductors. 9:48AM
- A1.5** Tanaka, Yukio: Andreev spectra of multiband superconductors. 10:24AM

A2: Topological Insulators and Topological Superfluids Room: OB 202

- A2.1** Kane, Charles: Majorana Fermions and Topological Insulators. 8:00AM
- A2.2** Moore, Joel: Topological insulators in applied fields: magnetoelectric effects and exciton condensation. 8:36AM
- A2.3** Roy, Rahul: Topological superfluids and insulators with time reversal symmetry. 9:12AM
- A2.4** Sun, Kai: Topological Insulators and Nematic Phases from Spontaneous Symmetry Breaking in 2D Fermi Systems with Quadratic Band Crossings. 9:48AM
- A2.5** Shibata, Naokazu: Entanglement entropy of quantum Hall systems in torus and spherical geometry. 10:24AM

A3: New Developments in Strontium Ruthenates Room: OB 203

- A3.1** Mackenzie, Andrew: Entropy and Fermi surface considerations in the nematic phase of $\text{Sr}_3\text{Ru}_2\text{O}_7$. 8:00AM
- A3.2** Raghu, Srinivas: Nematic order in $\text{Sr}_3\text{Ru}_2\text{O}_7$ and triplet superconductivity in Sr_2RuO_4 . 8:36AM
- A3.3** Damaschelli, A.: Strong Spin-Orbit Coupling Effects on the Fermi Surface of Sr_2RuO_4 . 9:12AM
- A3.4** Kallin, Catherine: Spontaneous Supercurrents in a Chiral p-Wave Superconductor. 9:48AM
- A3.5** Maeno, Yoshiteru: Recent Developments in the Studies of Sr_2RuO_4 : Suppression of the Upper Critical Field and the Interference between the Even-Parity Superconductivity and the Superconductivity of Sr_2RuO_4 . 10:24AM

A4: Human Mobility: The Statistical Physics of When, Where, and How Room: OB 204

- A4.1** Brockmann, Dirk: Communities, boundaries and symmetries - Hidden structures in multi-scale human mobility networks. 8:00AM
- A4.2** Vespignani, Alessandro: Multiscale mobility networks and the large scale spreading of infectious diseases. 8:36AM
- A4.3** Gonzalez, Marta: Modelling large scale human activity in San Francisco. 9:12AM
- A4.4** Eagle, Nathan: Big Data, Global Development, and Complex Social Systems. 9:48AM
- A4.5** Klafter, Joseph: Beller Lectureship Talk: Levy Flights and Walks in Nature. 10:24AM

A5: Silicon Photonics Room: PB 256

- A5.1** Miller, David: Physical Requirements and Opportunities for Dense Optical Interconnects to Chips. 8:00AM
- A5.2** Leuthold, Jueerg: Silicon Organic Hybrid: A platform for future high-speed silicon photonics. 8:36AM
- A5.3** Tsybeskov, Leonid: Silicon-Germanium Nanostructures for Light Emitters and On-Chip Optical Interconnects. 9:12AM
- A5.4** Thylen, Lars: Photonic Integrated Circuits Based on Plasmonics and Quantum Dot Materials: Properties, Compensation of Optical Losses and Applications. 9:48AM
- A5.5** Krishnamoorthy, Ashok V.: Compacting high-end computing systems with silicon photonic interconnects. 10:24AM

A6: Recent (algorithmic) Developments in Complex and Glass Systems Room: PB 253

- A6.1** Middleton, A. Alan: Dynamics of glassy systems using new algorithms for exact sampling on multiple scales. 8:00AM
- A6.2** Machta, Jon: Strengths and Weaknesses of Parallel Tempering. 8:36AM
- A6.3** Katzgraber, Helmut G.: New insights from one-dimensional spin glasses. 9:12AM
- A6.4** Mezard, Marc: Glassy phases: a possible origin of computational hardness. 9:48AM
- A6.5** Hartmann, Alexander: Negative-weight percolation. 10:24AM

A7: Single Chain Experiments: from Polymers to Biophysics Room: PB 254

- A7.1** Brujic, Jasna: Molecular architecture governs the kinetics of single molecule unfolding under force. 8:00AM
- A7.2** Gundlach, Jens H.: DNA Sequencing Using an Engineered Protein Nanopore. 8:36AM
- A7.3** Rabin, Yitzhak: Electrostatic Focusing of DNA into Nanoscale. 9:12AM
- A7.4** Williams, Mark: Single molecule DNA interaction kinetics of retroviral nucleic acid chaperone proteins. 9:48AM
- A7.5** Wu, David: How Bacteriophage Genomes Get Inside Cells. 10:24AM

A8: Quantum Opto-Mechanics Room: PB 255

- A8.1** Harris, Jack: Strong quadratic and quartic optomechanical couplings for QND measurements. 8:00AM
A8.2 Hammerer, Klemens: Interfacing Opto-mechanics with Atoms. 8:36AM
A8.3 Treutlein, Philipp: Interfacing ultracold atoms and mechanical oscillators on an atom chip. 9:12AM
A8.4 Brahms, Nathaniel: Tunable cavity optomechanics with ultracold neutral atoms. 9:48AM
A8.5 Schwab, Keith: Demonstration of an ultracold micro-optomechanical oscillator in a cryogenic cavity. 10:24AM

A9: Optics of Nanostructures—Quantum Dots I Room: A105

- A9.1** Solomon, Glenn: Entangled photons via dressed states. 8:00AM
A9.5 Jelezko, Fedor: Defects in diamond: Quantum computing and atomic magnetometry. 9:12AM

A10: Single Molecule Biophysics and Chemical Physics I Room: A106

- A10.1** van Oijen, Antoine: Single-molecule studies of multi-protein machines. 8:00AM

A14: Transport Properties of Nanostructures I: Single-Molecule Junctions Room: B113

- A14.1** van Ruitenbeek, Jan: Metallic conductance in single-molecule junctions. 8:00AM
A14.5 Higgins, Simon: Medium Effects in Single Molecule Electronics. 9:12AM

A17: Relaxation Dynamics of Polymeric Glasses I Room: B116

- A17.1** Riggleman, Robert: Molecular simulations of polymer glasses under active deformation. 8:00AM

A18: Multiscale Modeling in Polymer and Soft Matter Physics Room: B117

- A18.4** Siepman, J. Ilja: Structure, Self-assembly, Solvation, and Phase Equilibria in Hydrogen-bonding Fluids. 8:36AM
A18.8 Müller-Plathe, Florian: Structure and Transport in Soft Materials Studied by Multiscale Simulation. 9:48AM

A20: Carbon Nanotubes: Functionalization and Growth Room: C120-122

- A20.4** Papadimitrakopoulos, Fotis: High Quantum efficiency SWNTs. 8:36AM

A21: Graphene: Quantum Interference and Transport Room: PB 251

- A21.4** Folk, Joshua: Spin-Resolved Quantum Interference in Graphene. 8:36AM

A25: Dopants and Defects in Semiconductors - ZnO Room: D135

- A25.1** Buyanova, Irina: Magnetic Resonance Studies of Oxygen and Zinc-Vacancy Native Defects in Bulk ZnO Crystals. 8:00AM

A26: Recent Progress in Quantum Algorithms and Computational Complexity Room: D136

- A26.1** Upadhyay, Sarvagya: QIP = PSPACE. 8:00AM

A28: Confined and Biological Water I Room: C124

- A28.1** Stanley, H. Eugene: Liquid Water, the “Most Complex” Liquid: New Results in Bulk, Nanoconfined, and Biological Environments. 8:00AM
A28.7 Debenedetti, Pablo: Structure, Dynamics and Thermodynamics of Confined Water: a Computational Perspective. 9:36AM

A29: Physics and Materials for Inorganic Photovoltaics: I Room: C123

- A29.7** Boettcher, Shannon: Si Wire-Array Solar Cells. 9:12AM

A30: Carbon Nanotubes: Chirality-Controlled Growth of Carbon Nanotubes and Nanostructures Room: D139

- A30.1** Sankaran, R. Mohan: The role of composition-dependent catalyst structure on chirality distributions of as-grown SWCNTs. 8:00AM
A30.2 Harutyunyan, Avetik: On the Preferential Growth of Metallic Single-Walled Carbon Nanotubes Thin Films. 8:36AM
A30.3 Robertson, John: Chirality selection during Catalytic Nucleation of Carbon Nanotubes. 9:12AM

A32: Directed Self Assembly of Dots, Islands and Wires on Templates Room: E142

- A32.1** Gray, Jennifer: SiGe self-assembled quantum dots and quantum dot molecules patterned using a focused ion beam.. 8:00AM
A32.5 Dick, Kimberly: Epitaxial growth and design of semiconductor nanowires. 9:12AM

A33: *Magnetization and Spin Dynamics I* Room: E143**A33.4** Rasing, Theo: Femtosecond magnetization dynamics using the inverse Faraday effect. 8:36AM**A33.8** Beaujour, Jean-Marc: Ferromagnetic resonance linewidth and damping in perpendicular-anisotropy magnetic multilayers thin films. 9:48AM**A35: *Spins in Semiconductors—Hyperfine Interactions*** Room: E145**A35.1** Itoh, Kohei: Magnetic spin resonance of hydrogenic phosphorus donors in silicon. 8:00AM**A35.8** Cywinski, Lukasz: Electron spin dephasing by hyperfine interaction with nuclei in quantum dots. 9:48AM**A36: *Bulk Properties of Complex Oxides—Perovskite Manganites*** Room: E146**A36.1** Srikanth, Hariharan: Magnetism in complex oxides probed by transverse susceptibility and magnetocaloric effect. 8:00AM**A36.7** Bridges, F.: Intrinsic Local Distortions and charge carrier behavior in CMR manganites and cobaltites. 9:36AM**A37: *Complex Oxide Thin Films—Conductivity at Oxide Interfaces*** Room: E147-E148**A37.1** Pardo, Victor: Maximally anisotropic point Fermi surface system: VO₂ films embedded in TiO₂. 8:00AM**A39: *Iron Superconductors: New Materials*** Room: F150**A39.1** Johrendt, Dirk: Crystal chemical aspects of superconductivity in BaFe₂As₂ and related compounds. 8:00AM**A40: *Phonons and Electron Correlations in High Temperature Superconductors I*** Room: F151**A40.1** Alexandrov, Alexandre: Strong-coupling theory of high-temperature superconductivity beyond BCS. 8:00AM**A42: *Physics Teacher Preparation: Effective Strategies, National Models, and Challenging Issues*** Room: D138**A42.1** Otero, Valerie: Task Force on Teacher Education in Physics: Findings and Recommendations. 8:00AM

B1: Magnetism in Fe Pnictides and Chalcogenides Room: OB 201

- B1.1** Devereaux, Thomas: Examination of the Role of Electronic Correlations in the Pnictides. 11:15AM
B1.2 Johannes, Michelle: Localized vs. Itinerant Magnetism in Fe-based Superconductors. 11:51AM
B1.3 Reznik, Dmitry: Interplay between phonons and magnetism in 122 ferropnictides. 12:27PM
B1.4 Mook, Herbert: Magnetism in Fe Pnictides and Chalcogenides Probed by Neutron Scattering. 1:03PM
B1.5 Curro, Nicholas: Spin Dynamics and Local Inhomogeneity in Doped AFe_2As_2 ($A = \text{Ca, Ba}$). 1:39PM

B2: Theory and Experiment on Topological Insulators Room: OB 202

- B2.1** Chen, Yulin: Experimental Realization of a Three-Dimensional Topological Insulator. 11:15AM
B2.2 Cui, Yi: Topological Insulator Nanoribbons and Nanocrystals. 11:51AM
B2.3 Xue, Qi-Kun: Molecular beam epitaxy growth and novel properties of topological insulator films of Bi_2Te_3 and Bi_2Se_3 . 12:27PM
B2.4 Yazdani, Ali: Visualizing Topological Surface States using Scanning Tunneling Microscopy and Spectroscopy. 1:03PM
B2.5 Yao, Hong: Spin liquid phases in exactly solvable models: proof of principle. 1:39PM

B3: How to Interest Middle School Children in Physical Science Room: OB 203

- B3.1** Barbosa, Marcia: Nicholson Medal for Human Outreach Talk: Attracting girls to physics: the itinerant science project. 11:15AM
B3.2 McMahan Norris, Margaret: Introducing Deep Underground Science to Middle Schoolers: Challenges and Rewards. 11:51AM
B3.3 Vandiver, Raymond: Creating Engaging Science Learning Experiences for Middle School Students Through Museum Exhibits. 12:27PM
B3.4 Stuver, Amber: Immersing Southeastern Louisiana Middle School Students in Physics at the LIGO Livingston Science Education Center. 1:03PM
B3.5 Butler, Robert: Teachers on the Leading Edge: A Place-Based Professional Development Program for K-12 Earth Science Teachers. 1:39PM

B4: Dynamics of Polymers on Multi-Length Scales: Solutions Room: OB 204

- B4.1** Nagao, Michihiro: Dynamics in Multicomponent Polyelectrolyte Solutions. 11:15AM
B4.2 Duenweg, Burkhard: Simulating the dynamics of a single polymer chain in solution: Lattice Boltzmann vs Brownian dynamics. 11:51AM
B4.3 Perahia, Dvora: Dynamics on Multiple Time and Length Scales in Complex Fluids Formed by Conjugated Polymers. 12:27PM
B4.4 Frey, Erwin: Dynamics of Semiflexible Polymers in Solution. 1:03PM
B4.5 Olmsted, Peter: Shear Banding and Flow Instabilities in Entangled Polymer Solutions. 1:39PM

B5: Five Legacies from the Laser Room: PB 256

- B5.1** Byer, Robert L.: Lasers at 50: Meeting the Grand Challenges for the 21st Century. 11:15AM
B5.2 Shank, C.V.: From Femtoseconds to Neurons in 35 Short Years. 11:51AM
B5.3 Faller, James: Laser Ranging to the Moon: How Evolving Technology Enables New Science. 12:27PM
B5.4 Fujimoto, James G.: Medical imaging with optical coherence tomography. 1:03PM
B5.5 Basting, Dirk: The Excimer Laser: Its Impact on Science and Industry. 1:39PM

B6: Controlling Dissipation in Quantum Systems Room: PB 253

- B6.1** Verstraete, Frank: Quantum phases through dissipation. 11:15AM
B6.2 Buechler, Hans Peter: Dissipation with Rydberg atoms. 11:51AM
B6.3 Lettner, Matthias: Strong Dissipation Inhibits Losses and Induces Correlations in Cold Molecular Gases. 12:27PM
B6.4 Orozco, Luis A.: Control in cavity QED with many atoms. 1:03PM
B6.5 Boixo, Sergio: Quantum state preparation by phase randomization. 1:39PM

B7: Evolutionary Dynamics Room: PB 254

- B7.1** Gore, Jeff: Games microbes play: The game theory behind cooperative sucrose metabolism in yeast. 11:15AM
B7.2 Fisher, Daniel: Rates of evolution with and without sex. 11:51AM
B7.3 Kishony, Roy: Laboratory explorations of evolution. 12:27PM
B7.4 Tans, Sander: Evolutionary adaptation of phenotypic plasticity in a synthetic microbial system. 1:03PM

B7.5 Neher, Richard: Alleles versus genotypes: Genetic interactions and the dynamics of selection in sexual populations. 1:39PM

B8: Four Horsement of the Apocalypse Redux: The Physics of Global Catastrophes and Global Countermeasures Room: PB 255

B8.1 Newman, Mark: Failure and robustness in networks. 11:15AM

B8.2 Vespignani, Alessandro: Forecasting techno-social systems: how physics and computing help to fight off global pandemics. 11:51AM

