CINT 2014A Accepted Proposals

Adsorption and desorption of small molecules inside single-walled carbon nanotubes; Sofie Cambre; University of Antwerp: Stephen Doorn

Application of electrophoresis to permit differential attachment of multiple antibodies to different regions of a single chip for FET-based detection of multiple biomarkers in one sample; Spencer Farr; Vista Therapeutics, Inc: John Nogan

Assembly of Semiconducting Nanorods and Nanorod/Nanosphere Mixtures in Polymer Films; Russell Composto; University of Pennsylvania: Amalie Frischknecht

Collaborative atomic-scale design, analysis, and nanofabrication for record breaking, single-crystal Zn(x)Cd(1-x)Te solar cell arrays; David Zubia; University of Texas at El Paso: Doug Pete

Continuation of C2012B0080: STM Lithography for Atomically-Precise Qubit Fabrication; Ezra Bussmann; Sandia National Laboratories: Brian Swartzentruber

Coupling single nanocrystals to metallic and dielectric antennas; Stephan Goetzinger; Max Planck Institute for the Science of Light: Jennifer Hollingsworth

Cu-Based Ternary Layered Chalcogenides: Synthesis, Characterization, Studies and Band Structure Calculations; Karthik Ramasamy; Los Alamos National Laboratory: Sergei Ivanov

Design and Engineering of Optical Nano-Materials Based on Organic Branched Structures; Vladimir Chernyak; Wayne State University: Sergei Tretiak

Develop Microfluidic Platforms to Investigate Single Cell Activity, Contaminants Extraction and Protein Crystallization; Jun Gao; Los Alamos National Laboratory: Quinn McCulloch

Development of microcalorimeter absorbers and methods of holmium encapsulation for electron capture spectroscopy; Veronika Mocko; Los Alamos National Laboratory: John Nogan

Directed assembly of silicon nanowire FETs onto patterned electrodes via electric fields; Ron Salesky; Vista Therapeutics, Inc: John Nogan

Dynamics of localized excitations in quasi-one-dimensional systems; Susan Dexheimer; Washington State University: Stuart Trugman

Electrical Control of Plasmonic Immunosensing; Sang-Yeon Cho; New Mexico State University: Igal Brener

Electron/Phonon Transport at Carbon Nanotube-Polymer Interfaces; Mehran Tehrani; University of New Mexico: Stephen Doorn

Exploration of Floquet-Bloch bands in the terahertz conductivity and search for time-reversal symmetry breaking in infrared pump – terahertz probe experiments in topological insulator thin films; Rolando Valdes Aguilar; Ohio State University: Rohit Prasankumar

Fabrication and Characterization of Highly-Tunable Few-Hole Double Quantum Dots in GaAs; Lisa Tracy; Sandia National Laboratories: John Reno

Fabrication of Large Area Functional Transparent Electrodes and Smart Window using High Aspect Metallic Nanostructure; Joong-Mok Park; Ames Laboratory: Ganapathi Subramania

Fabrication of SOI MEMS Comb-drive Devices for the Study of Quantum Fluids at Nanometer Scale; Yoonseok Lee; University of Florida: Mike Lilly

Flip-chip Quantum Electronics in GaAs/AlGaAs; Guillaume Gervais; McGill University: Mike Lilly

Further development of THz quantum cascade lasers as local oscillators for NASA balloon borne observatories; Jian-Rong Gao; SRON Netherlands Institute for Space Research: John Reno

Geo-microfluidics; Microscopic Model Systems of Deep Geologic Formations; Mark Porter; Los Alamos National Laboratory: Quinn McCulloch

High Energy Density Composite Capacitors Using Field-Structured Ferroelectric Platelets; Haiqing Schwarz; Sandia National Laboratories: Katie Jungjohann

High-performance nanolayered materials with tailored interfaces; Ruth Schwaiger; Karlsruhe Institute of Technology: Nate Mara

Imaging Interferometric Nanoscopy to the limits of available frequency space; Yuliya Keznetsova; University of New Mexico: Ganapathi Subramania

In-situ TEM experiments of electrochemical lithiation and delithiation of carbon nanotube-SnO2 core-shell nanowires; Wenzhi Li; Florida International University: Katie Jungjohann

Integration and near-field optical characterization of photonic and plasmonic nanomaterials; Terefe Habteyes; University of New Mexico: Igal Brener

Integration of lateral-spin-valve neurons with memristor arrays; Marek Osinski; University of New Mexico: John Nogan

Interlayer Interactions in Hybrid 2D-Solids; Thomas Beechem; Sandia National Laboratories: Ganapathi Subramania

Investigation of energy-creation and energy-saving functional-oxide devices; Shuichi Noda; AIST(National Institute of Advanced Industrial Science and Technology, Japan): Quanxi Jia

Investigation of novel ZnTe passivation for next generation infrared detectors; Elena Plis; SKINfrared, LLC: Doug Pete

Irradiation Effects on the Strength of Fe-based Alloys Containing Nanoscale Microstructural Features; Clarissa Yablinsky; Los Alamos National Laboratory: Nate Mara

Layer-Tunable Synthesis of Graphene on Ni Manipulated by Cu Elevator; Zengfeng Di; Shanghai Institute of Microsystem and Information Technology: Yongqiang Wang

Liquid in situ TEM studies of lanthanum oxide nanoparticle interactions with bacterial membranes; Darren Dunphy; University of New Mexico: Katie Jungjohann

Local impurity electronic structure at nanoscale and quantum transport through low dimension correlated electrons systems; Jean-Pierre Julien; Institut NEEL CNRS/UJF: Jian-Xin Zhu

