

CINT Publications 2003-2006

Y. Sun, S. F. Cheng, G. Chen, R. F. Hicks, J. G. Cederberg, and R. M. Biefeld, "The effect of antimony in the growth of indium arsenide quantum dots in gallium arsenide (001)," *J. Appl. Phys.* 97, 053503-1-6, (2005).

CINT Proposal: Surfactant Mediated Control of InAs Quantum Dot Self Assembly, University of California, Los Angeles, P2003191.

Y. Sun, S. F. Cheng, R. L. Woo, and R. F. Hicks, "The Structure of Indium Phosphide (001) Treated with Trimethylantimony in a Metalorganic Vapor-Phase Epitaxy Reactor," *J. Appl. Phys.*, 97, 103512-1-5, (2005).

CINT Proposal: Nanoscale Control of Indium Arsenide Antimony Quantum, University of California, Los Angeles, P2004023.

Anatoly Efimov, A. J. Taylor, F. G. Omenetto, A. V. Yulin, N. Y. Joly, F. Biancalana, D. V. Skryabin, J. C. Knight, and P. St. J. Russell, "Time-spectrally-resolved ultrafast nonlinear dynamics in small-core photonic crystal fibers: Experiment and modeling," *Opt. Exp.* 12, 6498, (2004).

CINT Proposal: Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared, University of Bath, P2003115.

Nicolas Y. Joly, Fiorenzo G. Omenetto, Anatoly Efimov, Antoinette J. Taylor, Jonathan C. Knight and Philip St. J. Russell, "Competition between spectral splitting and Raman frequency shift in negative-dispersion slope photonic crystal fiber," *Opt. Commun.* 248, 281,(2005).

CINT Proposal: Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared, University of Bath, P2003115.

T. Sasaki, T. Morimoto, Y. Iwase, N. Aoki, Y. Ochiai, A. Shailos, J. P. Bird, M. P. Lilly, J. L. Reno, and J. A. Simmons, "Novel many-body transport phenomenon in coupled quantum wires," *IEEE Trans. Nanotech.* 3,110–114, (2004).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum, University of Buffalo, P2003140.

V. I. Puller, L. G. Mourkh, A. Shailos, and J. P. Bird, "Detection of local-moment formation using the resonant interaction between coupled quantum wires," *Phys. Rev. Lett.* 92, 96802, p1–4, (2004).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum, University of Buffalo, P2003140.

A. Shailos, Y. Ochiai, T. Morimoto, Y. Iwase, N. Aoki, T. Sasaki, J. P. Bird, M. P. Lilly, J. L. Reno, and J. A. Simmons, "Coupled quantum wires as a detector of many-body states below the last conductance plateau," *Semicond. Sci. Technol.* 19, S405–S408, (2004).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum, University of Buffalo, P2003140.

J. P. Bird and Y. Ochiai, "Electron spin polarization in nanoscale constrictions", *Science* 303, 1621 – 1622, (2004).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum, University of Buffalo, P2003140.

T. Morimoto, Y. Iwase, N. Aoki, T. Sasaki, Y. Ochiai, A. Shailos, J. P. Bird, M. P. Lilly, J. L. Reno, and J. A. Simmons, "Nonlocal resonant interaction between coupled quantum wires", *Appl. Phys. Lett.* 82, p. 3952–3954, (2003).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum, University of Buffalo, P2003140.

R. P. Prasankumar, A. Scopatz, D. J. Hilton, A. J. Taylor, R. D. Averitt, J. M. Zide, and A. C. Gossard, "Carrier dynamics in self-assembled ErAs nanoislands embedded in GaAs measured by optical-pump terahertz-probe spectroscopy," *Appl. Phys. Lett.* 86, p. 201107, (2005).

CINT Proposal: Optical characterization of self-assembled metallic nanoislands in semiconductors, University of California, Santa Barbara, P2003107.

M Norton, A. Barhoumi and D. Neff, "Templates for Sequential Assembly of DNA Based Nanostructures," *Proceedings of IEEE-NANO 2005*.

CINT Proposal: Directed Sequential Assembly of DNA Nanostructures, Marshall University, P2003156.