B8.3 Carley, Kathleen: Network Science for Deterrence: Sheathing the Sword of the Terrorism/Nuclear Horseman. 12:27PM

B8.4 Katz, Jonathan: Global Response to Global Warming: Geoengineering with Stratospheric Aerosols. 1:03PM

B8.5 Stanley, H. Eugene: Economic Fluctuations and Statistical Physics: Quantifying Extremely Rare Events with Applications to the Present Worldwide Crisis. 1:39PM

B10: *Single Molecule Biophysics and Chemical Physics II* Room: A106

B10.1 Phillips, Rob: Using Transcription to Measure DNA Mechanics One Molecule at a Time. 11:15AM

B13: *Complex Networks I* Room: B112

B13.7 Barabasi, Albert-Laszlo: Complex Networks: Beyond Topology. 12:27PM

B14: *Electrodynamics of Metamaterials* Room: B113

B14.4 Dani, Keshav M: Subpicosecond optical switching with a negative index metamaterial. 11:51AM

B15: *Advances in Scanned Probe Microscopy I: Novel AFM, MRFM, and Acoustic Microscopy* Room: B114

B15.1 Kalinin, Sergei: Probing bias-strain coupling on the nanoscale by Piezoresponse Force Microscopy: from ferroelectric and multiferroics to energy storage materials. 11:15AM

B16: *Organic Electronics and Photonics: Solar Cell Materials and Devices* Room: B115

B16.4 Holmes, Russell: Architectures for enhanced exciton collection in organic photovoltaic cells. 11:51AM

B16.8 Rand, Barry P.: Increased exciton harvesting in organic thin film solar cells. 1:03PM

B18: *Crystallization in Confined Geometry I* Room: B117

B18.10 Register, Richard: Crystallization of Unbranched Polyethylene Confined within Block Copolymer Mesophases. 1:03PM

B19: *Thin Films Copolymers I* Room: B118-B119

B19.1 Hillmyer, Marc: Multifunctional Block Polymer Thin Films for Templating and Separations. 11:15AM

B20: *Carbon Nanotubes: Superconductivity, Electrical Properties* Room: C120-C122

B20.1 Rao, Apparao M.: Modifying inter-tube bonding, and doping, in carbon nanotubes. 11:15AM

B21: *Graphene: Magnetic Properties* Room: PB 251

B21.4 Uchoa, Bruno: Magnetism in Graphene. 11:51AM

B22: *Graphene Structure: Local Probes* Room: PB 252

B22.4 Nair, Rahul R.: Exotic properties of graphene - based membranes. 11:51AM

B25: *Electric-to-Light Conversion and Optics in Semiconductors I* Room: D135

B25.1 Scholz, Ferdinand: GaInN-based LED structures on selectively grown semi-polar crystal facets. 11:15AM

B25.6 Koleske, Daniel D.: InGaN Growth Morphology and Its Relationship to Luminescence for Solid State Lighting. 12:39PM

B26: *Semiconductor Qubits - Silicon and III-Vs* Room: D136

B26.1 Carroll, Malcolm: Silicon enhancement mode nanostructures for quantum computing. 11:15AM

B29: *Thermoelectrics I: Recent Concepts* Room: C123

B29.4 Mahan, Gerald: Nanostructured Thermoelectrics. 11:51AM

B35: *Spins in Semiconductors—Quantum Dots* Room: E145

B35.1 Marie, Xavier: Hole - Nuclear Spin Interaction in Semiconductor Quantum Dots. 11:15AM

B39: *Iron Based Superconductors Synthesis and Doping* Room: F150

B39.1 Sefat, Athena: Synthesis and Doping of LaFeAsO, BaFe₂As₂, and FeTe Compounds. 11:15AM

B40: *Iron Based Superconductors Physical Properties I* Room: F151

B40.7 Bud'ko, S.L.: Phase diagrams and physical properties of Ba(Fe_{1-x}TM_x)₂As₂ (TM = Co, Ni, Cu, Rh, Pd). 12:27PM

D1: Goeppert Mayer Award, IUPAP Young Scientist Award, and Apker Award Session Room: OB 201

- D1.1** Lanzara, Alessandra: Maria Goeppert Mayer Award Talk: Dirac fermions in epitaxial and free standing graphene. 2:30PM
D1.2 Wang, Feng: IUPAP Young Scientist Award Talk: Bilayer graphene: tunable bandgap and electron-phonon Fano resonances. 3:06PM
D1.3 Greenberg, Kathryn: LeRoy Apker Award Talk: High Resolution Thermoreflectance Imaging of Thermal Coupling in Vertical Cavity Surface Emitting Laser Arrays. 3:42PM
D1.4 Zhuang, Bilin: LeRoy Apker Award Talk: Small-Model Approximations to Ising Models of Two-Dimensional Geometrically Frustrated Systems. 4:18PM

D2: Correlated System including Topological Insulators: Materials, Measurements, and Majorana Modes
Room: OB 202

- D2.1** Hsieh, David: Tunable topological insulators with a single spin-polarized surface Dirac cone. 2:30PM
D2.2 Ando, Yoichi: Quantum oscillations in a topological insulator Bi-Sb. 3:06PM
D2.3 Nagaosa, Naoto: Correlation effects in topological insulators. 3:42PM
D2.4 Hughes, Taylor: Fermi Surface Topological Invariants for Time Reversal Invariant Superconductors. 4:18PM
D2.5 Ran, Ying: Dislocations as ideal metallic quantum wires in topological insulators. 4:54PM

D3: Materials for Solar to Electricity Conversion: Status and Future Room: OB 203

- D3.1** Walukiewicz, Wladek: Physics of Multijunction and Multiband Solar Cells. 2:30PM
D3.2 Ginley, David: Interfacial Modification for Enhanced Performance of OPV Devices. 3:06PM
D3.3 McGehee, Michael: The Physics of Organic Solar Cells. 3:42PM
D3.4 Heeger, Alan J.: Organic Photovoltaics. 4:18PM

D4: Quantum Computer Science Room: OB 204

- D4.1** Smith, Graeme: Surprises in the theory of quantum communications. 2:30PM
D4.2 Lloyd, Seth: Quantum algorithm for solving linear systems of equations. 3:06PM
D4.3 Reichardt, Ben: Span programs and optimal quantum query algorithms. 3:42PM
D4.4 Irani, Sandy: The Quantum and Classical Complexity of Translationally Invariant Tiling and Hamiltonian Problems. 4:18PM
D4.5 Wehner, Stephanie: Unconditional security from noisy quantum storage. 4:54PM

D5: Pais Prize Talk; Sam Goudsmit: Physics, Editor, and More Room: PB 256

- D5.1** McCormmach, Russell: Abraham Pais Prize for History of Physics Talk: Henry Cavendish, John Michell, Weighing the Stars. 2:30PM
D5.2 Goudsmit, Esther: Samuel Goudsmit - Early Influences. 3:06PM
D5.3 Logan, Jonathan: A Keen Eye for Clues. 3:42PM
D5.4 Bederson, Benjamin: Sam Goudsmit—His Physics and His Statesmanship. 4:18PM
D5.5 Levy, Peter M.: Electron spin from Goudsmit and Uhlenbeck to Spintronics. 4:54PM
D5.6 Blume, Martin: Sam, Brookhaven, and the Physical Review. 5:30PM

D6: Dynamics of Polymers on Multi-Length Scales: Interfaces Room: PB 253

- D6.1** Dadmun, Mark: Polymer Loop Formation on a Functionalized Hard Surface: Quantitative Insight by Comparison of Experimental and Monte Carlo Simulation Results. 2:30PM
D6.2 Foster, Mark: Surface Dynamics of “Dry” Homopolymer Brushes. 3:06PM
D6.3 Anastasiadis, S.H.: Development of Biomimetic and Functionally Responsive Surfaces. 3:42PM
D6.4 Pierce, Flint: Molecular Dynamics Simulations of Responsive Semi-Fluorinated Interfaces. 4:18PM
D6.5 Wynne, Kenneth: Physical Properties and Responsive Behavior of Semi-fluorinated Polymer Interfaces. 4:54PM

D7: Fluctuations and Critical Phenomena in Population Dynamics Room: PB 254

- D7.1** Goldenfeld, Nigel: Scaling Laws, Fluctuations and Pattern Formation in Ecosystems. 2:30PM
D7.2 Kamenev, Alex: Extinction in Predator-Prey Systems. 3:06PM
D7.3 Meerson, Baruch: WKB theory of stochastic epidemics in well-mixed populations. 3:42PM
D7.4 Redner, Sidney: Dynamics of Voting Models. 4:18PM
D7.5 Schmittmann, Beate: Consensus formation in social networks. 4:54PM

D8: Spin Transport in Carbon-based Materials Room: PB 255

- D8.1** Fert, A.: Recipes for lateral spin transport between magnetic contacts, advantage of carbon-based materials.. 2:30PM
D8.2 van wees, Bart: Electronic spin transport, spin precession and spin relaxation in graphene field effect transistors. 3:06PM
D8.3 Sanvito, Stefano: Molecular Spintronics. 3:42PM
D8.4 Lupton, John: Coherent spin dynamics in organic electronic devices. 4:18PM
D8.5 Raman, Karthik V.: Spin polarized tunneling and injection in organic semiconductors. 4:54PM

D10: *Single Molecule Biophysics and Chemical Physics III* Room: A106

- D10.1** Eaton, William: Photon-by-photon trajectories of single protein molecules folding and unfolding. 2:30PM
D10.5 Deniz, Ashok: Probing Protein Fluctuations, Folding and Misfolding at Single-molecule Resolution. 3:42PM

D11: Physics of Bacteria I Room: A107-A109

- D11.4** Yuan, Junhua: Behavior of the Flagellar Rotary Motor Near Zero Load. 3:06PM
D11.5 Tu, Yuhai: Tug of war: The dynamics of flagellar motor with multiple stators. 3:42PM

D14: *Transport Properties of Nanostructures II: Non-Equilibrium and Correlated Electron Phenomena* Room: B113

- D14.1** Wegewijs, Maarten: Understanding Nonequilibrium and Correlated Electron Behavior in Molecular Junctions. 2:30PM

D15: *X-ray and Neutron Instruments and Measurement Science I* Room: B114

- D15.1** Fritz, David: The X-ray Pump-Probe Instrument at LCLS. 2:30PM

D16: *Organic Electronics and Photonics: Solar Cells and Photophysics* Room: B115

- D16.10** Rumbles, Garry: Transient Microwave Studies of Organic Photovoltaics. 4:18PM

D18: *Crystallization in Confined Geometry II* Room: B117

- D18.13** Cebe, Peggy: Forty years of confinement! When will RAF be released?. 4:54PM

D19: *Thin Films Copolymers II* Room: B118-B119

- D19.1** Kramer, Edward J.: Packing Frustration and its Effects on Phase Transitions in Block Copolymer Films. 2:30PM

D20: *Computational Design of New Materials—Structure/Property Relationships* Room: C120-122

- D20.1** van de Walle, Axel: Ab initio construction of structure-property relationships in crystals. 2:30PM

D21: *Graphene: Correlated States* Room: PB 251

- D21.4** Du, Xu: Magnetically induced correlated states in suspended graphene. 3:06PM

D25: *Dopants and Defects in Semiconductors - Nitrides, SiC* Room: D135

- D25.1** Ager, J.W.: Electrical properties of point and extended defects in indium nitride. 2:30PM

D27: *Self-organization in Biological Cells and Tissue I* Room: D137

- D27.4** Campelo, Felix: Sculpting membranes: a mechanism of curvature generation by proteins. 3:06PM

D29: *Physics and Materials for Inorganic Photovoltaics: II* Room: C123

- D29.4** Bounassisi, Tonio: Exploring beneficial properties of defects in Earth-abundant solar cell materials. 3:06PM
D29.8 Wang, Lin-Wang: Inorganic Alloys and Nanostructures for Photovoltaics. 4:18PM

D30: *Hydrogen Storage I* Room: D139

- D30.1** Orimo, Shin-ichi: High-Density Hydrogen Storage and Lithium Super-Ionic Conduction in Metal Borohydrides. 2:30PM

D35: *Spins in Semiconductors—Topological Insulators* Room: E145

- D35.11** Buhmann, Hartmut: Dissipationless transport in the quantum spin Hall insulator. 4:30PM

D36: *Bulk Properties of Complex Oxides—Cobaltites and Vanadates* Room: E146

D36.1 Alloul, Henri: Impact of Na ordering on the electronic properties of the Co planes in Na_xCoO_2 . 2:30PM

D36.6 Lake, Bella: Spin and Orbital Ordering in Vanadates. 3:54PM

D37: *Complex Oxide Thin Films—Oxide 2DEGs and Devices* Room: E147-E148

D37.1 Tsukazaki, Atsushi: Observation of fractional quantum Hall effect in MgZnO/ZnO based heterostructures. 2:30PM

D39: *Iron Based Superconductors: Theory I* Room: F150

D39.1 Scalapino, Douglas: A common thread linking the heavy-fermion, cuprate and iron superconductors. 2:30PM

H1: Charge and Spin Transport in Josephson and Proximity Devices Room: OB 201

- H1.1** Van Harlingen, Dale J.: Non-sinusoidal current-phase relations in SFS pi-Josephson junctions. 8:00AM
H1.2 Eschrig, Matthias: Crossed Cooper Pair Transmission and Pure Spin Supercurrents through Strongly Spin-polarized Ferromagnets. 8:36AM
H1.3 Zhao, Erhai: Spin-transport and spin-transfer torque in SF nanostructures. 9:12AM
H1.4 Cadden-Zimansky, Paul: Cooper Pair Mediated Coherence Between Normal Metals. 9:48AM
H1.5 Wei, Jian: Tunable non-local entanglement of electrons probed by noise cross-correlation measurement. 10:24AM

H2: Recent Advances in Cell and Single Molecule Manipulation Room: OB 202

- H2.1** Croquette, Vincent: Single molecule experiments using magnetic tweezers. 8:00AM
H2.2 Sooryakumar, R.: Mobile magnetic traps for cell manipulation. 8:36AM
H2.3 Dekker, Nynke: Inserting and manipulating DNA in a nanopore with optical tweezers. 9:12AM
H2.4 van Noort, John: Unraveling chromatin structure using magnetic tweezers. 9:48AM

H3: Room Temperature Semiconductor Spintronics Room: OB 203

- H3.1** Barthelemy, Agnes: Multiferroic spintronics. 8:00AM
H3.2 Jansen, Ron: Electrical creation of spin polarization in silicon at room temperature. 8:36AM
H3.3 Kawakami, Roland: Spin transport in graphene: Injection, relaxation, and electron-hole asymmetries. 9:12AM
H3.4 Lukin, Mikhail: Quantum science with spin impurities in diamond. 9:48AM
H3.5 Dediu, V.: Spin Routes in Organic Semiconductors. 10:24AM

H4: Polymer Physics Prize Room: OB 204

- H4.1** Rubinstein, Michael: Polymer Physics Prize Talk: Our Love Story with Polymers or "Is This Really Physics?". 8:00AM
H4.2 Colby, Ralph: Designing Ion-Containing Polymers for Facile Ion Transport. 8:36AM
H4.3 Panyukov, Sergey: Why Brownian yet Anomalous? The Importance of Pausing. 9:12AM
H4.4 Kumacheva, Eugenia: A block copolymer approach to the pre-programmed organization of inorganic nanostructures. 9:48AM
H4.5 Leibler, Ludwik: Carbon nanotubes soldering for high performance composites. 10:24AM

