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 Klintenberg, 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 Heterostructered 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 situi and in situ transmission electron microscopy; Yang Shao-Horn, Massachusetts Institute of Technology: Yang Liu

Characterization of M/MOX 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-CNFR) 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 LixFePO4 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 CuFeO2 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 Si(111) and 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

Nanomaneipulator 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 NaFePO4 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 TiO2(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 Magnetospectroscopy 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


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