

2005 Accepted CINT User Proposals

Use of MEMS-Based In Situ TEM Tensile Testing Discovery Platforms to Elucidate Nanomechanical Response across Multiple Length Scales in Nanolayered Metallic Films
Khalid M. Hattar, University of Illinois at Urbana-Champaign

In Situ X-ray Diffraction Studies of Deformation Mechanisms in Nanometer-Scale Polycrystalline Ni and Nanolayered Composites
Helena Van Swygenhoven, Paul Scherrer Institute

Nanowires Grown from Self-Organized Metallo-Phthalocyanine Assemblies and Characterized by Single-Molecule Electromechanical Scanning Probe Microscopy
James Brozik, University of New Mexico

Characterizing Mechanical Behavior at the Nanoscale
Terry Delph, Lehigh University

Tunable Adhesion and Interfacial Fracture using Non Covalent Forces
Kenneth Liechti, University of Texas

Multiferroic Nanostructured Thin Films and Devices
Jennifer Zinck, HRL Laboratories, LLC

Magnetic Resonance Force Microscopy Studies of Sub-micron Ferromagnetic Particles
P. Chris Hammel, Ohio State University

Functional Core-Shell Nanoprobes for Surface-Enhanced Nonlinear Bioimaging
Steven Emory, Western Washington University

Fabrication and Characterization of Superconducting Nanowires for Ultrafast Superconducting Single Photon Detectors
Sae Woo Nam, National Institute of Standards and Technology

Surface Enhanced Raman Spectroscopy of Bio-Templated Nanoparticle Assemblies
Norbert Reich, University of California Santa Barbara

Ultrafast Spectroscopy of Surface Plasmonics on Two-Dimensional Nanostructures
Richard Haglund, Vanderbilt University

Controlling Magnetic Domains in Thin Films by Combining Self-Organizing Patterns with Top-Down Fabrication
Andreas Schmid, Lawrence Berkeley National Laboratory

Molecular Control of Nanomechanical Properties in Living Cells
Jan Hoh, Johns Hopkins Medical Institute

Wetting and Self-Assembly of Nanoparticles
Alexander Levine, University of Massachusetts

Atomic-Scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties
Yonggang Huang, University of Illinois at Urbana Champaign

Discovery Platform Prototype
Mark Reed, Yale University

Electronic Properties of Metallic Nanoparticles on DNA Scaffolding
Norbert Reich, University of California Santa Barbara

Nanoscale Optical Spectroscopy of Individual Single-Walled Carbon Nanotube Field-Effect Transistors
Ray Tsui, Motorola Inc.

Realization of Highly Integrated Planar Lightwave Circuits
John Gregory, University of Huntsville

Dynamics of Infrared Pulse Propagation in Nanostructured Fibers
Jonathan Knight, University of Bath

Shocked Photonic Crystals: Frequency Conversion in a New Regime
Evan Reed, Lawrence Livermore National Laboratory

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Fluorescence Correlation Spectroscopy of Proteins Contained In Sol-Gel Nanocavities
Scott M Reed, Portland State University

Understanding Carrier Dynamics in a Novel Nanoscale System: Quantum Dots in a Well (DWELL) Heterostructure
Sanjay Krishna, University of New Mexico

Modeling Mechanical and Fluidic Coupling from Nano to Micro Length Scales
Mark Robbins, John Hopkins University

Effect of Nanoparticle Surface Segregation on Polymer Film Dewetting
Michael E Mackay, Michigan State University

Phase Formation and Phase Transition of Ferromagnetic Nanoparticles, Nanoparticle-Pairs and Nanoparticles-Arrays by Ion Beam Irradiation
Jian-Ping Wang, University of Minnesota

Three-dimensional Growth of Semiconductor Heterostructures
Chris Palmstrom, University of Minnesota

Matrix-Seeded Growth of Narrow Gap Nitride Semiconductor Nanostructures
Rachel Goldman, University of Michigan