H5: Facing the Challenge of the LED Droop Room: PB 256

- H5.1** Krames, Michael: Auger Recombination in Indium Gallium Nitride: Experimental Evidence. 8:00AM
H5.2 Kioupakis, Emmanouil: Auger recombination and free-carrier absorption in nitrides from first principles. 8:36AM
H5.3 Schubert, Martin: Carrier transport, polarization matching, and efficiency droop in GaN-based visible LEDs. 9:12AM
H5.4 Humphreys, Colin: The contribution of carrier localisation to efficiency droop in GaN LEDs. 9:48AM
H5.5 Hader, Jorg: On the importance of radiative and Auger losses in GaN-based quantum wells. 10:24AM

H6: Artificial Electromagnetism and other Gauge Fields in Cold Atomic Gases Room: PB 253

- H6.1** Lin, Yu-Ju: Optically synthesized electric and magnetic fields for ultracold neutral atoms. 8:00AM
H6.2 Gunter, Kenneth: A practical scheme for a light-induced gauge field in an atomic Bose gas. 8:36AM
H6.3 Cooper, Nigel: Correlated Phases in Bose-Hubbard Models with Simulated Magnetic Fields. 9:12AM
H6.4 Oktel, Mehmet: Single particle to many-body physics in rotating optical lattices. 9:48AM
H6.5 Brennen, Gavin: Creation, Manipulation, and Detection of Abelian and Non-Abelian Anyons in Optical Lattices. 10:24AM

H7: Optimization Principles in Biological Physics Room: PB 254

- H7.1** Cecchi, Guillermo: Balanced excitation and inhibition lead to statistical and dynamical criticality. 8:00AM
H7.2 Todorov, Emanuel: Optimization of Motor Control. 8:36AM
H7.3 Francois, Paul: In silico evolution of biochemical networks. 9:12AM
H7.4 Walczak, Aleksandra: Information processing in small gene regulatory networks and cascades. 9:48AM
H7.5 Palmer, Stephanie: Predictive information in the retina. 10:24AM

H8: Opportunities for Research and Employment in Transportation Science Room: PB 255

- H8.1** Gleibe, John: The Science of Transportation Analysis and Simulation. 8:00AM
H8.2 Levinson, David: The Physics of Traffic Congestion and Road Pricing in Transportation Planning. 8:36AM
H8.3 Kloster, Tom: The Changing Science of Urban Transportation Planning. 9:12AM

- H8.4** Springer, Carl: Trends in Transportation Sciences and How to Get a Job in the Industry. 9:48AM
- H11:** *Extreme Mechanics I* Room: A107-A109
- H11.1** Santangelo, Christian: Buckling thin films with inhomogeneous swelling. 8:00AM
- H14:** *Transport Properties of Nanostructures III: Theory and Computation I* Room: B113
- H14.1** Baranger, Harold U.: Transport Through Single-Molecule Junctions: Interference, Thermopower, and the Role of Self-Interaction Effects. 8:00AM
- H17:** *Relaxation Dynamics of Polymeric Glasses II* Room: B116
- H17.2** Israeloff, Nathan: Nanoscale fluctuations and responses in equilibrium and nonequilibrium glassy polymers. 8:12AM
- H19:** *Long Range Order in Polymeric Structure and Morphology I* Room: B118-B119
- H19.5** Thomas, Edwin L.: Periodic Polymers for Control of PhoXons, where $X = t + n$. 8:48AM
- H20:** *Carbon Nanotubes: Excitonic Effects* Room: C120-C122
- H20.7** Lagoute, Jérôme: Scanning tunneling microscopy and spectroscopy of single wall carbon nanotubes. 9:12AM
- H21:** *Graphene: Nanoribbons* Room: PB 251
- H21.3** Stampfer, Christoph: Transport in Graphene Nanostructures. 8:24AM
- H24:** *Production and Application of Cold Molecules I* Room: D133-D134
- H24.1** Doyle, John: Cold, Trapped Molecules via Cryogenic Buffer Gas Methods. 8:00AM
- H24.3** Merkt, Frederic: Production and applications of cold molecules. 8:48AM
- H24.5** Meijer, Gerard: Taming molecular beams; towards a molecular laboratory on a chip. 9:36AM
- H25:** *Dopants and Defects in Semiconductors - Si* Room: D135
- H25.4** Chelikowsky, James: Defects at the Nanoscale: The Role of Quantum Confinement and Dimensionality. 8:36AM
- H27:** *Confined and Biological Water II* Room: D137
- H27.1** Galli, Giulia: Water confined at the nanoscale: insight from first principles calculations. 8:00AM
- H27.7** Garde, Shekhar: Water and hydrophobic effects at interfaces and in confinement. 9:36AM
- H28:** *New Frontiers in Electronic Structure Theory I* Room: C124
- H28.1** Scheffler, Matthias: DFT and beyond: A discussion of exact exchange plus local- and nonlocal-density approximations to the correlation functional. 8:00AM
- H28.7** Perdew, John P.: Meta-generalized gradient approximations: What they can and cannot do for you. 9:36AM
- H29:** *Physics and Materials for Inorganic Photovoltaics: III* Room: C123
- H29.4** Marti, Antonio: Intermediate band solar cells. 8:36AM
- H29.8** Prezhdo, Oleg: Time-domain ab initio studies of photoinduced electron dynamics in nanoscale semiconductors. 9:48AM
- H30:** *Frontiers in Computational Thermodynamics of Materials* Room: D139
- H30.4** Ozolins, Vidvuds: First-principles calculations of free energies of solids. 8:36AM
- H30.8** Hart, Gus: Generating and utilizing derivative structures. 9:48AM
- H32:** *Tribophysics—Fracture and Plasticity* Room: E142
- H32.7** Ponsou, Laurent: Failure of disordered materials as a depinning transition. 9:12AM
- H33:** *Magnetization and Spin Dynamics II* Room: E143
- H33.4** Wang, Xiangrong: Field-driven domain wall propagation in magnetic nanowires. 8:36AM
- H33.8** Mihajlovic, Goran: Pure spin transport in metallic nanostructures. 9:48AM

H34: *Frustrated and Low-D Magnetism—Spin Chains and Ladders* Room: E144

H34.4 Rugg, Christian: Spin excitations and magnon fractionalization in a quantum spin ladder. 8:36AM

H35: *Spins in Semiconductors—DMS: Nitrides and Oxides* Room: E145

H35.4 Sato, Kazunori: Materials design of dilute magnetic semiconductors based on the control of spinodal decomposition. 8:36AM

H36: *Nanomagnetism—Spin Torque* Room: E146

H36.7 Miron, Ioan Mihai: Enhanced spin-torque efficiency in ferromagnetic metal systems characterized by Rashba-type structural inversion asymmetry. 9:12AM

H37: *Complex Oxide Thin Films—Manganites* Room: E147-E148

H37.10 Tao, Jing: Direct Imaging of Nanoscale Phase Separation in $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ and Its Relation with Colossal Magnetoresistance. 9:48AM

H39: *Iron Based Superconductors: Pairing Symmetry* Room: F150

H39.1 Mazin, Igor: Experimental and computational evidence for the s_{\pm} pairing symmetry in Fe-based superconductors. 8:00AM

H40: *Phonons and Electron Correlations in High Temperature Superconductors II* Room: F151

H40.1 Phillips, J.C.: Percolative Theories of Strongly Disordered Ceramic High Temperature Superconductors. 8:00AM

H42: *Research in Mathematics Education and Mathematics in Physics Education* Room: D138

H42.1 Thompson, Patrick: School mathematics is largely useless for learning physics. But it needn't be.. 8:00AM

J1: The Gap Structure of the Fe Superconductors Room: OB 201

- J1.1** Hirschfeld, P.J.: Spin fluctuation pairing in Fe-based superconductors and its consequences. 11:15AM
J1.2 Matsuda, Yuji: Non-Fermi liquid behavior and non-universal superconducting gap structure in Fe-pnictides. 11:51AM
J1.3 Prozorov, Ruslan: Anisotropic London Penetration Depth in Iron-based Pnictide Superconductors. 12:27PM
J1.4 Gurevich, A.: Ferropnictides at high magnetic fields: the role of pairing symmetry and impurity scattering. 1:03PM
J1.5 Reid, Jean-Philippe: Gap structure of iron-pnictide superconductors from low-temperature heat transport. 1:39PM

J2: Non-equilibrium Phenomena in Very High Landau Levels Room: OB 202

- J2.1** Zudov, Michael: Magneto-resistance oscillations in very high Landau levels of two-dimensional electron systems. 11:15AM
J2.2 Vavilov, Maxim: Non-linear transport in a two-dimensional electron gas in magnetic fields. 11:51AM
J2.3 Vitkalov, Sergey: Nonlinear Transport of 2D Electrons in Crossed Electric and Quantizing Magnetic Fields. 12:27PM
J2.4 Du, Rui-Rui: Microwave-Induced Nonlinear Transport in Spatially Modulated 2D Electron Systems. 1:03PM
J2.5 Dmitriev, Ivan: Photogalvanic effects originating from the violation of the Einstein relation in a 2D electron gas in high Landau levels. 1:39PM

J3: Energy Research and Applications: Future Materials and Systems Room: OB 203

- J3.1** Horton, Linda: Basic Science for a Secure Energy Future. 11:15AM
J3.2 Zunger, Alex: Condensed Matter Physics Issues in Inorganic Photovoltaics. 11:51AM
J3.3 Morelli, Donald: Impacting Energy Utilization: the Role of Thermoelectrics. 12:27PM
J3.4 Stocks, G. Malcolm: Defect Physics of Structural Materials under Extreme Conditions. 1:03PM
J3.5 Tamor, Michael: Physics for Sustainable Personal Transportation. 1:39PM

J4: Dynamics of Polymers on Multi-Length Scales: Melts Room: OB 204

- J4.1** Kremer, Kurt: Making coarse grained polymer simulations quantitatively predictive for statics and dynamics. 11:15AM
J4.2 Grest, Gary S.: Interdiffusion and Self-Healing of Entangled Polymer Melts. 11:51AM
J4.3 Richter, Dieter: On the dynamics of polymers in nanocomposites and under confinement. 12:27PM
J4.4 Everaers, Ralf: From Structure to Dynamics of Polymer Melts. 1:03PM
J4.5 Larson, Ronald G.: Rheology of Entangled Polymer Melts: Recent Results from Molecular Dynamics Simulations. 1:39PM

J5: What Works for Women in Physics: Lessons Learned from Research Room: PB 256

- J5.1** Ivie, Rachel: Lessons Learned from Data on Women's Careers in Physics. 11:15AM
J5.2 Bug, Amy: The Physics Classroom: Does Faculty Gender Matter?. 11:51AM
J5.3 Lord, Susan: Success in Undergraduate Engineering Programs: A Comparative Analysis by Race and Gender. 12:27PM
J5.4 White Brahmia, Suzanne: Ethnic and Gender Equity in Engineering: How Can Physics Help?. 1:03PM
J5.5 Mack, Kelly: That None Shall Perish. 1:39PM

J6: Advanced Electronic Structure Methods for Defects in Semiconductors and Insulators Room: PB 253

- J6.1** Pasquarello, Alfredo: Defects levels and band alignments at semiconductor-oxide interfaces through the use of hybrid functionals. 11:15AM
J6.2 Rinke, Patrick: Defect Physics without the Band-Gap Problem: Combining DFT and *GW*. 11:51AM
J6.3 Hennig, Richard: Quantum Monte Carlo calculations for point defects in semiconductors. 12:27PM
J6.4 Freysoldt, Christoph: Charged defects in the supercell approach. 1:03PM
J6.5 Lambrecht, Walter: Applications of LSDA+U to defects in semiconductors and calculation of magnetic exchange interactions. 1:39PM

J7: Biofilms and Multicellularity Room: PB 254

- J7.1** Vogel, Viola: Catch bonds enable bacterial and cell adhesion under flow. 11:15AM
J7.2 Vermant, Jan: Bacterial Swarming: social behaviour or hydrodynamics?. 11:51AM
J7.3 Stocker, Roman: Swimming in Turbulent Waters: a New Mechanism for Phytoplankton Patchiness in the Ocean. 12:27PM
J7.4 Vlamakis, Hera: Bacterial Biofilms as Complex Communities. 1:03PM
J7.5 Silberzan, Pascal: Collective behavior of biological cells. 1:39PM

J8: LaserFest: Laser Education and Outreach Room: PB 255**J8.1** Orzel, Chad: Lasers in the Undergraduate Laboratory: Precision Measurement for the Masses. 11:15AM**J8.2** Gueye, Paul: Riding light in the minority communities and how K-12 students can shine in physics. 11:51AM**J8.3** Metcalf, Harold: The Laser Teaching Center at Stony Brook. 12:27PM**J8.4** Jacobs, Stephen: Feedback from Over 10 Years of Youth Outreach with the Optics Suitcase. 1:03PM**J8.5** Deutsch, Miriam: Optical Science Discovery Program: Pre-College Outreach and So Much More. 1:39PM**J14: Optics of Nanostructures Plasmons, Nanoantennas, and Quantum Dots** Room: B113**J14.4** Bratschitsch, Rudolf: Ultrafast quantum optics with solid-state nanosystems. 11:51AM**J15: Advances in Scanned Probe Microscopy II: Optical Techniques** Room: B114**J15.1** Shigekawa, Hidemi: Laser-combined STM and probing ultrafast transient dynamics. 11:15AM**J16: Polymers and Energy: Photovoltaics I** Room: B115**J16.1** Venkataraman, Dhandapani: Directing the Assembly of Semiconductors for PV Applications. 11:15AM**J19: Hierarchically and Templated Ordered Systems I** Room: B118-B119**J19.4** Bunning, Timothy: Hierarchically Ordered Polymer/Block Copolymer/Nanoparticle Systems Enabled via Holographic Photopolymerization. 11:51AM**J20: Carbon Nanotubes: Mechanical properties and Biosensors** Room: C120-C122**J20.1** van der Zant, Herre: Carbon nanotube mechanical resonators. 11:15AM**J21: Graphene: Transport I** Room: PB 251**J21.4** Geim, Andre: Graphene Update. 11:51AM**J22: Carbon Nanotubes: Optoelectronic Devices** Room: PB 252**J22.4** Steiner, Mathias: Semiconducting carbon nanotubes in optoelectronic and nanophotonic devices. 11:51AM**J22.11** Gabor, Nathaniel: Extremely Efficient Multiple Electron-hole Pair Generation in Carbon Nanotube Photodiodes. 1:39PM**J23: Plyler Prize Session and New Trends in Spectroscopy I** Room: C125-C126**J23.1** Andrews, Lester: Earle K. Plyler Prize for Molecular Spectroscopy Talk: Laser Ablated Metal Atom Reactions to Form Novel Molecules. 11:15AM**J23.6** Jones, David: Multi-frequency THz Heterodyne Spectroscopy using Electro-Optic Sampling. 12:39PM**J25: Electric-to-Light Conversion and Optics in Semiconductors II** Room: D135**J25.1** Schubert, Fred: Promises and challenges in solid-state lighting. 11:15AM**J25.2** Amano, Hiroshi: Atomic layer epitaxy of GaInN and AlGaIn by high pressure MOVPE. 11:51AM**J26: Topological Quantum Computing** Room: D136**J26.1** Bonderson, Parsa: Topological Quantum Computation and Measurement. 11:15AM**J27: Confined and Biological Water III** Room: D137**J27.1** Head-Gordon, Teresa: Molecular Studies of Bulk Water and Hydration Water at Interfaces. 11:15AM**J28: New Frontiers in Electronic Structure Theory II** Room: C124**J28.1** Head-Gordon, Martin: Semi-empirical density functionals. 11:15AM**J28.7** Mazziotti, David: Two-electron Reduced-Density-Matrix Mechanics: With Application to Many-electron Atoms and Molecules. 12:51PM**J29: Thermoelectrics II: Dirac, Bi₂Te₃ & Nanostructures** Room: C123**J29.4** Behnia, K.: Nernst effect in bismuth and graphite across the quantum limit. 11:51AM

