2009A Accepted CINT User Proposals

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

VLS-Growth of Hetero-Epitaxial Si/Ge Nanowire Arrays, Platelets, and Films, Alp Findikoglu, Los Alamos National Laboratory; Lead CINT Scientist: Tom Picraux

Renew: CINT User Project: Size Effects of Nanoindentation on ZnO Thin Films, Xi Chen, Columbia University; Lead CINT Scientist: Nathan Mara

Role of Layer-Interfaces and Grain Boundaries on the Properties of Nano-structured Nitride Thin Films, Haiyan Wang, Texas A&M University; Lead CINT Scientist: Michael Nastasi

Synthesis and Mechanical Behavior of Metallic Thin Films with Nanoscale Growth Twins, Xinghang Zhang, Texas A&M University; Lead CINT Scientist: Amit Misra

Supramolecular Nanophotonics: A Concerted Experimental and Theoretical Approach, Mireille Blanchard-Desce, CNRS (Centre National de la Recherche Scientif); Lead CINT Scientist: Sergei Tretiak

Scanning Gate Microscopy of Super Pointer States in Coupled Quantum Dot Arrays, Stephen Goodnick, Arizona State University; Lead CINT Scientist: John Reno

Understanding Structure-Thermal Property Relationships in Individual Single-Wall Carbon Nanotubes, Li Shi, University of Texas – Austin; Lead CINT Scientist: Jianyu Huang

Directed Sequential Assembly of DNA Nanostructures, Michael Norton, Marshall University; Lead CINT Scientist: Aaron Gin

Micron-Scale Pillars to Study Mechanical Strength and Internal Deformation in Nanoscale Metallic Multilayer Thin Films, Peter Anderson, Ohio State University; Lead CINT Scientist: Amit Misra

The nanomechanics of irradiated materials (extension), Peter Hosemann, Los Alamos National Laboratory, Lead CINT Scientist: Nathan Mara

Spin Manipulation in Semiconductor Nanostructures, Stephen Goodnick, Arizona State University; Lead CINT Scientist: Michael Lilly

Integration of Nanophotonic Structures with High Q Microcavities, Jeffrey C. Brinker, University of New Mexico; Lead CINT Scientist: Ting S. "Willie" Luk

Compliant Electronic Materials: Transport in Carbon Nanotube (CNT) Polymer Nanocomposites, Richard Vaia, Air Force Research Laboratory (ABQ); Lead CINT Scientist: Julia Hsu

Quantum Phenomena in One-Dimensional Systems, Jonathan Bird, State University of New York – Buffalo; Lead CINT Scientist: John Reno

Doped SiGe Nanowires for Functional Nanodevices, Clarence Tracy, Arizona State University; Lead CINT Scientist: Tom Picraux

Isotope effect on superconductivity in Josephson coupled stripes in underdoped cuprates, Anders Rosengren, Royal Institute of Technology (KTH); Lead CINT Scientist: Alexander Balatsky

CINT Renewal Proposal – Theoretical Tools for Understanding Dispersions of Nanoparticles in Thin Polymer Films, Michael Mackay, University of Delaware; Lead CINT Scientist: Amalie Frischknecht

Characterization of the Orientation Dependence of the Mechanical Properties in Forced-Shear Samples via Nano-Indentation Analyses, Amy Ross, Los Alamos National Laboratory; Lead CINT Scientist: Nathan Mara

In-situ TEM on Deformation Process of Metallic Nanowires, Scott X. Mao, University of Pittsburgh; Lead CINT Scientist: John Sullivan

Fabrication of a Optical Vortex Lens, Grover Swartzlander, Rochester Institute of Technology; Lead CINT Scientist: Aaron Gin

Characterization of he Frequency Response for Photomixing in Laser-Assisted Scanning Tunneling Microscopy II, Mark Hagmann, NewPath Research L.L.C.; Lead CINT Scientist: Anatoly Efimov

Nano-Structural Characterization of Heavy-Fermion Thin Films, Vladimir Matias, Los Alamos National Laboratory; Lead CINT Scientist: Alexander Balatsky

Ultra-efficient energy transfer in single polymeric light-harvesting complexes, John Lupton, University of Utah; Lead CINT Scientist: Sergei Tretiak