Michael C. Howland, Annapoorna R. Sapuri-Butti, Sanhita S. Dixit, Andrew M. Dattelbaum, Andrew P. Shreve, Atul N. Parikh, "Phospholipid Morphologies on Photochemically Patterned Silane Monolayers," *J. Amer. Chem. Soc.* 127, p. 6752-6765, (2005).

CINT Proposal: Advanced Imaging and Spectroscopy of Membrane Heterogeneity and Dynamics, University of California, Davis, P2003136.

S. Das Sarma, M. P. Lilly, E. H. Hwang, L. N. Pfeiffer, K. W. West, and J. L. Reno, "Two Dimensional Metal-Insulator Transition as a percolation Transition in a High-Mobility Electron System," *Physical Review Letters* 94, p. 136401, (2005).

CINT Proposal: Transport Calculations in Low Dimensional Semiconductor Nanostructure Systems, University of Maryland, P2003188.

Anatoly Efimov, A.V. Yulin, D. V. Skryabin, J. C. Knight, N. Y. Joly, F. G. Omenetto, A. J. Taylor and P. St. J. Russell, "Interaction of an optical soliton with a dispersive wave," *Phys. Rev. Lett.* 95, p. 213902, (2005).

CINT Proposal: Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared, University of Bath, P2003115.

J.L. Taraci, T. Clement, J.W. Dailey, J. Drucker, S.T. Picraux, "Ion Beam Analysis of VLS Grown Ge Nanostructures on Si", *Nuclear Instrum. & Methods B* 242, p.205, (2006).

CINT Proposal: Strain Engineered Nanowire Heterostructures, Arizona State University, U2006A058.

A. Gambetta, C. Manzoni, E. Menna, M. Meneghetti, G. Cerullo, G. Lanzani, S. Tretiak, A. Piryatinski, A. Saxena, R.L. Martin and A.R. Bishop, "Real time observation of non-linear vibrational dynamics in semiconducting single wall carbon nanotubes," *Nature Phys.*, 2, p. 515-520, (01 August 2006).

CINT Proposal: Time-Domain Atomistic Simulation of Quantization Effects on the Relaxation Dynamics of Photogenerated Carriers in Quantum Dots, University of Washington, U2006A134.

C. Wu, S.V. Malinin, S. Tretiak, and V. Chernyak, "Exciton Scattering and Localization in Branched Dendrimeric Structures," *Nature Physics* 2, p. 631 – 635, (01 Sep 2006).

CINT Proposal: Design and Engineering of Optical Nanomaterials Based on Organic Branched Structures, Wayne State University, U2006A116.

J. F. O'Hara, J. M. O. Zide, A. C. Gossard, A. J. Taylor, R. D. Averitt, "Enhanced THz detection via ErAs:GaAs nanoisland superlattices", *Appl. Phys. Lett.* 88, p.251119, (2006).

CINT Proposal: Optical characterization of self-assembled metallic nanoislands in semiconductors, University of California, Santa Barbara, P2003107.

H.-T. Chen, W. J. Padilla, J. M. O. Zide, A. C. Gossard, A. J. Taylor, R. D. Averitt, "Active Terahertz Metamaterials", *Nature* 444, p. 597,(2006).

CINT Proposal: Optical characterization of self-assembled metallic nanoislands in semiconductors, University of California, Santa Barbara, P2003107.

A. Ramamoorthy, J. P. Bird, and J. L. Reno, "Quantum asymmetry of switching in laterally-coupled quantum wires with tunable coupling strength", *Appl. Phys. Lett.* 89, 153128, p. 1 – 3, (2006).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum Wires, University of Buffalo, The State University of New York, P2003140/R2006A002.

N. A. Kabir, Y. Yoon, J. R. Knab, J.-Y. Chen, A. G. Markelz, J. L. Reno, Y. Sadofyev, S. Johnson and Y.-H. Zhang, and J. P. Bird, "Terahertz transmission characteristics of high-mobility GaAs and InAs two-dimensional-electron-gas systems", *Appl. Phys. Lett.* 89, 132109, p. 1 – 3, (2006).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum Wires, University of Buffalo, The State University of New York, P2003140/R2006A002.