J30: *High Pressure II: Equations of State* Room: D139

J30.4 Schwegler, Eric: Equation of state research for ignition on NIF. 11:51AM

J31: *Hybrid AMO-condensed Matter Systems for Quantum Information Science* Room: E141

J31.1 Taylor, Jacob: Hybrid systems: from atoms on squids to diamond on wires. 11:15AM

J33: *Spin Dependent Physics in Organic-Based Materials I* Room: E143

J33.7 Pokhodnya, Konstantin: Bonding and Magnetic Exchange in Metal-[TCNE] Magnets. 12:27PM

J35: *Spins in Semiconductors—Spin Orbit Effects and Spin Relaxation* Room: E145

J35.7 Koralek, Jake: Emergence of the persistent spin helix in semiconductor quantum wells. 12:27PM

J36: *Nanomagnetism—Domain Dynamics* Room: E146

J36.1 O'Brien, Liam: Near-field interaction between domain walls in adjacent permalloy nanowires. 11:15AM

J37: *Novel Magnetic Devices - Spin Torque I* Room: E147-E148

J37.4 Sun, Jonathan: A Three terminal spin-torque driven magnetic switch. 11:51AM

J37.8 Heindl, Ranko: Magnetodynamics of spin torque switching in nanometer sized magnetic devices. 1:03PM

L1: Novel Probes of Electron Interactions in One-Dimensional Systems Room: OB 201

- L1.1** Ford, Christopher: Direct observation of spin-charge separation and interaction effects in GaAs quantum wires by momentum-conserved tunneling. 2:30PM
- L1.2** Glazman, Leonid: Theory of Nonlinear Luttinger Liquids. 3:06PM
- L1.3** Mason, Nadya: Superconducting tunneling spectroscopy in carbon nanotubes. 3:42PM
- L1.4** Mirlin, Alexander: Non-equilibrium Luttinger liquids: bosonization and tunneling spectroscopy. 4:18PM
- L1.5** Cronin, Stephen: Electron-Phonon and Electron-Electron Interactions in Individual Suspended Carbon Nanotubes. 4:54PM

L2: Correlated States for Topological Quantum Computing Room: OB 202

- L2.1** Shtengel, Kirill: Interferometric schemes for the detection of non-abelian statistics. 2:30PM
- L2.2** Chung, Suk Bum: Half-quantum vortices in $p_x + ip_y$ superconductors. 3:06PM
- L2.3** Budakian, R.: Observation of Fractional Fluxoid States in Mesoscopic Rings of Sr_2RuO_4 by Ultrasensitive Cantilever Magnetometry. 3:42PM
- L2.4** Stern, Ady: Transport and thermodynamic signatures of non-abelian quantum Hall states. 4:18PM
- L2.5** Pfeiffer, Loren: The role of MBE in observing coherence in a quantum Hall interferometer. 4:54PM

L3: How to Predict Localized Hole-States in Oxides and Wide-Gap Semiconductors? Room: OB 203

- L3.1** Franchini, Cesare: Multivalency and polaronic hole trapping in BaBiO_3 . 2:30PM
- L3.2** Fecher, Gerhard H.: Exotic magnetism in the alkali sesquioxides Rb_4O_6 and Cs_4O_6 . 3:06PM
- L3.3** Shluger, Alexander: Polarons and excitons in insulators: insight from computer simulations. 3:42PM
- L3.4** Lany, Stephan: Localization, lattice distortion, charge transition levels, and magnetism of small-polaronic hole- and electron-states in wide-gap semiconductors. 4:18PM
- L3.5** Pemmaraju, Chaitanya Das: Prediction of d^0 magnetism in self-interaction corrected density functional theory. 4:54PM

L4: Onsager and Heineman Prize Session Room: OB 204

- L4.1** Friedan, Daniel: Lars Onsager Prize Talk: 1+1d conformal field theories as natural languages for asymptotically large-scale quantum computing. 2:30PM
- L4.2** Shenker, Stephen: Lars Onsager Prize Talk. 3:06PM
- L4.3** Aizenman, Michael: Dannie Heineman Prize Talk. 3:42PM

L5: Promoting Excellence: Preparation, Execution, and Opportunities Room: PB 256

- L5.1** Massey, Walter: ????. 2:30PM
- L5.2** Johnson, Anthony M.: Photonics, Diversity and Mentoring – 30 Years of Experiences and Strategies of an African-American Physicist. 3:06PM
- L5.3** Peiris, Suhithi: Opportunities in the Department of Defense. 3:42PM
- L5.4** Fernandez-Baca, Jaime: Opportunities in Neutron Science. 4:18PM
- L5.5** Panel of Students, APS/COM: ????. 4:54PM

L6: Intracellular Fluid Dynamics Room: PB 253

- L6.1** Levine, Alex: Cell Quakes: Mechanics and Microrheology of Living Cells and Active Gels. 2:30PM
- L6.2** Mofrad, Mohammad: Intracellular Fluid Dynamics.. 3:06PM
- L6.3** Zaman, Muhammad H.: Making the right choice: Biomechanical design making in tumor invasion. 3:42PM
- L6.4** Wirtz, Dennis: Intracellular Fluid Dynamics.. 4:18PM
- L6.5** del Alamo, Juan C.: Anisotropic viscoelastic properties and cytoskeletal structure of endothelial cells subject to shear flow. 4:54PM

L7: Educational Challenges in Biological Physics Room: PB 254

- L7.1** Onuchic, Jose: Education at the Interface – Experiences and Perspectives. 2:30PM
- L7.2** Nelson, Philip: Keeping the Physics in Biophysics and Vice Versa. 3:06PM
- L7.3** Phillips, Rob: Hands-On Education at the Interface Between Physics and Biology. 3:42PM
- L7.4** Bialek, William: TBA. 4:18PM
- L7.5** Moffitt, Jeffrey: Viral DNA Packaging at Base Pair Resolution. 4:54PM

L8: Recent Advances and New Projects in Neutron and X-Ray Sources Room: PB 255

- L8.1** Henderson, Stuart: Spallation Neutron Source Operating Experience and Outlook for Upgrades. 2:30PM
L8.2 Frisch, Josef: LCLS - Status and Performance. 3:06PM
L8.3 Willeke, Ferdinand: NSLS-II - Progress and Outlook. 3:42PM
L8.4 Wurth, Wilfried: FLASH, the Free-Electron Laser at DESY: Machine Performance and Recent Highlights from User Experiments. 4:18PM
L8.5 Delayen, Jean: RF Superconductivity – An Essential Technology for 4th Generation Light Sources. 4:54PM

L10: Single Molecule Biophysics and Chemical Physics IV Room: A106

- L10.1** Puglisi, Jody: Single Molecule Dynamics of the ribosome during translation. 2:30PM
L10.5 Lilley, David: Single-molecule FRET studies of RNA folding and catalysis. 3:42PM

L11: Extreme Mechanics II Room: A107-A109

- L11.4** Vaziri, Ashkan: Mechanics of Highly-Deformed Elastic Shells. 3:06PM

L14: Transport Properties of Nanostructures IV: Charge Dynamics and Imaging of Photoactive Molecules
Room: B113

- L14.1** Ho, Wilson: Imaging Photoinduced Charge Transport in Single Molecules. 2:30PM

L17: Dillon Medal Symposium Room: B116

- L17.1** Loo, Yueh-Lin: John H. Dillon Medal Talk: Solvent Annealing of Water-Dispersible Polyaniline Yields Highly Conductive Functional Components for Organic Electronics. 2:30PM

L18: Long Range Order in Polymeric Structure and Morphology II Room: B117

- L18.2** Cheng, Joy: Directed Self-assembly for Lithography Applications. 2:42PM

L19: Hierarchically and Templated Ordered Systems II Room: B118-B119

- L19.5** Crosby, Alfred: Order Through Instability: Patterning with Polymers and Nanoparticles. 3:18PM

L20: Computational Design of New Materials—Nanostructure Design Room: C120-122

- L20.4** Knezevic, Irena: Design of Nanostructured Materials for Electronic, Thermoelectric, and Optoelectronic Applications. 3:06PM

L21: Graphene: Transport II Room: PB 251

- L21.4** Peres, Nuno: The transport properties of graphene: an overview. 3:06PM

L22: Carbon Nanotubes Alignment and Sorting: Device Applications Room: PB 252

- L22.1** Blackburn, Jeffrey: Functional Single-walled Carbon Nanotube Electrodes for Solar Energy Conversion. 2:30PM
L22.5 Rogers, John: Synthesis and application of CNT arrays. 3:42PM

L24: Dielectric, Ferroelectric, and Piezoelectric Oxides—Applications Room: D133-D134

- L24.7** Damjanovic, Dragan: Lead-free piezoelectrics and mechanisms of high electro-mechanical coupling. 3:42PM

L27: Confined and Biological Water IV Room: D137

- L27.1** Garcia, Angel: Water in protein folding and binding. 2:30PM
L27.5 Rasaiah, Jayendran: Water in the Protein Interior. 3:42PM
L27.8 Gruner, Sol M.: High Pressure Cryocooling of Protein Crystals: The Enigma of Water. 4:42PM

L29: Interface Controlled Organic Thin Films for Enhanced Device Performance Room: C123

- L29.1** Yang, Yang: Very High Performance Polymer Solar Cells – A step closer to reality. 2:30PM
L29.2 Advincula, Rigoberto: Nanostructured Ultrathin Carbazole Polymer Layers for Improved Hole-Transport and Injection Properties on ITO. 3:06PM
L29.3 Ambrosch-Draxl, Claudia: Theoretical Challenges Towards a Quantitative Description of Organic Thin Film Growth and Organic/(In)organic Interfaces. 3:42PM

L30: *Hydrogen Storage II—Complex Hydrides* Room: D139

L30.1 Ahn, Channing: Suppressing the formation of stable intermediates in hydride destabilization reactions. 2:30PM

L32: *Tribophysics—Sliding Friction* Room: E142

L32.4 Tosatti, Erio: Simulated sliding of surface deposited islands and nanoclusters: from static pinning to high speed ballistic friction. 3:06PM

L33: *Spin Dependent Physics in Organic-Based Materials II* Room: E143

L33.6 Nguyen, Tho: Isotope Effect in Organic Magneto-Transport; the Role of Hyperfine Interaction. 3:30PM

L36: *Nanomagnetism—Tunnel Junctions* Room: E146

L36.10 Nam Hai, Pham: Electromotive force and huge magnetoresistance in magnetic tunnel junctions with zinc-blende MnAs nano-magnets. 4:18PM

L37: *Novel Magnetic Devices: Spin Torque II* Room: E147-E148

L37.1 Ebels, Ursula: Temporal Coherence of MgO Based Magnetic Tunnel Junction Spin Torque Oscillators. 2:30PM

L37.8 Lee, Kyung-Jin: Self-consistent calculations of transport and magnetization dynamics. 4:18PM

L41: *Search for New Superconductors - Heterostructures, Thin Films, Intercalated and High-Pressure Compounds* Room: F152

L41.4 Bozovic, I.: Atomic-Layer Engineering of Oxide Superconductors. 3:06PM

P1: Superconductivity and Magnetism of Iron Chalcogenides Room: OB 201

- P1.1** Wu, Maw-Kuen: Structural Stability and Superconductivity in the Iron Chalcogenides. 8:00AM
P1.2 Cava, R.J.: Structure, Chemistry and Property Correlations in FeSe and 122 Pnictides. 8:36AM
P1.3 Mao, Zhiqiang: Phase diagram of $\text{Fe}_{1+y}(\text{Te}_{1-x}\text{Se}_x)$: evolution from antiferromagnetism to superconductivity. 9:12AM
P1.4 Bao, Wei: Structure, magnetic order and excitations of the Fe(Se,Te) superconductor system. 9:48AM
P1.5 Imai, Takashi: NMR investigation of iron-based superconductors. 10:24AM

P2: Quantum Oscillations, Superconductivity, and Pseudogaps in Nanoscaled Metal Films and Islands
Room: OB 202

- P2.1** Chiang, T.C.: One-Dimensional Shell Effects in Thin Metal Films. 8:00AM
P2.2 Shih, Chih-Kang: Superconductivity at the Two-dimensional Limit. 8:36AM
P2.3 Schneider, Wolf-Dieter: Quantum-size effects in ultrathin Pb-islands on Si(111): From quantum well states to the reduction of the superconducting gap. 9:12AM
P2.4 Xiao, Xudong: Pseudogap Mediated by Quantum-Size Effects in Pb Islands. 9:48AM
P2.5 Weitering, Hanno: Tuning the Quantum Stability and Superconductivity of Ultrathin Metal Alloys. 10:24AM

P3: Emergent Behavior in Particle Systems Subjected to Time-Dependent Fields Room: OB 203

- P3.1** Lowen, Hartmut: Colloidal dispersions in external fields: from equilibrium to non-equilibrium. 8:00AM
P3.2 Martin, James: Dynamics of particle suspensions subjected to biaxial and triaxial magnetic fields: vortex mixing and isothermal magnetic advection. 8:36AM
P3.3 Richter, Reinhard: Emergent phenomena in ferrofluids: Solitary spikes and self-propelled streams. 9:12AM
P3.4 Snezhko, Alexey: Far-from-equilibrium magnetic granular layers: dynamic patterns, magnetic order and self-assembled swimmers. 9:48AM
P3.5 Yethiraj, Anand: Novel forms of colloidal self-organization in temporally and spatially varying external fields: from low-density network-forming fluids to spincoated crystals. 10:24AM

P4: Celebrating 50 Years of Lasers in Condensed Matter Physics: Dynamics & Imaging Room: OB 204

- P4.1** Granick, Steve: Transport dynamics – one particle at a time. 8:00AM
P4.2 Zanni, Martin: Mid-infrared pulse shaping permits the pathway of amyloid aggregation to be determined with rapid-scan 2D IR spectroscopy. 8:36AM
P4.3 Goodson, Theodore: Entangled Photon Spectroscopy with Organic Materials. 9:12AM
P4.4 Barbara, Paul: Single Molecule Studies of Conjugated Polymers. 9:48AM
P4.5 Sokolov, Alexei: Light Scattering Studies of Dynamics of Soft Materials. 10:24AM

P5: Lattice Boltzmann Method and Its Applications Room: PB 256

- P5.1** Luo, Li-Shi: Lattice Boltzmann modeling of microchannel flow in slip flow regime. 8:00AM
P5.2 Wang, Lian-Ping: Particle-Resolved Numerical Simulation of Turbulent Suspension Flow Using the Lattice Boltzmann Equation. 8:36AM
P5.3 Dellar, Paul: Lattice Boltzmann approaches to magnetohydrodynamics and electromagnetism. 9:12AM
P5.4 Ahrenholz, Benjamin: Massively parallel simulations of multiphase flows using Lattice Boltzmann methods. 9:48AM
P5.5 Lee, Taehun: Lattice Boltzmann Modeling of Multi-phase Interfacial Flows. 10:24AM

P6: Fermions at Unitarity: Gravity, the Quark-Gluon Plasma, and Ultra-Cold Atoms Room: PB 253

- P6.1** Petricka, Jessie: Exploring perfect fluidity in universal atomic gases. 8:00AM
P6.2 Adams, Allan: ADS/CFT: String Theory to Cold Atoms. 8:36AM
P6.3 Schaefer, Thomas: Quark Gluon Plasma and Fermions at Unitarity. 9:12AM
P6.4 Bulgac, Aurel: What do we know about the unitary Fermi gas?. 9:48AM
P6.5 Steinberg, Peter: Experimental side of quark-gluon plasmas. 10:24AM