Development of a Multi-scale Paradigm for Modeling the Electronic Structure of Nanowires and Other Nanostructures, Michael Stopa, Harvard University; ; Lead CINT Scientist: Normand Modine

Nanometer Fluorinated Segments for Energy Controlled Responsive Polymeric Interfaces: From Model Systems to "Real Life" structures, Dvora Perahia, Clemson University; Lead CINT Scientist: Gary Grest

Phonon Interactions in Carbon Nanotube and Graphene Electronic Devices, Stephen Doorn, Los Alamos National Laboratory; Lead CINT Scientist: Han Htoon

Measuring Single Electrons on the Surface Of Liquid Helium, Stephen Lyon, Princeton University; Lead CINT Scientist: Michael Lilly

Understanding Carrier Dynamics in a Novel Nanoscale System:Quantum Dots in a Well (DWELL) Heterostructure, Sanjay Krishna, University of New Mexico; Lead CINT Scientist: Rohit Prasankumar

Energy Transfer Mechanisms in Mn-doped ZnS Nanoparticles, Tze Chien Sum, Nanyang Technological University; Lead CINT Scientist: Rohit Prasankumar

Experimental Analysis of Magnetic Semiconductor Based Homogenous Low-loss Negative Index Metamaterials in the THz Frequency Range, Alkim Akyurtlu, University of Massachusetts - Lowell; Lead CINT Scientist: Quanxi Jia

Quantum Dot Distributed Feedback Laser, Luke Lester, University of New Mexico; Lead CINT Scientist: Aaron Gin

Biomedical Applications for Heterostructured Quantum Dots, Elba Serrano, New Mexico State University; Lead CINT Scientist: Jennifer Hollingsworth

Photophysics and Photochemistry of Luminescence Sensors at the Nanolevel, James Demas, University of Virginia; Lead CINT Scientist: Jim Werner

Fundamental Studies of the Electromechanical Behavior of a NEMS Two-State Switch, Horacio Espinosa, Northwestern University, Lead CINT Scientist: John Sullivan

Tracking Carrier Dynamics in Nitride-Based Nanowires, George Wang, Sandia National Laboratories - New Mexic; Lead CINT Scientist: Rohit Prasankumar

Molecular basis for protein Nanomechanics, Jan Hoh, Johns Hopkins University; Lead CINT Scientist: Mark Stevens

Coherent Cyclotron Resonance Spectroscopy of Semiconductor Nanostructures, Junichiro Kono, Rice University, Lead CINT Scientist: John *Reno*

Application of the Nanoparticle Synthesis Discovery Platform to magnetic nanoparticle synthesis, J. Ping Liu, University of Texas – Arlington; Lead CINT Scientist: Igal Brener

Dynamic Study of Nanowires in the Strong Excitation Regime for Fabricating Grating-Coupled Nanowires, Tsinghua Her, University of North Carolina at Charlotte; Lead CINT Scientist: Rohit Prasankumar

Composite Nanoparticles for Dual Magnetic-Bead-Labeling Biomolecules, Boris Khusid, New Jersey Institute of Technology; Lead CINT Scientist: Sergei Ivanov

NiTi-TiC Nano-Layers: Investigating Shape-Memory Behavior at Reduced Length Scales, Raj Vaidyanathan, University of Central Florida; Lead CINT Scientist: Amit Misra

Ultrafast Excited State Relaxation and Electron Transfer in Molecular Assemblies, Dana Dattelbaum, Los Alamos National Laboratory; Lead CINT Scientist: Rohit Prasankumar

Nanostructured Thin Films for Atomic Plane Electrical Contacts, Don Lucca, Oklahoma State University; Lead CINT Scientist: Michael Nastasi

Study on the Photochemical Activity of Nanoscale Heterogeneous Quantum Dots/TiO2 Thin Films, Jung-Kun Lee, University of Pittsburgh; Lead CINT Scientist: Michael Nastasi

Quantum Confinement and Strain Effects in Photonic Nanocrystals, Don Lucca, Oklahoma State University; Lead CINT Scientist: Michael Nastasi

New Terahertz metamaterials and their application as chem-bio sensors, Xomalin Peralta, University of Texas - San Antonio; Lead CINT Scientist: Igal Brener

