

## 2012A Accepted CINT User Proposals

*3D Particle Tracking of Porous Nanoparticle Supported Lipid Bilayers; Jeff Brinker, Sandia National Laboratories: Jim Werner*

*3D Visualization of Material Fermi Surfaces using the Visualization Laboratory at Center for Integrated Nanotechnologies (VIZ@CINT); Mattias Klintonberg, Uppsala University: Sasha Balatsky*

*A Portable Microfluidic Device for Manipulation and Detection of Biological Cells; Babetta Marrone, Los Alamos National Laboratory: Kevin Baldwin*

*Ab initio Simulations of Novel Giant Semiconductor Quantum Dots; Svetlana Kilina, North Dakota State University: Sergei Ivanov*

*Active Control of Gene Expression through Terahertz Stimuli; Kim Rasmussen, Los Alamos National Laboratories: Jen Martinez*

*Active Self-Assembly by Biomolecular Motors; Henry Hess, Columbia University: George Bachand*

*Adhesion of Nanoparticles; Andrey Dobrynin, The University of Connecticut: Mark Stevens*

*Biological Applications for Heterostructured Quantum Dots; Elba Serrano, New Mexico State University: Jennifer Hollingsworth*

*Carrier Dynamics and THz Detection with Composite Nanomaterials; Joshua Zide, University of Delaware: Hou-Tong Chen*

*Cell-like composites built from synthetic polymers; Bryan Kaehr, Sandia National Laboratories: Walter Paxton*

*Chalcogenide (Zintl Ion) Bonding Mechanism for Enhanced Electron Mobility in Nano-Electronic Applications; Hank Lomasney, Sandia Solar Technology LLC: Jennifer Hollingsworth*

*Characterization of Individually Addressable Functionalized Carbon Nanotube Forest Arrays; Waqas Khalid, Jadoo Technologies Inc: Stephen Doorn*

*Characterization of Li-air discharge and charge behavior using ex situ and in situ transmission electron microscopy; Yang Shao-Horn, Massachusetts Institute of Technology: Yang Liu*

*Characterization of M/MO<sub>x</sub> Electrocatalysts for Oxygen Reduction; Cynthia Zoski, New Mexico State University: Sergei Ivanov*

*Characterization of Multifunctional Nanoparticles for Enhanced Drug Delivery to the Lung; Marek Osinski, University of New Mexico: Dale Huber*

*Controllable spatial terahertz modulators; Daniel Mittleman, Rice University: Hou-Tong Chen*

*Controlling Quantum Dynamics of Single Semiconductor Emitters; Xiaoqin Li, University of Texas at Austin: Jennifer Hollingsworth*

*Core-Shell Type-II Nanocrystals for Studies of Excitonic Aharonov-Bohm Effect; Igor Zuskovsky, Queens College of CUNY: Sergei Ivanov*

*Design and fabrication of plasmonic nanostructures for solar cells; Toshihiro Kamei, National Institute of Advanced Industrial Science and Technology: Igal Brener*

*Design of radiation tolerant nanocrystalline and nanotwinned metals; Xinghang Zhang, Texas A&M University: Nathan Mara*

*Detection of Bacillus anthracis via plasmon resonance coupling of gold nanoparticles; Jason Harper, Sandia National Laboratories: George Bachand*

*Develop a 3-D nano-porous all -solid-state battery incorporating a graphene-sulfur cathode; Hank Lomasney, Sandia Solar Technology LLC: Andrew Dattelbaum*

*Development of non-metallic Fano-resonant infrared metamaterials with exceptionally high quality factors; Gennady Shvets, The University of Texas at Austin: Igal Brener*

*Effects of Protective Coatings on the Structural Integrity of Silicon-Carbon Nanofibers (Si-CNF) Composite during Lithiation and Delithiation Cycles Studied by In-situ Transmission Electron Microscopy; Zhongyi Liu, General Motors R&D Center: Yang Liu*

*Electronic Examination of Ion Beam Induced and Self Catalyzed Nanowires; Joanna Millunchick, The University of Michigan: Brian Swartzentruber*