P7: Physics, Culture and the Arts Room: PB 254

- P7.1** Saltzberg, David: Physics and the Making of “The Big Bang” TV Comedy Series. 8:00AM
P7.2 Lomask, Jodi: Art, Science, and the Choreography of Creative Process. 8:36AM
P7.3 Burke, Michael: Science Is Art. 9:12AM

- P7.4** Holmes, Brian W.: Understanding Musical Instruments: Composing “Updike’s Science”. 9:48AM
- P8: Physicists as Entrepreneurs** Room: PB 255
- P8.1** Talyansky, Vitaly: Reincarnation of Stardust. 8:00AM
- P8.2** Scherer, Axel: Using Lithography to Integrate Optoelectronic and Optofluidic Nanodevices into Systems - and Commercial Products. 8:36AM
- P8.3** Bhattacharya, Santanu: Managing Inflections in Life and Career: Tale from a Physicist. 9:12AM
- P8.4** Doughty, Chris: A blind squirrel finds a nut: tales from an entrepreneurial adventure. 9:48AM
- P8.5** Ehrlich, Daniel: Revise Inc. - Getting Bought Out. 10:24AM
- P10: *Physics of Behavior*** Room: A106
- P10.4** Ryu, William: Thermal impulse response and the temperature preference of *Escherichia coli*. 8:36AM
- P14: *Transport Properties of Nanostructures V: Theory and Computation II*** Room: B113
- P14.1** Van Voorhis, Troy: Electron dynamics and the approach to steady state in molecular junctions. 8:00AM
- P17: *Glass Transition in Thin Films I*** Room: B116
- P17.1** Vogt, Bryan: Mechanics of Polymer Thin Films: What Can We Learn from the Glass Transition?. 8:00AM
- P18: *Biological-Synthetic Hybrid Materials I*** Room: B117
- P18.4** Tkachenko, Alexei: Nanoparticles with DNA-mediated interactions: from Mess to Order and Complexity. 8:36AM
- P19: *Physics of Polymer Nanocomposites I*** Room: B118-B119
- P19.7** Macosko, Chris: Graphene/Polymer Nanocomposites. 9:12AM
- P24: *Dielectric, Ferroelectric, and Piezoelectric Oxides—Nanostructures*** Room: D133-D134
- P24.7** Gregg, Marty: Domains in Ferroelectric Nanostructures. 9:12AM
- P27: *New Trends in Spectroscopy II*** Room: D137
- P27.1** Pate, Brooks: Coherent Broadband Microwave Spectroscopy. 8:00AM
- P27.6** Dian, Brian C.: Expansion of Two-Dimensional Spectroscopy into the Microwave: Implementation and Applications. 9:24AM
- P28: *New Frontiers in Electronic Structure Theory III*** Room: C124
- P28.1** Carter, Emily: Advances in Orbital-Free Density Functional Theory: Physics and Algorithms. 8:00AM
- P28.6** Scuseria, Gustavo: New models for mixing wavefunctions with density functional theory. 9:24AM
- P29: *Thermoelectrics III: IV-VI’s & Nanostructures*** Room: C123
- P29.4** Cook, Bruce A.: A Tale of Two Materials: “TAGS” and “LAST”. 8:36AM
- P32: *Tribophysics—Adhesion and Friction*** Room: E142
- P32.4** Gumbsch, Peter: Making and Breaking of Atomic Bonds in Carbon Tribocontacts. 8:36AM
- P32.8** Gotsmann, Bernd: Fundamental deformation processes controlling nanoscale friction and wear. 9:48AM
- P34: *Frustrated and Low-D Magnetism—Antiferromagnets on the Triangular Lattice*** Room: E144
- P34.1** Takano, Yasu: Magnetization plateaus in the triangular-lattice antiferromagnet Cs_2CuBr_4 . 8:00AM
- P35: *Spins in Semiconductors—GaMnAs Electronic Structure*** Room: E145
- P35.10** Sawicki, Maciej: Experimental probing of the emergence of magnetic order at the insulator-to-metal transition in (Ga,Mn)As. 9:48AM
- P36: *Bulk Properties of Complex Oxides—Cobaltites*** Room: E146
- P36.1** Tjeng, Liu Hao: Spin state transitions in cobaltites: spectroscopic perspective. 8:00AM

P37: *Complex Oxide Thin Films—Conductivity and Metal-Insulator Transition I* Room: E147-E148

P37.4 Biermann, Silke: Materials Design using Correlated Materials – Where do we stand?. 8:36AM

P40: *Iron Based Superconductors: Physical Properties II* Room: F151

P40.1 Luke, Graeme: Muon Spin Relaxation Studies of RFeAsO and MFe₂As₂ Based Compounds. 8:00AM

Q1: Novel Superconductivity: Insights from a Materials Perspective Room: OB 201

- Q1.1** Geballe, Theodore: Enhanced Superconductivity in $\text{Sr}_2\text{CuO}_{(4-x)}$. 11:15AM
Q1.2 Fisk, Z.: Superconductivity, Magnetism and High T_c . 11:51AM
Q1.3 Akimitsu, J.: Struggle to find higher- T_c superconductors-No night without dawn. 12:27PM
Q1.4 Yamanaka, Shoji: Intercalation and superconductivity in ternary layer structured metal nitride halides ($M\text{NX}$: $M = \text{Ti, Zr, Hf}$; $X = \text{Cl, Br, I}$). 1:03PM

Q2: Jamming Room: OB 202

- Q2.1** Nagel, Sidney: Rigidity and Excitations in Jammed Solids. 11:15AM
Q2.2 Heussinger, Claus: Jamming transition as probed by quasi-static shear simulations. 11:51AM
Q2.3 Brujic, Jasna: Random close packing of polydisperse jammed emulsions. 12:27PM
Q2.4 Zeravcic, Zorana: Jamming of Ellipsoids: Abundance of Zero-Frequency Modes and What to Do With Them. 1:03PM
Q2.5 Mao, Xiaoming: Elasticity and response in nearly isostatic periodic lattices. 1:39PM

Q3: Physics for Everyone Room: OB 203

- Q3.1** Orbach, Ray: Show stoppers for energy production. 11:15AM
Q3.2 Postol, Ted: The new missile defense system. 11:51AM
Q3.3 Falco, Charles: Imaging in the Infrared. 12:27PM
Q3.4 Reich, Eugenie Samuel: The Schoen Affair. 1:03PM
Q3.5 Nathan, Alan: The Flight of a Baseball. 1:39PM

Q4: Celebrating 50 Years of Lasers in Condensed Matter Physics: Surfaces, Imaging & Technology Room: OB 204

- Q4.1** Shen, Y. Ron: Nonlinear Optical Spectroscopy as a Unique Probe for Surfaces of Liquids, Polymers and Solids. 11:15AM
Q4.2 Marcus, Andrew: Fourier Imaging Correlation Spectroscopy for Studies of Sub-Cellular Dynamics and Biomolecular Conformation Transition Pathways. 11:51AM
Q4.3 Conboy, John: Exploring the Underlying Biophysics of Eukaryotic Plasma Membrane Asymmetry by Sum-Frequency Vibrational Spectroscopy. 12:27PM
Q4.4 Betzig, Eric: Pushing the Envelope in Biological Imaging. 1:03PM
Q4.5 Wegener, Martin: 3D Photonic Metamaterials Made by Direct Laser Writing. 1:39PM

Q5: A Critical Challenge for the Biotech Industry: The Measurement of Protein Associations Room: PB 256

- Q5.1** Tollin, Gordon: Plasmon Spectroscopy Applied to Biomolecular Interactions in Membranes. 11:15AM
Q5.2 Laue, Tom: Protein associations and analytical ultracentrifugation. 11:51AM
Q5.3 Minton, Allen: Quantitative Characterization of Protein Associations in Highly Concentrated Solution. 12:27PM
Q5.4 Some, Daniel: Composition-Gradient Static Light Scattering and the Quantification of Biomolecular Interactions in Therapeutic Proteins. 1:03PM
Q5.5 Freire, Ernesto: Inhibition of Protein-Protein Interactions and Signaling by Small Molecules. 1:39PM

Q6: Science Literacy, the Nature of Science and Religion Room: PB 253

- Q6.1** Miller, Jon: The Development of Civic Scientific Literacy in the United States. 11:15AM
Q6.2 Kirshenbaum, Sheril: How Scientific Illiteracy Threatens Our Future. 11:51AM
Q6.3 Peshkin, Murray: Addressing the Public About Science and Religion. 12:27PM
Q6.4 Scotchmoor, Judith: Increasing our understanding of how science really works. 1:03PM
Q6.5 Hobson, Art: Physics Literacy for All Students. 1:39PM

Q7: Mechanics in Cell Biology Room: PB 254

- Q7.1** Huang, K.C.: Elastic Deformations During Bacterial Cell Growth. 11:15AM
Q7.2 Sun, Sean: Mechanical influences in bacterial morphogenesis and cell division. 11:51AM
Q7.3 Discher, Dennis: Matrix elasticity directs stem cell lineage specification. 12:27PM
Q7.4 Mahadevan, L.: Shape and dynamics of tip growing cells. 1:03PM
Q7.5 Mogilner, Alex: Shape determination in motile cells. 1:39PM

Q8: Magnonics: Spin Wave Processes in Magnetic Materials Room: PB 255

- Q8.1 Muenzenberg, Markus: Photo-magnonics: excitation of magnonic materials by femtosecond laser pulses. 11:15AM
 Q8.2 Chantrell, R.W.: Magnetic excitations and ultrafast magnetisation reversal. 11:51AM
 Q8.3 Hillebrands, Burkard: Magnon gases and condensates. 12:27PM
 Q8.4 Ono, Teruo: Modification of Spin Wave Propagation by Current Injection. 1:03PM
 Q8.5 Bailleul, Matthieu: Current-induced spin wave Doppler shift. 1:39PM

Q10: Physics of Biochips I Room: A106

- Q10.4 Hoffman, Robert: Flow Cytometry- Current Detection Limits and Future Prospects. 11:51AM
 Q10.8 Reich, Daniel: Resolving sub-cellular force dynamics using arrays of magnetic microposts. 1:03PM

Q11: Self-organization in Biological Cells and tissue II Room: A107-A109

- Q11.4 Hutson, M. Shane: Epithelial self-organization in fruit fly embryogenesis. 11:51AM
 Q11.8 Rongish, Brenda: Tissue Motion and Assembly During Early Cardiovascular Morphogenesis. 1:03PM

Q13: Stochastic Processes in Biology I Room: B112

- Q13.4 Colizza, Vittoria: Human mobility and epidemic invasion. 11:51AM

Q14: Optics of Nanostructures: Quantum Dots and Nanomaterials Room: B113

- Q14.1 Hoegele, Alexander: Locking of the quantum dot electron-nuclear spin system to a resonant laser. 11:15AM

Q15: Advances in Scanned Probe Microscopy III: Spectroscopic Techniques at Low Temperatures Room: B114

- Q15.1 Song, Young Jae: Scanning Probe Microscopy at mK Temperatures *. 11:15AM

Q16: Polymers and Energy: Fuel Cells and Batteries Room: B115

- Q16.1 Balsara, Nitash: Water Retention and Proton Conductivity of Block Copolymers in Contact with Humid Air. 11:15AM

Q17: Focus Session : Glass Transition in Thin Films II Room: B116

- Q17.4 Baschnagel, J.: Molecular Dynamics Simulations of Glass-forming Polymer Films. 11:51AM

Q18: Biological-Synthetic Hybrid Materials II Room: B117

- Q18.10 Seeman, Nadrian C.: DNA: Not Merely the Secret of Life. 1:03PM

Q19: Physics of Polymer Nanocomposites II Room: B118-B119

- Q19.13 Wang, Xiaorong: New Mechanism Responsible for the Tg-broadening and Nonlinear Response of Nanoparticle-Reinforced Elastomers. 1:39PM

Q20: Graphene: Local Probes Room: C120-122

- Q20.4 Meyer, Jannik: Graphene: Two-dimensional carbon at atomic resolution. 11:51AM

Q21: Graphene: Bilayers I Room: PB 251

- Q21.4 Hwang, Euyheon: Screening and transport of bilayer graphene. 11:51AM

Q24: Dielectric, Ferroelectric, and Piezoelectric Oxides—Strain and Interfaces Room: D133-D134

- Q24.9 Bousquet, Eric: Competition between structural instabilities in strained ABO₃ nanostructures. 12:51PM

Q27: New Trends in Spectroscopy III Room: D137

- Q27.1 Ye, Jun: Coherent frequency combs and spectroscopy. 11:15AM
 Q27.4 Picqu, Nathalie: Beller Lectureship Talk: Real-time broadband spectroscopy with laser frequency combs. 12:15PM
 Q27.7 Coddington, Ian: Molecular Spectroscopy with Frequency Combs. 1:15PM

Q28: New Frontiers in Electronic Structure Theory IV Room: C124

- Q28.1 Krylov, Anna: Predictive Electronic Structure Methods for Model Charge Transfer Systems. 11:15AM
 Q28.7 Valeev, Edward: Explicitly-Correlated Electronic-Structure Methods for Single-Reference and Multi-Reference Systems. 12:51PM

- Q29:** *Thermoelectrics IV: Group IV's & Nanostructures* Room: C123
Q29.4 Woods, Lilia: Thermoelectric Properties and the Benefits of Nanostructuring and Electronic Structure Modifications. 11:51AM
- Q31:** *Quantum Simulation using AMO Systems* Room: E141
Q31.1 Chin, Cheng: In situ Observation of incompressible Mott-insulating domains in ultracold atomic gases. 11:15AM
- Q33:** *Complex Oxide Thin Films—Oxide/Semiconductor Interfaces and Defects* Room: E143
Q33.1 Marchiori, Chiara: Interface chemistry between complex oxides and semiconductors: where chemistry and physics meet. 11:15AM
- Q34:** *Frustrated and Low-D Magnetism—Spins, Orbitals, and Phonons* Room: E144
Q34.4 Valenti, Roser: Frustration in antiferromagnets and spin liquids. 11:51AM
- Q36:** *Bulk Properties of Complex Oxides—Fe-Based Multiferroics* Room: E146
Q36.1 Tokunaga, Yusuke: Ferroelectricity with Ferromagnetic Moment in Orthoferrites. 11:15AM
- Q40:** *Iron Based Superconductors Physical Properties III* Room: F151
Q40.1 Kondo, Takeshi: Dramatic variation of electronic structure with doping in iron arsenic superconductors revealed by angle resolved photoemission spectroscopy. 11:15AM
- Q41:** *Phonons and Electron Correlations in High Tc Superconductors* Room: F152
Q41.10 Mihailovic, Dragan: Ultra-fast pump-probe determination of electron-phonon coupling in cuprate superconductors. 1:03PM

T1: Prize Session: Buckley, Lilienfeld Room: OB 201

- T1.1** Levine, Dov: Oliver E. Buckley Prize Talk: Exotic Order in Solids. 2:30PM
T1.2 Steinhardt, Paul: Oliver E. Buckley Condensed Matter Prize Talk: Once upon a time in Kamchatka: The Search for Natural Quasicrystals. 3:06PM
T1.3 Campbell, David: Julius Edgar Lilienfeld Prize Talk: The Fermi Pasta Ulam (FPU) Problem and The Birth of Nonlinear Science. 3:42PM
T1.4 Havlin, Shlomo: Julius Edgar Lilienfeld Prize Talk: Catastrophic cascade of failures in interdependent networks. 4:18PM

T2: Quantum Fluctuations and Magnetic Frustration in Strongly Correlated Metals Room: OB 202

- T2.1** Coleman, Piers: Mapping the effect of frustration on the Kondo Lattice. 2:30PM
T2.2 Kim, Moo Sung: Heavy Fermions and Geometric Frustration on the Shastry-Sutherland Lattice. 3:06PM
T2.3 Kirchner, Stefan: Kondo breakdown and Berry phase effect in local-moment systems. 3:42PM
T2.4 Haule, K.: Hidden order in URu₂Si₂. 4:18PM
T2.5 Jones, Barbara: Analysis of the antiferromagnetic phase transitions of the 2D Kondo lattice. 4:54PM