Investigating luminescence mechanism of Er-doped SiNx film containing a Si nanocrystal for light sources, Jung-Kun Lee, University of Pittsburgh; Lead CINT Scientist: Michael Nastasi

Nanoscale ordering in heavy fermions probed by ultrafast optics, Jure Demsar, University of Konstanz; Lead CINT Scientist: Rohit Prasankumar

Nanoscale Quantum Infrared Focal Plane Arrays with Plasmon Assisted Cavities, Rajeev Shenoi, University of New Mexico; Lead CINT Scientist: Aaron Gin

Optical Components Using Left-Handed Plasmonic Waveguides, Amr Helmy, University of Toronto; Lead CINT Scientist: Rohit Prasankumar

High Frequency Electronic Properties of Nanomaterials, Clark Highstrete, Sandia National Laboratories - New Mexico; Lead CINT Scientist: Sean Hearne

Characterization of Superparamagnetic Nanoparticles for Biomagnetic Imaging, Edward Flynn, Senior Scientific; Lead CINT Scientist: Dale Huber

Thermal Phenomena in Micro- and Nanosystems, Leslie Phinney, Sandia National Laboratories - New Mexico; Lead CINT Scientist: John Sullivan

In Situ Characterization of the Effects of Domain Size and Composition on Switching Behavior in Multiferroic and Ferroelectric Materials, Mitra Taheri, Drexel University; Lead CINT Scientist: Michael Nastasi

Development of Nanostructured Titania Materials, Folami Ladipo, University of Kentucky; Lead CINT Scientist: Andrew Dattelbaum

Growth of Si and Ge Nanowires Using Metal Alloy Catalysts, Suneel Kodambaka, University of California - Los Angeles; Lead CINT Scientist: Tom Picraux

Theory of Nanolubrication Using Polymer Brushes, Jeffrey Sokoloff, Northeastern University; Lead CINT Scientist: Mark Stevens

Local Atomic Arrangements in Thin Film Phase Change Alloys, Katharine Page, Los Alamos National Laboratory; Lead CINT Scientist: Amit Misra

High Speed Scanning Probe Microscopy of Patterned Hybrid Organic/Semiconductor Photovoltaics, Bryan Huey, University of Connecticut; Lead CINT Scientist: Julia Hsu

In Situ Characterization Of Domain Switching Behavior In Multiferroic And Ferroelectric Materials, Mitra Taheri, Drexel University; Lead CINT Scientist: Jianyu Huang

Dark and Bright Excitons in Infrared-Emitting Germanium Nanocrystals, Istvan Robel, Los Alamos National Laboratory; Lead CINT Scientist: Han Htoon

Scanned Probe Characterization of Semiconductor Nanowire Pn Junctions, Edward Yu, University of California - San Diego; Lead CINT Scientist: Tom Picraux

Coarse-grained Computer Simulation of Self-assembly and Mechanics of Two-Dimensional Protein Structures, William Klug, University of California - Los Angeles, Lead CINT Scientist: Mark Stevens

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

Terahertz Quantum Cascade Lasers for Atmospheric and Planetary Spectroscopy, Albert Betz, University of Colorado – Boulder; Lead CINT Scientist: John Reno

High Efficiency GaN:Eu Phosphor Nanoparticles Prepared by Polymer-Assisted Deposition, Hongmei Luo, New Mexico State University; Lead CINT Scientist: Quanxi Jia

FCS in Support of Yield and Charge Measurements on DNA-Ag Fluorophores, Deborah Kuchnir Fygenson, University of California - Santa Barbara; Lead CINT Scientist: Peter Goodwin

Planar Periodic Metallic Structures for Thz Beam Manipulation of Photoconductive Antennas, Ole Peters, Philipps-Universität Marburg; Lead CINT Scientist: Igal Brener

Novel Fabrication of Metal-Semiconductor Heterostructured Nanowires, Rawiwan Laocharoensuk, Los Alamos National Laboratory; Lead CINT Scientist: Jennifer Hollingsworth

Modeling of Coherent Interfaces and Misfit Dislocations in Core/Shell Nanowires, Greg Swadener, Aston University, Lead CINT Scientist: Tom Picraux