*Energy transfer from InGaN-based nanopillars to nanocrystals for light emitting applications; Anton Malko, The University of Texas at Dallas: Han Htoon*

*Ensemble measurements of spin coherence in MOS quantum structures; Stephen Lyon, Princeton University: Mike Lilly*

*Evolution of Passive films on Ferrous Alloys; Dale Schaefer, University of Cincinnati: Kevin Baldwin*

*Fraction quantum Hall effect and 5/2 state excitations in the vicinity of an etch defined quantum point contact; Wei Pan, Sandia National Laboratories: John Nogan*

*Frequency Agile IR Detectors and Metamaterials; Christian Morath, Air Force Research Laboratory KAFB: Mike Lilly*

*Fundamental Studies of Cadmium-Free High-Temperature Luminescent Nanocrystals with High Quantum Efficiency; Marek Osinski, University of New Mexico: Sergei Ivanov*

*Gate control of spin polarization wave in semiconductor quantum wells; Joseph Orenstein, Lawrence Berkeley National Laboratory: Mike Lilly*

*Growth of 1-D Nanowires on Ion-Beam Modified Au Nanoparticles for Photovoltaic Application; Jung-Kun Lee, University of Pittsburgh: Tom Picraux*

*High-Density Capacitive Nanopillars for Neural Interfacing; Yoontae Hwang, Los Alamos National Laboratory: Tom Picraux*

*High performance terahertz quantum cascade lasers; Sushil Kumar, LeHigh University: John Reno*

*Imaging Individual Carbon Nanotube Fluorescence Enhancement; Marc Bockrath, University of California, Riverside: Stephen Doorn*

*In-situ mechanical testing of Li-ion battery nanowire electrodes during charge/discharge cycles; Ju Li, Massachusetts Institute of Technology: Yang Liu*

*In-situ TEM observation on deformation and phase transition in nanowires; Scott X. Mao, University of Pittsburgh: Yang Liu*

*In-Situ TEM Observation of Coupled Electrochemical-Mechanical Behaviors of Nickel-Silicon Nanowire Networks for Stable High-Capacity Lithium-Ion Anodes; Ronggui Yang, University of Colorado at Boulder: Yang Liu*

*In-situ TEM studies of the phase transformation mechanisms of  $\text{Li}_x\text{FePO}_4$  during electrochemical cycling; Yet-Ming Chiang, Massachusetts Institute of Technology: Yang Liu*

*Investigation of irradiation damage in multilayer thin films by nanocalorimetry; Noble Woo, Harvard University: Nathan Mara*

*Investigation of Nanoscale Superconductivity Phenomenology; Michael Rabin, Los Alamos National Laboratory: John Nogan*

*Investigation of the spin-wave dynamics for Ga-doped  $\text{CuFeO}_2$  through experimental and theoretical methods using the Visualization Laboratory at Center for Integrated Nanotechnologies (VIZ@CINT); Taro Nakajima, Tokyo University of Science: Sasha Balatsky*

*Ion Beam Analysis of Highly Mismatched Alloy Films; Rachel Goldman, University of Michigan: Tom Picraux*

*Ion Implantation of Organic Semiconductors: electrical and structural modifications; Beatrice Fraboni, University of Bologna: Tom Picraux*

*LEEM Study of Epitaxial Ag Films on  $\text{Si}(111)$  and  $\text{Si}(100)$ ; Chih-Kang Shih, University of Texas at Austin: Gary Kellogg*

*Light Funneling through Ultra-subwavelength Channels for Broadband Detection; Ganapathi Subramania, Sandia National Laboratories: Dale Huber*

*Magnetic activity at terahertz frequencies from ferroelectric cubic metamaterials; Xomalin Peralta, The University of Texas at San Antonio: Igal Brener*

*Measurements of Microwave Frequency Comb in a Scanning Tunneling Microscope; Mark Hagmann, New Path Research: Anatoly Efimov*