T3: Materials with Topological Defects on Gaussian Curved Surfaces Room: OB 203

- T3.1** Bowick, Mark: Structure and Stability of Defect Arrays on Curved Interfaces. 2:30PM
T3.2 Weitz, David: Scars on Spherical Colloidosomes. 3:06PM
T3.3 Irvine, William: Topological defects in colloidal Wigner crystals on curved surfaces. 3:42PM
T3.4 Stellacci, Francesco: Self-assembly on curved surfaces: the formation of divalent nanoparticles through topological constraints. 4:18PM
T3.5 Hexemer, Alexander: Experimental Studies of Defects in (Co)polymer Nanosystems. 4:54PM

T4: Keithly Award Session: Precision Time and Frequency Measurements Room: OB 204

- T4.1** Ivanov, Eugene: Joseph F. Keithley Award For Advances in Measurement Science Talk: Precision Noise Measurements at Microwave and Optical Frequencies. 2:30PM
T4.2 Bergquist, James: Toward Robust, Stable, and Accurate Single Atom Optical Clocks. 3:06PM
T4.3 Oates, Chris: Optical Lattice Clocks Based on Neutral Yb Atoms. 3:42PM
T4.4 Tobar, Michael: Tests of Lorenz and Local Position Invariance using Microwave Oscillators and Interferometers. 4:18PM
T4.5 Hollberg, Leo: Modern Laser-Atomic Physics and Stable Oscillators for Real World Applications. 4:54PM

T5: Measuring Magnetism at the Nanoscale Room: PB 256

- T5.1** Kirtley, John: Prospects for Imaging Magnetic Nanoparticles Using a Scanning Squid Microscope. 2:30PM
T5.2 Fischer, Peter: Soft X-Ray Microscopy: Imaging Magnetism at Small Sizes. 3:06PM
T5.3 Xiong, Peng: Detecting Biomolecular Interactions with Semiconductor Hall Sensors. 3:42PM
T5.4 Gurney, Bruce: Nanoscale Magnetic Field Sensors For Magnetic Recording. 4:18PM
T5.5 Tondra, Mark: Magnetoresistive Sensors in Biological Assays. 4:54PM

T6: Graduate Education in Physics: Which Way Forward Room: PB 253

- T6.1** Tate, Janet: The 2008 APS/AAPT Conference on Graduate Education in Physics. 2:30PM
T6.2 Murray, Cherry: Graduate Education in Physics in the 21st Century. 3:06PM
T6.3 Goldenfeld, Nigel: Physics at the Frontier: The Importance of Interdisciplinary Training For Graduate Students in Physics. 3:42PM
T6.4 Phillips, Julia: What can national laboratories contribute to graduate education?. 4:18PM
T6.5 Stassun, Keivan: Enhancing Diversity in Physics: The Fisk-Vanderbilt Masters-to-PhD Bridge Program. 4:54PM

T7: Avalanches in Condensed Matter Room: PB 254

- T7.1** Dahmen, Karin: Avalanches and universality in condensed matter. 2:30PM
T7.2 Ben-Zion, Yehuda: Physics of Earthquakes and Faults. 3:06PM
T7.3 Santucci, Stephane: Avalanche dynamics of imbibition fronts. 3:42PM
T7.4 Miguel, M. Carmen: Avalanches in the Plastic Deformation of Crystalline Solids. 4:18PM
T7.5 Zapperi, Stefano: Barkhausen avalanches in thin films. 4:54PM

T8: Panel Discussion: Emerging Scientific Powers in the East: China Room: PB 255**T8.1** Kwo, J. Raymien: Progress and Prospect of Physics Research and Education in Taiwan. 2:30PM**T8.2** Wang, Enge: Physics in China: the Past and Next Decade. 3:06PM**T8.3** Shen, Zhi-Xun: TBD. 3:42PM**T8.4** Yang, Yang: Students: made in China, contribute to the world. 4:18PM**T9: Optics of Nanostructures - Near Field, Single Molecule, and Plasmonics** Room: A105**T9.4** Taubner, Thomas: Novel concepts in infrared imaging at nanoscale resolution. 3:06PM**T10: Physics of Biochips II** Room: A106**T10.4** Alam, Muhammad: On the Geometry of Diffusion and the Limits of Biosensing. 3:06PM**T10.8** Weigl, Bernhard H: Molecular diagnostics for low resource settings. 4:18PM**T11: Single Molecule Biophysics and Chemical Physics V** Room: A107-A108**T11.1** Perkins, Thomas: Single Molecule Force Spectroscopy using Optical Traps and AFMs. 2:30PM**T16: Organic Electronics and Photonics: Transport** Room: B115**T16.1** Nelson, Jenny: Multiscale modelling of charge transport in organic electronic materials. 2:30PM**T17: Dynamics of Polymers and Complex Fluids I** Room: B116**T17.7** Schweizer, Kenneth: Localization and elasticity in entangled polymer liquids as a mesoscopic glass transition. 3:42PM**T19: Polymer-Nanoparticle Interactions I** Room: B118-B119**T19.10** Schmidt-Rohr, Klaus: NMR Studies of Polymer-Nanoparticle Interfaces in Biological and Synthetic Nanocomposites. 4:18PM**T20: Computational Design of New Materials—Energy** Room: C120-122**T20.1** Stolbov, Sergey: First principles studies of stability and reactivity of electro-catalysts for low-temperature fuel cells. 2:30PM**T20.5** Wei, Su-Huai: First Principles Design of Functional Materials for Energy Applications. 3:42PM**T21: Graphene: Bilayers II** Room: PB 251**T21.4** Nilsson, Johan: Spectroscopic and Transport Properties of Bilayer Graphene. 3:06PM**T22: Multiscale Materials (Theory, Modeling and Experiments that Bridge Scales)** Room: PB 252**T22.1** Tadmor, Ellad: Non-Uniqueness in Energy Minimization of Atomistic and Multiscale Problems: A Branch-Following and Bifurcation Investigation. 2:30PM**T24: Dielectric, Ferroelectric, and Piezoelectric Oxides—Domains** Room: D133-D134**T24.1** Paruch, Patrycja: Advanced atomic force microscopy studies of ferroelectric domains and domain walls. 2:30PM**T24.5** Noh, Tae Won: Nonlinear dynamics of domain wall propagation in epitaxial ferroelectric thin films. 3:42PM**T28: Production and Application of Cold Molecules II** Room: C124**T28.1** Krens, Roman: Collision dynamics of molecules and rotational excitons in an ultracold gas confined by an optical lattice. 2:30PM**T28.3** Jin, Deborah: Production and applications of cold molecules. 3:18PM**T28.5** Julienne, Paul: Production and applications of cold molecules. 4:06PM**T30: Hydrogen Storage III** Room: D139**T30.1** Van de Walle, Chris: Role of point defects and additives in kinetics of hydrogen storage materials. 2:30PM**T32: Self Assembly on Novel Templates** Room: E142**T32.1** Nealey, Paul: Directed assembly of diblock copolymers as a means of achieving functional structures. 2:30PM**T32.5** N'Diaye, Alpha T.: Regular metal cluster arrays on graphene/Ir(111). 3:42PM

T35: *Spins in Semiconductors -Spin Hall Effect and Spin Currents* Room: E145

T35.4 Pioro-Ladriere, Michel: Electrically driven single spin resonance in double quantum dots. 3:06PM

T36: *Bulk Properties of Complex Oxides—Layered Manganites and Theory* Room: E146

T36.1 Weber, Frank: Signature of charge-order fluctuations in the phonon spectra of a polaronic metallic manganite. 2:30PM

T37: *Complex Oxide Thin Films—Interfaces and Superlattices* Room: E147-E148

T37.7 Kourkoutis, L. Fitting: Atomic-Scale Chemical Imaging of Composition and Bonding at Perovskite Oxide Interfaces. 3:42PM

T39: *Iron Based Superconductors: Scanning Probe* Room: F150

T39.1 Davis, J.C. Seamus: Comparison of Nematic Electronic Structure in the “Parent States” of $\text{Ca}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ and of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$. 2:30PM

T41: *Search for New Superconductors - Nanotubes and Fullerides* Room: F152

T41.4 Prassides, Kosmas: Non-BCS superconductivity in fulleride superconductors. 3:06PM

T41.7 Kresin, Vladimir: Superconducting state of metallic clusters: Potential for room temperature superconductivity, nano-based tunneling networks. 4:06PM

March Meeting 2010 Invited Talks.

U1 5:45PM WEDNESDAY

Special Session U1: Nobel Prize Session Room: PB 252

Start times after first talk are approximate

U1.1 Smith, George E.: The Invention and Early History of the CCD. 5:45PM

Special Session U45: “Trends” in the APS Publication Physics Room: PORTLAND HILTON PAVILLION BALLROOM

Start times after first talk are approximate

- U45.1** Marquardt, Florian: Optomechanical Devices. 7:30PM
- U45.2** Awschalom, David: Spintronics. 8:06PM
- U45.3** Norman, Michael R.: Iron-Age Superconductors. 8:42PM

V1: Structure, Magnetic Properties, and Superconductivity in the Pnictides Room: OB 201

- V1.1** Chen, Xianhui: Phase diagram and isotopic effect in high-Tc pnictide superconductors. 8:00AM
V1.2 Kimber, Simon: Structural Distortions under pressure and doping in superconducting BaFe₂As₂. 8:36AM
V1.3 Xu, Cenke: Unified theory of lattice distortion and SDW in the pnictides. 9:12AM
V1.4 Tanatar, Makariy: Direct imaging of structural domains in iron pnictides. 9:48AM
V1.5 Kalisky, Beena: Sheets of enhanced diamagnetic susceptibility in pnictide superconductors. 10:24AM

V2: Relaxation and Dynamic Heterogeneity and Glass Room: OB 202

- V2.1** Reichman, David: Irreversible reorganization in a supercooled liquid originates from localized soft modes. 8:00AM
V2.2 Cipelletti, Luca: Dynamic Heterogeneity and Relaxation Time Very Close to Dynamic Arrest. 8:36AM
V2.3 Weeks, Eric R.: Dynamic Heterogeneity and the Colloidal Glass Transition in Confinement. 9:12AM
V2.4 Royall, Paddy: Locally Favoured Structures and Dynamic Arrest. 9:48AM
V2.5 Zhang, Zexin: Experimental studies on the local structure, dynamics, and dynamic heterogeneity in colloidal glasses. 10:24AM

V3: Electronic, Magnetic, and Magnetoelectric Excitations in Multiferroics Room: OB 203

- V3.1** Pimenov, Andrei: Magnetic and magnetoelectric excitations in multiferroic manganites. 8:00AM
V3.2 Talbayev, Diyar: Dynamical investigations of multiferroics: hexagonal manganites and a hexaferrite.. 8:36AM
V3.3 Xu, Xiaoshan: Optical spectroscopic study of multiferroic BiFeO₃ and LuFe₂O₄. 9:12AM
V3.4 Kida, Noriaki: Electromagnons in multiferroics. 9:48AM
V3.5 Huvonen, Dan: Magnetic excitations and optical transitions in the multiferroic spin- $\frac{1}{2}$ system LiCu₂O₂. 10:24AM

V4: Biological Nanostructures for Photonics and Adhesion Room: OB 204

- V4.1** Stavenga, Doekele: Butterfly wing coloration studied with a novel imaging scatterometer. 8:00AM
V4.2 Steen, Paul: Beetle-inspired Capillarity-based Switchable Adhesion. 8:36AM
V4.3 Summers, Christopher J.: Bioinspired Structures and Devices for Nanophotonics. 9:12AM
V4.4 Yoshioka, Shinya: Mechanism of the tunable structural color of neon tetra. 9:48AM
V4.5 Autumn, Kellar: Mechanisms Underlying the Emergent Properties of Gecko-like Nanostructures. 10:24AM

V5: Industrial Applications of Neutron Scattering Room: PB 256

- V5.1** Lin, Eric: Application of Neutron Measurements to Advance Semiconductor Manufacturing: Next-Generation Lithography and Nanoporous Thin Films. 8:00AM
V5.2 Allen, Andrew: Neutron Scattering Studies of Cement. 8:36AM
V5.3 Hubbard, Camden R.: Residual Stress Analysis for Industry Using Neutron Scattering at Oak Ridge National Laboratory. 9:12AM
V5.4 Yang, Jihui: Neutron Scattering Studies of Thermoelectric Materials for Automotive Applications. 9:48AM
V5.5 King, Hubert: Why Particle Dispersions Matter: Product Discovery and Problem Solving in the Hydrocarbon Industry Through Neutron Scattering. 10:24AM

V6: The Impact of Large Scale Computing on Research in Physics Room: PB 253

- V6.1** Troyer, Matthias: Challenges for Large Scale Simulations. 8:00AM
V6.2 Schnetter, Erik: Unraveling the Supernova - Gamma-Ray Burst Mystery. 8:36AM
V6.3 Germann, T.C.: Petascale Frontiers of Atomistic Materials Simulations. 9:12AM
V6.4 Kennedy, Anthony: Lattice QCD from algorithms to hardware. 9:48AM
V6.5 Feist, Johannes: Ab initio calculations of correlated electron dynamics in ultrashort pulses. 10:24AM

V7: Piconewtons and Nanometers: The Physics of Molecular Motors Room: PB 254

- V7.1** Spudich, James: In vitro motility assays and single molecule analyses reveal functional structural transitions in the molecular motor myosin. 8:00AM
V7.2 Yu, Clare: Modeling of Single Molecule Cytoplasmic Dynein. 8:36AM
V7.3 Yildiz, Ahmet: Molecular approach to intracellular cargo transport. 9:12AM
V7.4 Mora, Thierry: Steps, shot noise and diffusion in the bacterial flagellar motor. 9:48AM
V7.5 Mullins, Dyche: Bacterial chromosomal segregation by ParM polymerization. 10:24AM

V8: Spots, Stripes, and Turbulence Room: PB 255

- V8.1** Barkley, Dwight: Turbulent-Laminar Patterns in Pipes and Channels. 8:00AM
V8.2 Schatz, Michael: Laboratory measurements of Exact Coherent Structures in 2D and 3D Turbulence. 8:36AM
V8.3 Burke, John: Homoclinic Snaking in Simple PDE Systems. 9:12AM
V8.4 Knobloch, Edgar: Localized states in convective systems. 9:48AM
V8.5 Schneider, Tobias M.: Localization and homoclinic snaking in plane Couette flow. 10:24AM

V10: Dynamics of Neural Systems Room: A106

- V10.7** Ben-Jacob, Eshel: Chips of Hope: Neuro-Electronic Hybrids for Brain Repair. 9:12AM
V10.11 Nemenman, Ilya: Exploring neural code in natural environments. 10:24AM

V11: Nonlinear Hydrodynamics of Swimming Cells Room: A107-A109

- V11.4** Lauga, Eric: The nonlinear hydrodynamics of swimming cells. 8:36AM

V13: Jamming I Room: B112

- V13.4** Manoharan, Vinothan: Thermodynamics of Sphere Packings at Small N: Experiments and Theory. 8:36AM

V15: Novel Instrumentation and Measurements for Medical and Biological Systems Room: B114

- V15.1** Tao, N.J.: New impedance and electrochemical image techniques for biological applications. 8:00AM

V19: Polymer-Nanoparticle Interactions II Room: B118-B119

- V19.1** Christopher, Soles: The Effects of Thin Films and Confinement on Nanopatterning. 8:00AM