Ultrafast Nonlinear Optical Response of Nanostructured Metallodielectric Photonic Crystals
Miriam Deutsch, University of Oregon

Synthesis and Optical Analysis of Biologically Benign Semiconductor Nanocrystals David
Norris, University of Minnesota

Left-handed response in THz frequencies under photo-doping /version 2/
Dimitri Basov, University of California - San Diego

Assembling Single-Walled Carbon Nanotubes Using Kinesin Based Molecular Motor
Robert C Haddon, University of California – Riverside

Fabrication of nano-apertures for simultaneous electrical and optical detection of membrane channels
Amit Meller, Harvard University

Fundamental Structure-Property Determination in Model Multicomponent Polymer Nanostructures
Richard Spontak, North Carolina State University

Opto-electronics in carbon nanotube devices
Mark Eriksson, University of Wisconsin - Madison

Broadband Near-Field Interference Spectroscopy of Flat Gold Nanoparticles
Lloyd A Bumm, The University of Oklahoma

Nanotribology of self-assembled monolayers: Coordinated simulation and experimentation
Robert W Carpick, University of Wisconsin - Madison

Scanning Probe Analysis of the Localized Effects of Strain in Ferroelectric Thin Films
Michael D Biegalski, Pennsylvania State University

Novel Growth of the Dilute Magnetic Semiconductors for Spintronic Devices
Stephan von Molna, Florida State University

Amphipol aided anchoring of Cytochrome P450c24 (CYP24A1) in synthetic lipid bilayers to monitor active complex formation and enzyme reconstitution
Craig Marcus, University of New Mexico

Nanoporous Metal Electrodes Integrated into Microsystems
Tom Picraux, Arizona State University

In-Situ Characterization of Self-Assembly Processes in Inorganic and Nano/Bio Systems
Bruce Dunn, University of California - Los Angeles

Integrated Microfluidic and Imaging Platform to support Nanocrystal Growth.
Phil Swinehart, Lake Shore Cryotronics, Inc.

Fatigue and Structural Properties of Engineering Materials Coated with Multiple Nanolayers
Julia Weertman, Northwestern University

Low-energy Excitations and Correlated THz Charge Transport in Two-dimensional Carrier Gases

Robert A Kaindl, Lawrence Berkely National Laboratory

Ultra-fast Dynamics of Quantum Dot Nanostructures
Diana Huffaker, University of New Mexico

Probing Molecular Junctions at the Nanoscale with Ballistic Electrons
Karen L. Kavanagh, Simon Fraser University

Ultrafast nonlinear-optical properties of supercore microstructured fibers and waveguides
Evgeny Vanin, ACREO

Carbon Nanotube FET Fabrication via in situ Nanomanipulation
James Hannon, IBM T.J. Watson Research Center

Phase Transitions in Interfacial Water
George E Ewing, Indiana University

Large Scale Simulations of Biomimetic Cytoskeletal Gels
Alex Levine, University of Massachusetts

Designing General Synthetic Routes to Mesostructured and Nanostructured Materials Using Miscible-immiscible Solvents

John Parise, State University of New York - Stony Brook

Terahertz Spectroscopy of Single-Walled Carbon Nanotubes
Robert C Haddon, University of California - Riverside

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Optical Characterization of Self-Assembled Metallic Nanoislands in Semiconductors
Arthur C. Gossard, University of California-Santa Barbara

Colloidal Crystal Templating and Magnetic Nanostructures
Heinz Nakotte, New Mexico State University

Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared
Jonathan Knight, University of Bath

Polarization Mediated Assembly of Functional Nanostructures
Dawn Bonnell, University of Pennsylvania

Transduction Mechanisms in Biomolecular Detection: A Multidisciplinary Approach to Novel Materials for Spectroscopy and Sensing
Stefan Franzen, North Carolina State University