*Mechanisms of enzymatic digestion of cellulose and lignin films revealed by Quartz Crystal Microbalance with Dissipation Monitoring and Neutron Reflectivity; Michael Kent, Sandia National Laboratories: Dale Huber*

*Metamaterial Radiation from Attenuated Total Reflection at Terahertz Frequencies; Alan Cheville, Oklahoma State University: Hou-Tong Chen*

*Microbridges for High current density measurements; Boris Maiorov, Los Alamos National Laboratory: Doug Pete*

*Micromachined Thermal Platforms for Nanoscale Thermoelectric Materials and Quantum Information Research; Barry Zink, University of Denver: John Nogan*

*Microstructure Manipulation and Properties Control of Graphene and Graphene-based Nanocomposites by Energetic Ion Beams; Jie Lian, Rensselaer Polytechnic Institute: Tom Picraux*

*Minority carrier devices based on concentric nanowire structures: Device physics, fabrication and characterization; Minh Nguyen, Los Alamos National Laboratory: Tom Picraux*

*Modeling Elasto-Mechanical Phenomena Observed in Kinesin Driven Microtubule Nano-scale Transport Systems; Alan Barhorst, Texas Tech University: George Bachand*

*Nanocomposite electrodes in Lithium Ion Batteries: Multi-physics Modeling and in-situ Characterization; Sulin Zhang, The Pennsylvania State University: Yang Liu*

*Nanomanipulator and AFM studies of single Sn/ZnO Nanowires; Tito Busani, University of New Mexico: Brian Swartzentruber*

*Nanomed Targeting Systems; Kenneth Dormer, The University of Oklahoma: Dale Huber*

*Nanoscale Metallic Multilayer Thin Films: New Strategies for Optimal Mechanical Strength; Peter Anderson, Ohio State University: Kevin Baldwin*

*Nanoscale Study of NaFePO<sub>4</sub> Cathodes for Sodium Ion Batteries; Lianbing Hu, The University of Maryland: Yang Liu*

*Nanostructure Formation in Hybrid Sol-Gel Derived Thin Films by Ion Irradiation; Don Lucca, Oklahoma State University: Tom Picraux*

*Nanostructured Thin Films for Atomic Plane Electrical Contacts; Don Lucca, Oklahoma State University: Nathan Mara*

*Nanowire Specialty Diodes for Integrated Applications; Clarence Tracy, Arizona State University: Tom Picraux*

*New design architectures for THz intersubband light emitters; Sushil Kumar, LeHigh University: John Reno*

*Non-Adiabatic Excited States Molecular Dynamics: Photodynamics in conjugated macromolecules; Sebastian Fernandez-Alberti, Universidad Nacional de Quilmes: Sergei Tretiak*

*Optical Anisotropy of PZT Ferroelectrics through Thermally-Driven Phase Transformations; Nathan Moore, Sandia National Laboratory: Igal Brener*

*Optical characterization of ultradense DNA assembled single walled carbon nanotube arrays; William Goddard III, California Institute of Technology: Jennifer Martinez*

*Origins of 1/f noise in low-Tc SQUIDS; Felix Jaeckel, University of New Mexico: Nathan Mara*

*Plasmonic enhancement of monolithic microring based label-free photonic biosensors; Mani Hossein-Zadeh, The University of New Mexico: Igal Brener*

*Plasmonic Nanostructures for Organic Photovoltaic Devices; Won Park, University of Colorado Boulder: Igal Brener*

*Purcell Enhancement by All-Dielectric and Hybrid Nanoantennas; Isabelle Staude, Australian National University: Igal Brener*

*Quantum Phenomena in one-dimensional systems; Jonathan Bird, University of Buffalo: John Reno*

*Radiation Response of Nanoporous Materials; Magalena Serrano de Caro, Los Alamos National Laboratory: Nathan Mara*

*Real-time in situ characterization of Li-ion kinetics on TiO<sub>2</sub>(B) nanosheets using low-energy electron microscopy; Calvin Chan, Sandia National Laboratories: Gary Kellogg*

*Reconfigurable stimuli-responsive metamaterials; David Gracias, John Hopkins University: Hou-Tong Chen*