V21: Graphene: Mechanical and Thermal Properties Room: PB 251

- V21.4** Hone, James: Graphene Mechanics and NEMS. 8:36AM

V26: Superconducting Qubits Room: D136

- V26.1** Steffen, Matthias: Design improvements for superconducting qubits. 8:00AM

V27: Attosecond Science and Strong Field Chemical Physics I Room: D137

- V27.1** Smirnova, Olga: Recent experimental and theoretical advances in attosecond science. 8:00AM
V27.4 Schafer, Kenneth: Attosecond interferometry in strong field physics. 9:00AM
V27.6 Murnane, Margaret: Ultrafast molecular and materials dynamics probed by attosecond coherent x-rays. 9:48AM

V28: Charge Transport in Nanostructures I Room: C124

- V28.1** Lieber, Charles: Nanoelectronics and quantum transport based on semiconductor nanowires. 8:00AM

V31: Strongly Interacting Quantum Gases Room: E141

- V31.1** Hackermueller, Lucia: Metallic and Insulating Phases of Interacting Fermions in a 3D Optical Lattice. 8:00AM
V31.4 Levine, Gregory: Computations of the Entanglement Entropy Area Law and Strongly Correlated Systems. 9:00AM

V34: Frustrated and Low-D Magnetism—Quantum Magnetism I Room: E144

- V34.7** Chernyshev, Sasha: Lifetime of spin excitations in non-collinear quantum antiferromagnets. 9:12AM

V35: Spins in Semiconductors—Carbon-based Systems Room: E145

- V35.1** Toyli, David: Gigahertz dynamics of a strongly-driven single spin in diamond. 8:00AM

V37: Complex Oxide Thin Films—Multiferroics and Tunneling Room: E147-E148

- V37.1** Tsymbal, Evgeny Y.: Perspectives of Ferroelectric and Multiferroic Tunnel Junctions. 8:00AM

W1: Direct Imaging of Crystal Nucleation Room: OB 201

- W1.1** Sloutskin, Eli: Nucleation of Hard Sphere Colloidal Crystals. 11:15AM
W1.2 Sommerdijk, Nico: The initial stages of template-controlled CaCO₃ formation revealed by Cryo-TEM. 11:51AM
W1.3 Chung, Sung-Yoon: Nanocrystal Formation and Cation Ordering in Li-Intercalation Metal Phosphate.. 12:27PM
W1.4 Vekilov, Peter: A Fast Response Mechanism for Insulin Storage in Crystals May Involve a Novel Mode of Kink Generation. 1:03PM
W1.5 Truskett, Thomas: Computer simulation of structure and dynamics of liquids. 1:39PM

W2: Drop-based Microfluidics for Use with Soft-materials and Biology Room: OB 202

- W2.1** Abate, Adam: Tools of the trade: valves, electrodes, wettability, and scale-up. 11:15AM
W2.2 Fraden, Seth: The PhaseChip: Manipulating Phase Diagrams with Microfluidics. 11:51AM
W2.3 Link, Darren: Drops as micro-reactors for ultra-high-throughput biology. 12:27PM
W2.4 Bibette, Jerome: Breaking of an Emulsion under an ac Electric Field. 1:03PM
W2.5 Fair, Richard: Electrowetting Control of Droplets for Biomedical Applications on Chips. 1:39PM

W3: Adler, McGroddy, and Pake Award/Prize Session Room: OB 203

- W3.1** Spaldin, Nicola: James C. McGroddy Prize for New Materials Talk: A theorist's-eye view of multiferroics. 11:15AM
W3.2 Cheong, S.W.: James C. McGroddy Prize for New Materials Talk: What is new in multiferroicity?: Mott ferroelectrics!. 11:51AM
W3.3 Ramesh, R.: James C. McGroddy Prize Talk: Controlling and Manipulating Ferromagnetism with an Electric Field Using Multiferroic Oxide Heterostructures. 12:27PM
W3.4 Thiel, Patricia: David Adler Lectureship Award in the Field of Materials Physics Talk: Surfaces of Quasicrystals. 1:03PM
W3.5 Frosch, Robert: George E. Pake Prize Talk: Leading Applied R&D: Seeking Serendipity. 1:39PM

W4: Electric Voltages Generated by Magnetization Dynamics Room: OB 204

- W4.1** Beach, Geoffrey: Detection of electromotive force induced by domain wall motion. 11:15AM
W4.2 Zhang, Shufeng: Conduction electrons and the Landau-Lifshitz-Gilbert equation. 11:51AM
W4.3 Saitoh, Eiji: Electric detection of magnetization dynamics through inverse spin Hall effects. 12:27PM
W4.4 Mosendz, Oleksandr: Quantifying Spin Hall Effects from Spin Pumping. 1:03PM
W4.5 Wang, Chen: Quantitative measurement of spin transfer torque in magnetic tunnel junctions by spin-transfer-driven ferromagnetic resonance. 1:39PM

W5: Renewable Energy Education Room: PB 256

- W5.1** Kennedy, Cheryl: NREL's Education Program in Action in the Concentrating Solar Power Program Advanced Materials Task. 11:15AM
W5.2 Bass, Robert: Evolution of a New Engineering Degree Program: the Bachelors of Science in Renewable Energy Engineering. 11:51AM
W5.3 Gleckman, Philip: Modernizing the Physics Curriculum by Being Less Modern. 12:27PM
W5.4 Ehrlich, Robert: Renewable Energy at George Mason University and Around the Nation: Lessons Learned by One Faculty Member New to the Field. 1:03PM

W6: Superconducting Qubits Room: PB 253

- W6.1** Bialczak, Radoslaw: Superconducting Phase Qubits: Two-Qubit Tomography and Adjustable Coupling. 11:15AM
W6.2 Nori, Franco: Atomic physics and quantum optics using circuits: An overview of recent results on superconducting qubits. 11:51AM
W6.3 DiCarlo, Leonardo: Realization of Simple Quantum Algorithms with Circuit Quantum Electrodynamics. 12:27PM
W6.4 Ashhab, Sahel: Quantum measurement in superconducting qubits. 1:03PM

W7: Biological Networks Room: PB 254

- W7.1** Ferrell, James: Sources of non-linearity in the mitotic trigger. 11:15AM
W7.2 Wang, Jin: Landscape and Flux Framework for Networks. 11:51AM
W7.3 Emonet, Thierry: Molecular noise, cellular behavior and navigation strategies. 12:27PM
W7.4 Levine, Herbert: Spatially-Extended Cellular Signals - The Case of Chemotaxis. 1:03PM

- W7.5** Marder, Eve: Beyond Optimality to Understanding Neuronal Circuits. 1:39PM
- W8: Scanned Probe Microscopy of Novel Materials and Systems** Room: PB 255
- W8.1** Loth, Sebastian: Quantized spin-momentum transfer in atom-sized magnetic systems. 11:15AM
- W8.2** Kubetzka, Andre: Scanning Tunneling Microscopy of Complex Magnetic Order. 11:51AM
- W8.3** Hoffman, Jennifer: Scanning Tunneling Microscopy and Spectroscopy of Iron-Based Superconductors. 12:27PM
- W8.4** Wenderoth, Martin: Kondo effect of bulk impurities studied with electron focusing. 1:03PM
- W8.5** Gross, L.: Charge Measurement of Atoms and Atomic Resolution of Molecules with Noncontact AFM. 1:39PM
- W13: *Jamming II*** Room: B112
- W13.4** Hoy, Robert: Minimal Energy Polymer Packings. 11:51AM
- W14: *Optics of Nanostructures—Quantum Dots II*** Room: B113
- W14.7** Gershoni, David: Radiative Cascades in Charged and Neutral Semiconductor Quantum Dots. 12:27PM
- W16: *Organic Electronics and Photonics: Transistors and Light Emitting Devices*** Room: B115
- W16.1** Salleo, Alberto: Microstructural Effects on Charge Transport in Organic Semiconductors. 11:15AM
- W17: *Dynamics of Polymers and Complex Fluids III*** Room: B116
- W17.4** Robertson-Anderson, Rae: Single-Molecule Studies of DNA Dynamics and Intermolecular Forces. 11:51AM
- W18: *Polymer Network Mechanics I*** Room: B117
- W18.7** Shull, Kenneth: Strain hardening, fracture and toughening mechanisms in self-assembling gels. 12:27PM
- W19: *Synchrotron X-ray and Neutron Techniques in Soft Matter and Biological*** Room: B118-B119
- W19.1** Jones, Ronald: Characterizing 3-D Assembly of Block Copolymer Films using Rotational Small Angle Neutron Scattering. 11:15AM
- W19.10** Majewski, Jaroslaw: Neutron and X-ray Scattering From Single Supported Lipid Bilayers: Reflectometry, Grazing Incidence In-Plane Diffraction and Off-Specular Scattering. 1:27PM
- W21: *Graphene: Strain*** Room: PB 251
- W21.4** Lau, Chun Ning: Supercurrent and Interference in Carbon Nanotube Josephson Transistors. 11:51AM
- W27: *Attosecond Science and Strong Field Chemical Physics II*** Room: D137
- W27.1** Marangos, Jonathan: Revealing molecular structure and dynamics through high harmonic generation driven by mid-IR fields. 11:15AM
- W27.3** Leone, Stephen: Ultrafast/Attosecond Transient Absorption with High Order Harmonics. 12:03PM
- W27.5** Bandrauk, Andre D.: Circularly Polarized Attosecond Pulses-Generation and Applications. 12:51PM
- W27.7** Chang, Zenghu: Double Optical Gating: an easy method for generating isolated attosecond pulses. 1:39PM
- W28: *Charge Transport in Nanostructures II*** Room: C124
- W28.1** Lagally, Max G.: Charge Transport in Silicon Nanomembranes. 11:15AM
- W28.5** Lu, Jia Grace: Conduction Mechanisms in Zinc Oxide Nanowires. 12:27PM
- W28.7** Plummer, Ward: Emerging Functionality in Complex Oxides Driven by Spatial Confinement. 1:15PM
- W29: *Thermoelectrics V: III-V's & Nanostructures*** Room: C123
- W29.4** Bowers, John: Investigation of ErAs and ErSb doped semiconductors for enhanced thermoelectric. 11:51AM
- W30: *High Pressure IV: Dynamics of Shock Induced Phase Transitions*** Room: D139
- W30.4** Mattsson, Thomas R.: Properties of Shocked Polymers: Mbar experiments on Z and multi-scale simulations. 11:51AM
- W35: *Spins in Semiconductors—DMS: III-V and Devices*** Room: E145
- W35.4** Back, Christian: Induced ferromagnetic order in (Ga,Mn)As in epitaxial Fe/(GaMn)As heterostructures. 11:51AM

W36: *Frustrated and Low-D Magnetism—Spin Ice* Room: E146

W36.1 Fennell, Tom: Coulomb Phases in the spin ices $\text{Ho}_2\text{Ti}_2\text{O}_7$ and $\text{Dy}_2\text{Ti}_2\text{O}_7$. 11:15AM

W36.5 Morris, David Jonathan: Dirac Strings and Magnetic Monopoles in the Spin Ice, $\text{Dy}_2\text{Ti}_2\text{O}_7$. 12:27PM

W37: *Complex Oxide Thin Films—BiFeO3 Multiferroics* Room: E147-E148

W37.1 Seidel, Jan: Electrical conduction at domain walls in multiferroic BiFeO_3 . 11:15AM

W39: *Iron Based Superconductors: Neutron Scattering and Magnetism* Room: F150

W39.1 Lynn, Jeffrey: Recent Neutron Studies of the Iron-based Magnetic Superconductors. 11:15AM

W39.5 McQueeney, Robert: Systematic evolution of magnetism with doping in AFe_2As_2 superconductors. 12:27PM

W41: *Search for New Superconductors - Silicides, Nickelates and Cobaltates* Room: F152

W41.1 Chu, C.W.: A Possible Path from BCS through HTS to VHSTs. 11:15AM

X1: Nanostructure Studies of Strongly Correlated Materials Room: OB 201

- X1.1** Singh Bhalla, Guneeta: Probing colossal magnetoresistance in manganites at the nanoscale. 2:30PM
X1.2 Freericks, James: Describing nonequilibrium behavior in strongly correlated materials via dynamical mean-field theory. 3:06PM
X1.3 Al-Hassanieh, Khaled: Time-dependent DMRG studies of strongly correlated systems out of equilibrium. 3:42PM
X1.4 Bergfield, Justin: Many-body theory of electric and thermal transport in single-molecule heterojunctions. 4:18PM
X1.5 Lee, Sungbae: Electric field driven transition in magnetite. 4:54PM

X2: Quantum Simulation of Strongly Correlated Systems with Cold Atoms in Optical Lattices Room: OB 202

- X2.1** Ho, Tin-Lun: The Roads to Quantum Simulation: Ultra-low Temperatures Regime and “Quantum Many Body Precision Measurement”. 2:30PM
X2.2 Esslinger, Tilman: Synthetic quantum many-body systems with local and global interactions. 3:06PM
X2.3 Greiner, Markus: Quantum Gas Microscope – A Next Generation Quantum Simulator. 3:42PM
X2.4 Hulet, Randall: Spin-Imbalance in a One-Dimensional Fermi Gas. 4:18PM
X2.5 Monroe, Christopher: Quantum Simulation of Frustrated Ising Spins with Trapped Ions. 4:54PM

X3: Magnetic Monopoles and Dirac Strings in Condensed Matter Room: OB 203

- X3.1** Moessner, Roderich: Signatures of magnetic monopoles in spin ice. 2:30PM
X3.2 Giblin, S.: Measurement of the charge and current of magnetic monopoles in spin ice. 3:06PM
X3.3 Grigera, Santiago: Dirac Strings and Magnetic Monopoles in Spin Ice Dy₂Ti₂O₇. 3:42PM
X3.4 Jaubert, Ludovic: Monopole and Dirac string Dynamics in Spin Ice. 4:18PM
X3.5 Qi, Xiaoliang: Induce a magnetic monopole on the surface of topological insulator. 4:54PM

X4: Dynamics of Nano-confined Polymer Films Room: OB 204

- X4.1** Reiter, Guenter: Consequences of Residual Stresses in Thin Polymer Films. 2:30PM
X4.2 Torkelson, John: Distributions of Glass Transition Temperatures and Physical Aging and Diffusion Behaviors in Confined Polymer Films and Nanocomposites. 3:06PM
X4.3 Varnik, Fathollah: Substrate effects on the relaxation dynamics of nano-confined polymers: Insight from MD simulations. 3:42PM
X4.4 Jacobs, Karin: Flow dynamics of thin polymer films: Influence of the solid/liquid interface. 4:18PM
X4.5 McKenna, Gregory: Dynamics in ultrathin films. 4:54PM

X5: Emerging Tomographic Algorithms: From Bending Molecules to Beating Hearts Room: PB 256

- X5.1** Ourmazd, Abbas: Tomography of faint spinning objects: From molecules to viruses. 2:30PM
X5.2 Chiu, Wah: Cryo-Electron Microscopy of Viruses Infecting Bacterium. 3:06PM
X5.3 Noo, Frederic: X-ray cone-beam computed tomography: principles, applications, challenges and solutions. 3:42PM
X5.4 Thibault, Pierre: High-resolution imaging with coherent X-rays. 4:18PM
X5.5 Nugent, Keith: Structure recovery by new convergent beam techniques. 4:54PM

X6: The Neural Dynamics of Songbirds Room: PB 253

- X6.1** Margoliash, Daniel: Sleep and Learning. 2:30PM
X6.2 Hahnloser, Richard: How the songbird brain listens to its own songs. 3:06PM
X6.3 Long, Michael: The Origin of Time in the Songbird Motor Pathway. 3:42PM
X6.4 Abarbanel, Henry: Estimating Network Properties of the Adult Song Production Pathway. 4:18PM
X6.5 Jin, Dezhe: The neural dynamics of song syntax in songbirds. 4:54PM

