

## 2011B Accepted CINT User Proposals

*A study of the effect of interfaces on microstructure and mechanical properties of ion implanted materials (extension# P0978); Osman Anderoglu, Los Alamos National Laboratory: Nate Mara*

*Active Nanoplasmonics: Compact, ultrafast, and power-efficient optical devices at the nanoscale; Rohan Kekatpure, Sandia National Laboratory: Willie Luk*

*An atomistic multi-scale description of charge and excitation motion in conjugated materials; Stavros Athanasopoulos, Universite de Mons: Sergei Tretiak*

*Catalytically-Enhanced Diffusion of Enzymes Monitored by Single Particle Tracking; Samudra Sengupta, Pennsylvania State University: Wally Paxton*

*Characterization of a MEMS Device to Measure Stress/Strain in Li-ion Battery Electrodes Assisted by the CINT Discovery Platform; Reza Ghodssi, University of Maryland, College Park: John Sullivan*

*Designing the Functionality of Single-Wall Carbon Nanotube-Silica Aerogels; Juan Duque, Los Alamos National Laboratory: Steve Doorn*

*Development of Interband Cascade Devices; Rui Yang, University of Oklahoma: John Nogan*

*Development of Plasmonic Immunosensors; Sang-Yeon Cho, New Mexico State University: Igal Brener*

*DNA Transport in Nanoparticle Porous-Walls Nanochannels; Yuliya Kuznetsova, The University of New Mexico: Dale Huber*

*Dopant Mapping Across Semiconductor Nanowire Heterojunctions; Daniel Perea, Pacific Northwest National Laboratory: Tom Picraux*

*Dynamic Metamaterials Integrated with Quantum Dot Infrared Detectors; Yagyadeva Sharma, The University of New Mexico: Igal Brener*

*Dynamics of energy transfer in photosynthetic assemblies; Cynthia Lo, Washington University in St. Louis: Sergei Tretiak*

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*Fabrication of ultrathin films for improved thermoelectric performance; Francisco Rivadulla, University of Santiago de Copostela: Quanxi Jia*

*Embedded Plasmonic Nanostructures for Enhanced Photovoltaic Efficiency; Nina Weisse-Bernstein, Los Alamos National Laboratory: John Nogan*

*Excitation Energy- and Charge Transfer in Organic Semiconductors: Combining High-Level Quantum Chemical Approaches with Nonadiabatic Dynamics; Hans Lischka, Texas Tech: Sergei Tretiak*

*Exploration of Carrier Dynamics in Graphene; Eric Shaner, Sandia National Laboratory: John Nogan*

*Facile Synthesis of Palladium Nanoparticles for Catalysis; Abhaya Datye, University of New Mexico: Sergei Ivanov*

*High-Efficiency Photovoltaics Using Type II Nanocrystal Heterostructures; Weonkyu Koh, Los Alamos National Laboratory: Darrick Williams*

*High Throughput Single NP Spectroscopy and Diffusional Dynamics; Richard Van Duyne, Northwestern University: Wally Paxton*

*Hybrid Integration of Silicon-on-Insulator and Active Polymer Materials for Application in Microphotonics; Robert Norwood, Arizona State University: Igal Brener*

*In situ and ex situ Mechanical Deformation of Nanocomposites; Nan Li, Los Alamos National Laboratory: Nathan Mara*

*In Situ Mechanical Testing of Metallic and Semiconducting Nanowires Using the CINT Discovery Platform; Daniel Gianola, University of Pennsylvania: John Sullivan*

*Investigating Telomere Structure with Correlated Atomic Force and Fluorescence Microscopy; Edwin Goodwin, KromaTiD, Inc.: Peter Goodwin*

*Ligand conformation in self-assembled nanoparticle arrays; Xiao-Min Lin, Argonne National Laboratory: Gary Grest*

*MBE growth of mid-infrared quantum cascade lasers utilizing Carbon-doped GaAs/AlGaAs nanostructures; Oana Malis, Purdue University: John Reno*