Direct Correlation of the Macroscopic Mechanical Properties with the Deformation Mechanisms in Nanograined Metallic Systems
Ian Robertson, University of Illinois-Urbana Champaign

Study of DNA Distribution and Charge Inversion in DNA near the Electrode in Solution Using the Evanescent Wave Excitation Florescence Technique
Arnold Vainrub, University of Houston

Mechanical Characterization of Nanolayers Using Nanoindentation
Yu-Lin Shen, University of New Mexico

THz Measurements of DNA and DNA-Protein Complexes
Anny Usheva-Simidjiyska, Harvard University

Understanding Stress-Driven Mechanical Interactions between Nanostructures
Eric Chason, Brown University

Superhydrophobic Surfaces for Micro-fluidics Applied to High Throughput Flow Cytometry
Larry A. Sklar, University of New Mexico

Complex Nanoscale Phenomena in Doped Manganites
Sang Wook Cheong, Rutgers University

Advanced Imaging and Spectroscopy of Membrane Heterogeneity and Dynamics
Atul Parikh, University of California - Davis

Quantum Confinement and Strain Effects in Photonic Nanocrystals
Don A. Lucca, Oklahoma State University

Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum Wires
Jonathan P. Bird, Arizona State University

Periodic Coupled Nanostructures as Bloch Oscillator
Steve Brueck, University of New Mexico

Interaction of Biological Lipid Membranes with Inorganic Solids: Building a Foundation for the Man-Machine Interface

Jan H. Hoh, Johns Hopkins University

Imaging Single Quantum Dot Bioconjugates Inside Living Cells

Steven R. Emory, Western Washington University

Fluorescent Nanocrystal Probes for the Spatiotemporal Analysis of Signal Transduction Networks

Janet Oliver, University of New Mexico

Modeling the Flow of Inhomogeneous Fluids in Nanometer Sized Channels

Dimitar N. Petsev, University of New Mexico

Precision Control over Size and Placement of Self-Assembled Quantum Dot Molecules

Jennifer Gray, University of Virginia

Characterization of Lipid Bilayers Supported on Nanotextured Surfaces

Gabriel Lopez, University of New Mexico

Effects of Nanoparticles on Polymer Film Dewetting

Michael E. Mackay, Michigan State University

Directed Sequential Assembly of DNA Nanostructures

Michael L. Norton, Marshall University

Direct Writing of Nanophotonic Structures in Self-Organized Photonic Crystals

Paul Braun, University of Illinois at Urbana-Champaign

Effects of Nano-Confinement on Conducting Polymers Electropolymerized within Nanoporous Hosts

Dhaval Doshi, Los Alamos National Laboratories

Scanning Probe Analysis of the Localized Effects of Strain in Ferroelectric Thin Films

Michael D. Biegalski, Pennsylvania State University

Morphological Characterization of a Quantum Computing Heterostructure: Ferroelectric BaTiO₃ Quantum Dots on (001) Si

Venu Vaithyanathan, Pennsylvania State University

Magnetic Force Microscopy Study of Epitaxial Sr_{n+1}Ru_nO_{3n+1} Thin Films Grown by MBE

Wei Tian, Pennsylvania State University

Biom mineralization and Nanostructured Biopolymer Interfaces

Robert J. Asaro, University of California - San Diego

Nanoscale Photoswitchable Surfaces
Tom Picraux, Arizona State University

Self-Organized Nanocrystals by Ion Implantation
Michael J. Aziz, Harvard University

Surface Acoustic Wave Studies of Ultra-Low Density 2D Electron Systems
James Eisenstein, California Institute of Technology

Multi-Scale Modeling of Nanostructured Protein Hydrogels
James Harden, Johns Hopkins University

Transport Calculations in Low Dimensional Semiconductor Nanostructure Systems
Sankar Das Sarma, University of Maryland - College Park

Surfactant-Mediated Control of InAs Quantum Dot Self Assembly
Robert F. Hicks, University of California - Los Angeles