X7: Waves in Actin Dynamics Room: PB 254

- X7.1** Kas, Josef A.: Soft Brains, Signal Amplification through Noise, and Taking the Brain by its Horns. 2:30PM
X7.2 Sheetz, Michael: Shaping Cells by Force and Rigidity through Protein Stretching. 3:06PM
X7.3 Zimmermann, Juliane: Protrusion phenotypes driven by actin-membrane interaction. 3:42PM
X7.4 Shlomovitz, Roi: Guided by curvature: the membrane shape coupled to cytoskeleton. 4:18PM
X7.5 Carlsson, Anders: Dendritic Actin Nucleation Causes Traveling Waves and Patches. 4:54PM

X8: The 50th Anniversary of the Prediction of Superfluidity of He3 Room: PB 255**X8.1** Anderson, Philip: Superconductivity with very repulsive interactions: He³, Pierre Morel, and me. 2:30PM**X8.2** Sessler, Andrew: Early Thoughts on the Superfluidity of He³. 3:06PM**X8.3** Serene, Joseph: Historically related puzzles in ³He: spin fluctuations, the specific heat, and the superfluid phase diagram. 3:42PM**X8.4** Lee, David: Early Days of Superfluid ³He: An Experimenter's View. 4:18PM**X8.5** Leggett, Anthony: Superfluid 3-He: understanding the experiments. 4:54PM**X16: *Organic Electronics and Photonics: Electronic Structure and Interfaces*** Room: B115**X16.1** Kronik, Leeor: Theoretical spectroscopy of organic semiconductors: challenges and progress. 2:30PM**X18: *Polymer Network Mechanics II*** Room: B117**X18.4** Gong, Jian Ping: Toughening Mechanism of Double Network Hydrogels. 3:06PM**X19: *Polymer Colloids: Particle Interactions and Assembly*** Room: B118-B119**X19.7** Chaikin, Paul: Self-Replication Without Life (yet). 3:42PM**X20: *Carbon Nanotubes: Optical Studies*** Room: C120-C122**X20.4** Heinz, Tony: Ultrafast measurement of electron phonon coupling in CNTs (optical, ultrafast). 3:06PM**X21: *Graphene: Devices*** Room: PB 251**X21.4** Avouris, Phaedon: Graphene Electronics and Optoelectronics. 3:06PM**X27: *Chemical Control of the Properties of Complex Oxides I*** Room: D137**X27.1** Wiebe, Christopher: Chemical control of geometrically frustrated magnets. 2:30PM**X27.4** Tachibana, Makoto: Chemical control of the properties of perovskite oxides. 3:30PM**X27.7** Yang, Fengyuan: Realizing Half Metallicity in Sr₂FeMoO₆ Epitaxial Films: Roadblocks and Successes. 4:30PM**X28: *Charge Transport in Nanostructures III*** Room: C124**X28.1** Wang, Bing: Controlling Electronic States and Transport Properties at the Level of Single Molecules. 2:30PM**X28.6** Louie, Steven G.: Theory of charge transport in nanostructures: graphene and molecular junctions. 3:54PM**X33: *Foundations of Quantum Theory*** Room: E143**X33.1** Galvez, Enrique: Prize for a Faculty Member for Research in an Undergraduate Institution Talk: Quantum Interference and Imaging with Correlated Photons. 2:30PM**X33.2** Spekkens, Robert: Noncontextuality Inequalities. 3:06PM**X35: *Spins in Semiconductors—Spin Dynamics*** Room: E145**X35.4** Huebner, Jens: Spin noise spectroscopy from acoustic to GHz frequencies. 3:06PM**X36: *Bulk Properties of Complex Oxides—Novel Systems*** Room: E146**X36.1** Ueda, Yutaka: Hollandites: a novel class of oxides with unusual properties. 2:30PM**X37: *Nanomagnetism—Molecules*** Room: E147-E148**X37.1** Gambardella, Pietro: Magnetic Properties of Ultrathin Metal-Organic Layers on Metal Surfaces: Supramolecules and Macrocycles. 2:30PM**X39: *Iron Based Superconductors: Spin Excitation*** Room: F150**X39.7** Zhao, Jun: Spin excitations in iron arsenide superconductors. 3:42PM

Y1: Extended Quantum Criticality - The Link Between Heavy Fermions and Cuprate Superconductors?

Room: OB 201

- Y1.1** Senthil, T.: Unconventional quantum criticality in insulators and metals. 8:00AM
Y1.2 Hussey, Nigel: Dichotomy in the T -linear resistivity in hole-doped cuprates - extended criticality and quasiparticle decoherence. 8:36AM
Y1.3 Harrison, N.: Separation of charge-order and magnetic QCPs in heavy fermions and high T_c cuprates. 9:12AM
Y1.4 Steglich, Frank: Interplay between antiferromagnetic and Kondo-breakdown quantum critical points in pure and doped YbRh_2Si_2 . 9:48AM
Y1.5 Pepin, Catherine: Linking Kondo physics in heavy fermions to Mott physics in cuprates and its relation to quantum criticality. 10:24AM

Y2: Composite Fermions: Recent Advances in States and Excitations Room: OB 202

- Y2.1** Smet, Jurgen: Collective mode dispersions of fractional quantum Hall states. 8:00AM
Y2.2 Mandal, Sudhansu: Collective Excitations of Composite Fermions Across Multiple Λ Levels. 8:36AM
Y2.3 Rhone, Trevor David: Traversing the States of the Second Landau Level - loss of spin polarization away from $\nu=3$. 9:12AM
Y2.4 Möller, Gunnar: Paired Composite Fermions. 9:48AM
Y2.5 Ashoori, Raymond: Anomalous structure in the single particle spectrum of the fractional quantum Hall effect. 10:24AM

Y3: Two-particle Entanglement with Single Particle Emitters Room: OB 203

- Y3.1** Samuelsson, Peter: Entanglement in a fermionic two-particle interferometer. 8:00AM
Y3.2 Neder, Izhar: Interference between two indistinguishable electrons - observation of two-particle Aharonov-Bohm interference. 8:36AM
Y3.3 Ritchie, David: Electron pumping at gigahertz frequencies. 9:12AM
Y3.4 Feve, Gwendal: Electron quantum optics: current and noise of a single electron emitter. 9:48AM
Y3.5 Splettstoesser, Janine: Two-Particle Nonlocal Aharonov-Bohm Effect from Two Single-Particle Emitters. 10:24AM

Y4: Microscopic Physics of Magnetization Damping Room: OB 204

- Y4.1** Stiles, Mark D.: Intrinsic spin-orbit contribution to precessional damping in transition metals. 8:00AM
Y4.2 Kelly, Paul: Ab-initio study of the resistivity, Gilbert damping and spin-flip diffusion in transition metal alloys. 8:36AM
Y4.3 Brataas, Arne: Scattering Theory of Mesoscopic Gilbert Damping. 9:12AM
Y4.4 Mizukami, Shigemi: Gilbert Damping Mechanisms in Half-metallic Heusler Alloys. 9:48AM
Y4.5 Woltersdorf, Georg: Magnetic relaxation due to earth impurities in $\text{Ni}_{80}\text{Fe}_{20}$. 10:24AM

Y5: Conductance and Coherence in Nanotubes and Nanobeams Room: PB 256

- Y5.1** Vishveshwara, Smitha: Field-effects and fractionalization in nanotubes and nanorings. 8:00AM
Y5.2 Markovic, Nina: Spin and charge transport in a carbon nanotube spin diode. 8:36AM
Y5.3 Refael, Gil: Sagnac Interference in Carbon Nanotube Loops. 9:12AM
Y5.4 Cobden, David: New aspects of the metal-insulator transition in vanadium dioxide nanobeams. 9:48AM
Y5.5 Zheng, Ming: DNA Sequence Motifs for Structure-Specific Recognition and Separation of Carbon Nanotubes. 10:24AM

Y6: Quantum Hydrodynamics Room: PB 253

- Y6.1** Engels, Peter: Matter-wave Interference in Bose-Einstein Condensates: a dispersive hydrodynamics perspective. 8:00AM
Y6.2 Taylor, Edward: Two-fluid hydrodynamics in strongly interacting Fermi gases. 8:36AM
Y6.3 van der Straten, Peter: Second sound in a collisionally hydrodynamic Bose gas. 9:12AM
Y6.4 Bagnato, Vanderlei S.: Exciting Bose-Condensate using oscillatory fields: Observation of turbulence and fragmentation. 9:48AM
Y6.5 Donnelly, Russell: The Two-Fluid Theory and Second Sound in Liquid Helium. 10:24AM

Y7: Convergence of Physics and Life Sciences: Emerging Perspectives in Cancer Room: PB 254

- Y7.1** Lindsay, Stuart: Mapping Epigenetic Changes One Molecule at a Time. 8:00AM
Y7.2 Chambers, Ann: Complexity and Dynamic Heterogeneity of the Process of Cancer Metastasis. 8:36AM
Y7.3 Reinhart-King, Cynthia: Traction Stresses Exerted by Adherent Cells: From Angiogenesis to Metastasis. 9:12AM
Y7.4 Manalis, Scott: Coordination of cell growth and division in normal and cancer cells. 9:48AM

- Y7.5** McCarty, Owen: Circulating Tumor Cells (CTCs): Emerging Technologies for Detection, Diagnosis and Treatment. 10:24AM
- Y8: Ion Interactions and Transport in Ion-Containing Polymers** Room: PB 255
- Y8.1** Kornyshev, Alexei: Nonlinear polarization of ionic liquids: theory, simulations, experiments. 8:00AM
- Y8.2** Angell, C.A.: Independent tuning of acidity and ionicity in protic ionic liquids and their polymers. Comparing Li^+ to H^+ transport. 8:36AM
- Y8.3** Winey, Karen I.: Hierarchical Structures in Ion-Containing Polymers. 9:12AM
- Y8.4** Izgorodina, Ekaterina I.: Components of Dielectric Constants of Ionic Liquids. 9:48AM
- Y8.5** Borodin, Oleg: Ion Transport and Structural Properties of Polymeric Electrolytes and Ionic Liquids from Molecular Dynamics Simulations. 10:24AM
- Y19: Polymer Colloids: Dynamics** Room: B118-B119
- Y19.1** Vlassopoulos, Dimitris: Multiarm Star Polymers as Model Soft Colloids. 8:00AM
- Y21: Graphene: Field-Effect Devices** Room: PB 251
- Y21.4** Ozyilmaz, Barbaros: Charge transport in graphene field effect transistors with ferroelectric gating. 8:36AM
- Y27: Chemical Control of the Properties of Complex Oxides II** Room: D137
- Y27.1** Clarke, S.: Chemical control of the structures and properties of layered oxide chalcogenides and oxide pnictides. 8:00AM
- Y27.4** Sarma, D.D.: Dielectric oxides: How to enhance their beneficial properties. 9:00AM
- Y27.7** Takeuchi, Ichiro: Discovery of a universal morphotropic phase boundary behavior in rare-earth substituted BiFeO_3 using thin film composition spreads. 10:00AM
- Y35: Spins in Semiconductors—Qubits and Quantum Wires** Room: E145
- Y35.4** Economou, Sophia: Optically controlled spins in semiconductor quantum dots. 8:36AM
- Y36: Bulk Properties of Complex Oxides—General Multiferroics** Room: E146
- Y36.3** Chaudhury, Rajit: GMAG Student Award Talk: Effects of high pressure, magnetic fields and substitutions on multiferroic systems. 8:24AM
- Y37: Nanomagnetism—Nanoparticles I** Room: E147-E148
- Y37.1** Gamelin, Daniel: Charge-controlled magnetism in colloidal doped semiconductor nanocrystals. 8:00AM
- Y39: Iron Based Superconductors: Spectroscopy I** Room: F150
- Y39.1** Shen, Z.X.: ARPES studies of LaFePO based compounds. 8:00AM
- Y40: Iron Based Superconductors: Magnetism and Transport** Room: F151
- Y40.4** Mannella, Norman: Electron itinerancy, orbital symmetry and itinerant spin fluctuations in Fe-based superconductors as revealed by soft x-ray spectroscopies. 8:36AM

Z1: Coherent Optical Manipulation of Electron and Nuclear Spin in Artificial Atomic and Molecular Systems in Solids Room: OB 201

- Z1.1** Steel, Duncan: Isakson Prize Lecture. 11:15AM
Z1.2 Clark, Susan: Ultrafast optical spin echo for electron spins in semiconductors. 11:51AM
Z1.3 Xu, Xiaodong: Increasing the electron spin coherence time by coherent optical control of the nuclear spin fluctuations. 12:27PM
Z1.4 Bracker, Allan: Tunable spin interactions in self-assembled semiconductor quantum dot molecules. 1:03PM

Z2: Plasmonic Nanogaps: From Single Molecule Sensing to Light Manipulation and Beyond Room: OB 202

- Z2.1** Xu, Hongxing: Emission and propagation properties of surface plasmons on metal nanowires. 11:15AM
Z2.2 Nordlander, Peter: Quantum description of plasmons in strongly coupled metallic nanostructures. 11:51AM
Z2.3 Haran, Gilad: The nano-gap and the emitting molecule: Control of polarization and spectral shape. 12:27PM
Z2.4 Zhao, Ke: Accurate tuning of the electronic coupling and emergent magnetic properties of metal nanoparticle dimers from the linear to nonlinear dielectric-response regime. 1:03PM
Z2.5 Kim, Seung-Woo: High harmonic generation by surface plasmon resonance: Design of plasmonic devices and their applications. 1:39PM

Z3: Response of Magnetism to Electric Fields and Light Room: OB 203

- Z3.1** Fiebig, Manfred: Domains in multiferroics with magnetically induced ferroelectricity. 11:15AM
Z3.2 Bar-Ad, Shimshon: Femtosecond response of exchange biased bilayers. 11:51AM
Z3.3 Tokura, Yoshinori: Electric field modulation of magnetism in multiferroics. 12:27PM
Z3.4 Bigot, Jean-Yves: Coherent ultrafast magnetism. 1:03PM
Z3.5 Kleemann, Wolfgang: Electrical control of exchange coupling in disordered multiferroics. 1:39PM

Z4: Plasmonics Applications Room: OB 204

- Z4.1** Atwater, Harry: Plasmonics for Photovoltaics. 11:15AM
Z4.2 Giessen, Harald: Plasmonics for Metamaterials. 11:51AM
Z4.3 Engheta, Nader: Plasmonics for Nanowaveguides, Nanoantennas, and Imaging. 12:27PM
Z4.4 Halas, Naomi: Biomedical Plasmonics. 1:03PM
Z4.5 Tsai, Din Ping: Plasmonics for data storage and photo-catalytic chemical reactor. 1:39PM

Z19: *Polymer Brushes* Room: B118-B119

- Z19.1** Minko, Sergiy: Design and applications of functionalized polymer brushes. 11:15AM

Z35: *Spins in Semiconductors—DMS: II-VI and Group IV* Room: E145

- Z35.1** Beaulac, Remi: Photophysical Properties of Colloidal Mn(II)-Doped CdSe Nanoparticles: Exchange Fields, Exciton Storage, and Light-Induced Spontaneous Magnetization. 11:15AM

Z37: *Nanomagnetism—Nanoparticles II* Room: E147-E148

- Z37.4** Vavassori, Paolo: Magnetic nano-structures for the manipulation of individual nano-scale particles in bio-compatible environments. 11:51AM

Z39: *Iron Based Superconductors: Spectroscopy II* Room: F150

- Z39.4** Richard, Pierre: ARPES studies of FeAs-based compounds. 11:51AM

March Meeting Invited Talks.

Focus Sessions in italics.