*Self-ive Electrochemical Synthesis of Porous Si, Si/Ge Core-shell Nanowires for Integrated Thermoelectric Applications; Bharathi Subramaniasiva, The University of Texas at San Antonio: Jennifer Hollingsworth*

*Silicon Inverse Opal/SWCNT-based solar cell; Jeremy Galusha, US Army RDECOM, AMRDEC: John Nogan*

*Single-Molecule Study of Biomolecule Immobilization by "Click" Chemistry; Daniel Schwartz, University of Colorado at Boulder: Walter Paxton*

*Soft mesoporous materials for the immobilization of Carbonic Anhydrase; Nathan Bouxsein, Sandia National Laboratories: George Bachand*

*Stochastic Methods for Heat Conduction; Frank van Swol, Sandia National Laboratories: Normand Modine*

*STRUCTURE AND DYNAMIC STUDIES OF NEW HIGHLY FLUORESCING POLY-DOTS: MOLECULAR DYNAMICS SIMULATION STUDY; Dvora Perahia, Clemson University: Gary Grest*

*Structure property relationship of nanoporous metals; Antonia Antoniou, Georgia Institute of Technology: Nathan Mara*

*Studies on Mechanical Properties of Metallic Glasses with Embedded Nanocrystal Arrays; Lin Shao, Texas A&M University: Nathan Mara*

*Study of the structure of membrane-bound Dengue E protein and the mechanism of anchoring into lipid membranes by atomic force microscopy; Michael Kent, Sandia National Laboratories: Gabe Montano*

*Super-resolution Chemical Imaging of Mixed Polymer Brushes; Michael Skaug, University of Colorado Boulder: Dale Huber*

*Terahertz Magnetspectroscopy of Thin-Film Topological Insulators; Benjamin Williams, University of California at Los Angeles: Rohit Prasankumar*

*Terahertz Quantum Cascade Lasers for Security and Military Applications; Qing Hu, Massachusetts Institute of Technology: John Reno*

*The Effects of Cool-Down Bias on Lateral Silicon Quantum Dots; Dwight Luhman, Carleton College: Mike Lilly*

*The effect of Surface Reconstructions on Nanostructure Formation in Compound Semiconductors; Joanna Millunchick, The University of Michigan: Normand Modine*

*Thermoelectric Studies of Band Engineered Nanowires; Julio Martinez, Sandia National Laboratories: Brian Swartzentruber*

*Tightly Confined Photon Modes in Graphene-based Plasmonic Nanostructures; Nicholas Fang, Massachusetts Institute of Technology: Hou-Tong Chen*

*Tracking Carrier Dynamics in Nitride-Based Nanowires; George Wang, Sandia National Laboratories: Rohit Prasankumar*

*Transient-grating study of interacting magnetic orders in multiferroic thin films; Christopher Weber, Santa Clara University: Quanxi Jia*

*Transport Properties of Thermoelectric Nanowires; Michael Siegal, Sandia National Laboratories: John Sullivan*

*Understanding Nano- to Microscale Variations in the Chemical and Electronic Structure of Inorganic Thin Film Photovoltaic Materials; Calvin Chan, Sandia National Laboratories: Gary Kellogg*

*Understanding Near Field Enhancement in the Metamaterials based Quantum Dots in a Well (DWELL) Photodetectors; Yagya Sharma, University of New Mexico: Rohit Prasankumar*

*Unstable Resonator Cavity Quantum Cascade Lasers; Ron Kaspi, AFRL KAFB: Doug Pete*

*Using Polymer Brushes to Control Nanorod Dispersion in Polymer Composite Films: Experiments and Simulation; Russell Composto, University of Pennsylvania: Amalie Frischknecht*

*Using "Top-Down" Approach for Creating Nanowire FET NanoBioSensor; Spencer Farr, Vista Therapeutics: John Nogan*

*Utilizing and Manipulating Light Matter Interactions in Plasmonic and Metamaterials Active Devices; Ronen Rapaport, The Hebrew University of Jerusalem: Igal Brener*