*Mechanical Strength of Self-Healing and Welded Polymer Films; Mark Robbins, Johns Hopkins University: Gary Grest*

*Microparticle works of adhesion; Matt Goertz, Los Alamos National Laboratory: Brian Swartzentruber*

*Mid-infrared Metamaterials and Plasmonics; Eric Shaner, Sandia National Laboratory: Igal Brener*

*Molecular basis of nanowire mediated electron transfer and coupling to metabolism in the photosynthetic bacterium *Synechocystis* sp. PCC 6803; Martin Hohmann-Marriot, Norwegian University of Science and Technology: Gabe Montano*

*Multifunctional Fluorescent-Magnetic Nanoparticles to Manipulate Cytoskeletal Proteins; R. Sooryakumar, Ohio State University: George Bachand*

*Nanoheterogeneity in Sensors and Organized Media; James Demas, Virginia State University: Peter Goodwin*

*Nanophotonic Devices and Circuits for Optomechanical, Quantum Information and Metrology Applications; Milos Popovic, Colorado State University; Igal Brener*

*Nanoscale plasticity with energetic and inert molecular single crystals; Kyle Ramos, Los Alamos National Laboratory; Nate Mara*

*Nanotemplate structures fabricated based on vertical aligned nanocomposite thin films; Haiyan Wang, Texas A&M; Quanxi Jia*

*Near-field interactions in single-wall nanotube/rare-earth gel materials; Slava Rotkin, LeHigh University; Steve Doorn*

*Non-blinking Quantum Dots for multi-color and 3D Single Particle Tracking; Diane Lidke, The University of New Mexico; Jen Hollingsworth*

*Nonlinear optical properties of cyanine-type organic molecules; Thomas Kerzdoerfer, Georgia Institute of Technology; Sergei Tretiak*

*Nonlinear Responses of Superconducting Terahertz Metamaterials; Keith Nelson, Massachusetts Institute of Technology; Stuart Trugman*

*Optical nanomaterials for the tracking of nanocarrier distribution in 3D tumor models; Frank Gu, University of Waterloo; Jen Hollingsworth*

*Optimized magnetic nanoparticle labels for ultra-sensitive sepsis diagnostics; Dhanesh Gohel, Magnesensors Inc.; Dale Huber*

*Origin of Giant Flexoelectricity in Nanostructured Materials; Mohan Sanghadasa, US Army AMRDEC, Redstone Arsenal; Quanxi Jia*

*Oxygen Vacancies Effects on the Physical Properties in Nanoscale Multiferroic Thin Films; Yongqiang Wang, Los Alamos National Laboratory; Tom Picraux*

*Photoluminescence properties and temporal dynamics of the excitons in suspended; Laurent Cognet, CNRS, France; Steve Doorn*

*Phonon, exciton, and light interactions in Semiconducting; Anna Swan, Boston University; Steve Doorn*

*Quantum cascade lasers as local oscillators at super-terahertz; Jian-Rong Gao, Delft University; John Reno*

*Quantum electronics in GaAs/AlGaAs by means of resistive NMR and scanned probe imaging; Guillaume Gervais, McGill University; Mike Lilly*

*Quantum Interference Injection & Control of Ballistic Transport in Two-Dimensional High-Mobility GaAs Nanostructures; Arthur Smirl, University of Iowa; John Reno*

*Reconfigurable Transformation Optics Based on Intersubband Transitions in Semiconductor Quantum Wells; Jason Valentine, Vanderbilt University: Igal Brener*

*Record breaking solar cells: ZnxCd(1-x)Te graded bandgap nanoarrays; David Zubia, University of Texas at El Paso: Ed Gonzales*

*Roles of base pairing, silver atom and strand numbers in Ag-DNA solution sizes; Elisabeth Gwinn, University of California at Santa Barbara: Peter Goodwin*

*Silicon Nanowires Anode for Advanced Thermal Batteries; Vojtech Svoboda, CFD Research: Tom Picraux*

*Single molecule detection using nano-mechanical resonator arrays; Christopher Hains, The University of New Mexico: John Nogan*