Synthesis and Deformation Behavior of Metal-Ceramic Multilayered Structures at Nanoscale, Nik Chawla, Arizona State University; Lead CINT Scientist: Amit Misra

Scaling in Quantum Hall Plateau-to-Plateau Transition in Undoped Alloy-Disorder Dominated Al_xGa_{1-x}As/Al_0.32Ga_0.68As Heterostructures, Wei Pan, Sandia National Laboratories - New Mexico; Lead CINT Scientist: Sean Hearne

Near Field Studies of Coupled Resonators, Paul Planken, Delft University of Technology; Lead CINT Scientist: Igal Brener

Gate Control of Spin Polarization Wave in Semiconductor Quantum Wells, Joseph Orenstein, Lawrence Berkeley National Laboratory; Lead CINT Scientist: Michael Lilly

Mechanics of Metal Nanoimprinting, Jun Lou, Rice University; Lead CINT Scientist: Nathan Mara

Quantum Control in Nanoscale Spin Systems, David Reilly, University of Sydney; Lead CINT Scientist: John Reno

Ion Beam Analysis of Dilute Nitride-Bismide Semiconductor Alloys, Rachek Goldman, University of Michigan; Lead CINT Scientist: Michael Nastasi

Probing Curvature Effects In Graphene-Based Nanocarbons: Integrated Modeling And Experimental Study, Sanju Gupta, Politecnico di Torino; Lead CINT Scientist: Sergei Tretiak

Mechanical Reliability of Three Component Nano-Laminate Thin Films,Establishing the Yield Strength of Polycrystalline Nanoporous Metals, David Bahr, Washington State University; Lead CINT Scientist: Amit Misra

Establishing the yield strength of polycrystalline nanoporous metals, Antonia Antoniou, Georgia Institute of Technology; Lead CINT Scientist: Nathan Mara

Carrier Dynamics in Type-II InAs/GaSb Nanoscale Superlattice Sensors, Sanjay Krishna, University of New Mexico; Lead CINT Scientist: Rohit Prasankumar

LEEM/PEEM Study of Nanodroplet Motion, Peter Bennett, Arizona State University; Lead CINT Scientist: Gary Kellogg

Protein and Nanoparticle Dynamics in Lipid Bilayers, Alexander Levine, University of California - Los Angeles; Lead CINT Scientist: Mark Stevens

High Repetition Rate Transient Absorption Measurements of Multiple Exciton Formation in Semiconductor Nanocrystals, Richard Schaller, Los Alamos National Laboratory; Lead CINT Scientists: Victor Klimov

The Interaction of DNA with THz radiation, Kim Rasmussen, Los Alamos National Laboratory; Lead CINT Scientist: Rohit Prasankumar

Synthesis of Fluorescent Noble Nanoclusters Using Biological Templates, Dung Vu, Los Alamos National Laboratory; Lead CINT Scientist: Jennifer Martinez

ZnO Nanorods for Transducing Acoustic Pressure and Velocity, Mohan Sanghadasa, US Army RDECOM AMRDEC; Lead CINT Scientist: John Sullivan

Fabrication of an Micro-Scale All-Dielectric Relativistic Particle Source, Gil Travish, University of California - Los Angeles, Lead CINT Scientist: Aaron Gin

Scalable, Nanowire-based Architectures for in-situ TEM Electrochemical Investigations within Nanoscale Batteries and Ultracapacitors, Arunkumar Subramanian, Sandia National Laboratories; Lead CINT Scientist: John Sullivan

Nanostructure Formation in Hybrid Sol-Gel Derived Thin Films by Ion Irradiation, Don Lucca, Oklahoma State University; Lead CINT Scientist: Michael Nastasi

Silicon Nanowire Materials for Reserve Thermal Batteries, Mark Tenmmen, US Army RDECOM AMRDEC; Lead CINT Scientist: Tom Picruax

FET Devices for High Speed Frequency Modulation of Light, Brian Fluegel, National Renewable Energy Laboratory; Lead CINT Scientist: John Reno

Gas Damping and Thermo-Molecular Forces in Microsystems at Atmospheric and Low Pressures, Alino Alexeenko, Purdue University; Lead CINT Scientist: John Reno

Patterning Multiple Layers of Graphene, Ju Li, University of Pennsylvania: Lead CINT Scientist: Jianyu Huang