Mechanical behavior of hierarchical nanoporous metals; Antonia Antoniou; Georgia Institute of Technology: Nate Mara

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

Meso-Photonic Materials for Energy Applications; Abul Azad; Los Alamos National Laboratory: John Nogan

Microbridges for high mobility and current density measurements; Boris Maiorov; Los Alamos National Laboratory: Doug Pete

Modelling of hybrid perovskites for photovoltaics; Claudine Katan; CNRS Institut des sciences chimiques de Rennes: Sergei Tretiak

Monolithic Integration of CMOS Switching Fabric with PV cells; Olga Lavrova; University of New Mexico: John Nogan

Multiphysics, on-chip diagnostics of nanostructured intercalation cathodes; Arunkumar Subramanian; Virginia Commonwealth University: Tom Harris

Nonlinear Optical Characterization of Novel Polymethine Cyanine Chromophores; Alexander Oliferenko, EigenChem Technologies Inc.: Anatoly Efimov

Out of equilibrium quantum phase transitions in graphene quantum dots; Qimiao Si; Rice University: Jian-Xin Zhu

Pauli blockade in a quantum well structure; Christopher Weber; Santa Clara University: Mike Lilly

Phase evolution and mechanical properties of metallic materials under extreme irradiation conditions; Cheng Sun; Los Alamos National Laboratory: Katie Jungjohann

Phase separation instabilities and metal insulator transition at finite temperatures; Armen Kocharian; California State University Los Angeles: Jian-Xin Zhu

Plasmon Hybridization on Graphene Nanoribbons; Alexander Neumann; University of New Mexico: Anatoly Efimov

Probing Deformation Mechanisms in Metal/Ceramic Nanolaminates by In Situ Nanoindentation in a TEM; Nikhilesh Chawla; Arizona State University: Nate Mara

Quantum Oscillation in the Ge/Si Nanowire Heterostructure; Tuson Park; Sungkyunkwan University: Jinkyoung Yoo

Reactivity of structural Fe(II)/Fe(III) redox couple in natural and synthetic smectite clay; Anastasia Ilgen; Sandia National Laboratories: Katie Jungjohann

Rheology and Dynamics of Polymer Nanocomposites; Michael Rubinstein; University of North Carolina: Gary Grest

Role of Microstructure Development during Deformation on Mechanical Behavior of Tantalum; Shraddha Vachhani; Los Alamos National Laboratory: Nate Mara

Role of Thickness, Composition, and Structure on Nanolaminate Response to External Thermal and Mechanical Stimuli; Marian Kennedy; Clemson University: Nate Mara

Scanning Frequency Comb Microscopy (SFCM); Mark Hagmann; NewPath Research LLC: Anatoly Efimov

Single Photon Sources Based on Semiconductor Quantum Dots; Arthur Fischer; Sandia National Laboratories: Ryan Camacho

Spectroscopy and low dimensional charge carrier transport study of InGaN:GaN cubic:hexagonal nanostructures; Anabil Chaudhuri; University of New Mexico: Igal Brener

Study of the structure of membrane-bound Dengue E protein and the mechanism of anchoring into lipid membranes by quartz crystal microbalance; Michael Kent; Sandia National Laboratories: Gabe Montano

Synthesizing high strength-high toughness metal-ceramic nanocomposites; Siddhartha Pathak; Los Alamos National Laboratory: Nate Mara

Terahertz near-field microscopy for investigations plasmon modes in graphene; Oleg Mitrofanov; University College London: Igal Brener

The dynamics of cellulase on cellulose surfaces; Tina Jeoh; University of California at Davis: Peter Goodwin

The Role of Mg Interfacial Film Structure and Composition in Regulating Charge Transport; Kevin Zavadil; Sandia National Laboratories: Tom Harris

Thermal and Mechanical Stability of Binary and Ternary Nanocrystalline Alloys; Daniel Bufford; Sandia National Laboratories: Katie Jungjohann

Time-Domain Atomistic Simulation of the Relaxation Dynamics of Photogenerated Carriers in Nanoscale Systems; Oleg Prezhdo; University of Rochester: Sergei Tretiak

Toward tunable functionalities in oxide epitaxial nanoscaffolding films; Aiping Chen; Los Alamos National Laboratory: Quanxi Jia

Two-stage relaxation dynamics of the spin-lattice polaron; Janez Bonca; University of Ljubljana: Stuart Trugman

Ultrafast laser-induced high harmonic generation in nanostructured materials: Density functional calculations; Guoping Zhang; Indiana State University: Jian-Xin Zhu

Ultrafast Order Dynamics in Multiferroic Nanocomposites; Brian McFarland; Los Alamos National Laboratory: Quanxi Jia

Ultra-high quality-factor resonances from all-dielectric infrared metamaterials; Michael Sinclair; Sandia National Laboratories: Igal Brener

Ultralow-noise avalanche photodetectors (APDs) with single carrier impact ionization; Elena Plis; University of New Mexico: Ganapathi Subramania

Understanding the effect of metal ion dopants on α-MnO2 nanowire electrocatalysts; Timothy Lambert; Sandia National Laboratories: Tom Harris

Understanding the Mechanical Response of Layered Nanocomposite Systems; Nan Li; Los Alamos National Laboratory: Nate Mara

Weyl semimetal signatures in the THz frequency range in R2Ir2O7 (R=Nd,Eu,Pr) thin films; Rolando Valdes Aguilar; Ohio State University: Rohit Prasankumar

Wideband metamaterial surface anti-reflective coatings in infra-red and THz regimes; Junpeng Guo; University of Alabama: Hou-Tong Chen