*Single Molecule Spectroscopy and Microscopy of Semiconductor Quantum Dot Clusters; Martin Gelfand, Colorado State University: Peter Goodwin*

*Small Molecule control of Macromolecular Conformation; Scott Hennelly, Los Alamos National Laboratory: Peter Goodwin*

*Spin injection & accumulation in mechanically exfoliated Bi<sub>2</sub>Se<sub>3</sub> topological insulator devices; Madhu Thalakulam, Sandia National Laboratory: John Nogan*

*Studies of Exciton-Phonon Coupling Behavior in Armchair Single-Walled Carbon Nanotubes and Double-Walled Carbon Nanotubes Using Raman Scattering Excitation Profiles; Junichiro Kono, Rice University: Steve Doorn*

*Subwavelength Tunable Semiconductor Plasmon Terahertz Detectors; Eric Shaner, Sandia National Laboratory: John Reno*

*Superconductive Silicon Nanowires Using Gallium Beam Lithography; Michael Henry, Sandia National Laboratory: John Nogan*

*Superparamagnetic Nanoparticles for Biomagnetic Imaging; Edward Flynn, Senior Scientific: Dale Huber*

*Synthesis and Carrier Multiplication Studies of Indium Antimonide Nanocrystals; Jeff Pietryga, Los Alamos National Laboratory: Sergei Ivanov*

*Synthesis, characterization and testing of new multidentate ligands for enhanced quantum dot stability in complex biological environments; Kevin Shea, Smith College: Jen Hollingsworth*

*Terahertz Quantum Cascade Lasers for Atmospheric and Planetary Spectroscopy; Albert Betz, University of Colorado at Boulder: John Reno*

*Terahertz QWIP/LED; Qing Hu, Massachusetts Institute of Technology: John Reno*

*The Effect of Osmolytes on the Aggregation of Amyloid- $\beta$  (1-40) on Mica Supported Lipid Membranes; Juan Anaya, The University of New Mexico: Gabe Montano*

*The elasticity of charged, flexible polymers; Omar Saleh, University of California at Santa Barbara: Mark Stevens*

*The Nanomechanical Response of Cu/Nb Nanolamellar Composites Fabricated via Accumulative Roll Bonding; John Carpenter, Los Alamos National Laboratory: Nate Mara*

*Time-Resolved Photoluminescence Measurements of Enhanced Near-Infrared-to-Visible Upconversion Luminescence Using Engineered Plasmonic Gold Surfaces; Robert Anderson, South Dakota School of Mines and Technology: Willie Luk*

*Time-resolved Spectroscopy and Scanning-Probe and Optical Imaging of Cooperative Binary Ionic Nanomaterials and Nanocomposites; John Shelnett, Sandia National Laboratory: Gabe Montano*

*Top-down and Bottom-up Synthesis of Infrared Dielectric Metamaterials; Paul Clem, Sandia National Laboratory: Igal Brener*

*Trap State Dynamics of DNA-Bound Silver Clusters; Jeff Petty, Furman University: Peter Goodwin*

*Two-Color Quantum Dot Distributed Feedback Laser; Luke Lester, The University of New Mexico: Igal Brener*

*Ultrafast Cooperative Dynamics and Emissive Properties of Semiconductor Quantum Dot Networks (Aerogels); Andrei Piryatinski, Los Alamos National Laboratory: Han Htoon*

*Ultrafast Spectroscopic Studies to Probe the Mechanism of Dye Emission Quenching by Atomically Precise Small Gold Nanoclusters; Rongchao Jin, Carnegie Mellon University: Rohit Prasankumar*

*Understanding Mechanical Grain Coarsening in Nanocrystalline Metals; Henry Padilla, Sandia National Laboratory: Jianyu Huang*

*Understanding Nano-Scale Aggregates in Precise Ionomers from Simulation and Experiment; Karen Winey, University of Pennsylvania: Amalie Frischkencht*

*Vortex physics in superconductors; Leonardo Civale, Los Alamos National Laboratory: Quanxi Jia*