B. Naser, D. K. Ferry, J. Heeren, J. L. Reno, and J. P. Bird, "Large capacitance in the nanosecond-scale transient response of quantum point contacts", *Appl. Phys. Lett.* 89, 083103, p. 1 – 3, (2006).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum Wires, University of Buffalo, The State University of New York, P2003140/R2006A002.

A. Shailos, J. P. Bird, M. P. Lilly, J. L. Reno, and J. A. Simmons, "Spin-polarized transport through a quantum point contact in strongly-quantizing magnetic fields: mimicking the 0.7 scenario", *J. Phys.: Condens. Matter* 18, p. 3277-3284, (2006).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum Wires, University of Buffalo, The State University of New York, P2003140/R2006A002.

A. Shailos, A. Ashok, J. P. Bird, R. Akis, D. K. Ferry, S. M. Goodnick, M. P. Lilly, J. L. Reno, and J. A. Simmons, "Linear conductance of quantum point contacts with deliberately-broken symmetry", *J. Phys.: Condens. Matter* 18, p. 1715-1724, (2006).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum Wires, University of Buffalo, The State University of New York, P2003140/R2006A002.

J.-K. Lee, C.R. Tewell, R.K. Schulze, M. Nastasi, D.W. Hamby, D.A. Lucca, H.S. Jung, and K.S. Hong, "Synthesis of ZnO nanocrystals by sequential implantation of Zn and O species", *Appl. Phys. Lett.* 86, p.183111, (2005).

CINT Proposal: Quantum Confinement and Strain Effects in Photonic Nanocrystals, Oklahoma State University, P2003139/R2006A057.

D. W. Hamby, D. A. Lucca, J.-K. Lee, M. Nastasi, H.S. Kang, S.Y. Lee, "Effects of hydrogen implantation on the photoluminescence and carrier mobility of ZnO films", *Nuclear Instruments and Methods in Physics Research B*, 249, p. 196-199, (2006).

CINT Proposal: Quantum Confinement and Strain Effects in Photonic Nanocrystals, Oklahoma State University, P2003139/R2006A057.

J. C. Thorp, K Sieradzki, T. Michael, P. Crozier, D. Mitlin, A. Misra, M. Nastasi, S.T. Picraux, "The formation of nanoporous noble metal thin films on Si by electrochemical dealloying of Pt_xSi_{1-x} ", *Appl. Phys. Lett.* 88, p. 33110-33112, (2006).

CINT Proposal: Nanoporous Metal Electrodes Integrated into Microsystems, Arizona State University, P2004082.

X. Zhang, A. Misra, H. Wang, X. H. Chen, L. Lu, K. Lu, and R. G. Hoagland, "High-strength Sputter-deposited Cu Foils with Preferred Orientation of Nanoscale Growth Twins", *Applied Physics Letters*, 88, p. 173116, (2006).

CINT Proposal: Synthesis and Mechanical Behavior of Metallic Thin Films with Nanoscale Growth Twins, Texas A&M University, U2006A031.

X. Zhang, A. Misra, H. Wang, J. G. Swadener, A. L. Lima, M. F. Hundley, and R. G. Hoagland, "Thermal stability of sputter-deposited 330 austenitic stainless-steel thin films with nanoscale growth twins", *Applied Physics Letters*, 87, p. 233116, (2005).

CINT Proposal: Synthesis and Mechanical Behavior of Metallic Thin Films with Nanoscale Growth Twins, Texas A&M University, U2006A031.

Z. X. Qiang, W. D. Zhou, "Photonic Crystal Cavities for Low Power Light Sources on Si: a Simplified Model Development", *Proc. SPIE*, 6368, p. 636802, (2006).

CINT Proposal: Nonlinear Optical Spectroscopy of Nanocrystal Quantum Dots in Photonic Crystal Cavities, University of Texas at Arlington, U2006A041.

L. Chen, W.D. Zhou, Z. X. Qiang, G. Brown, "Spectral Selectivity of Photonic Crystal Infrared Photodetectors", *Proc. SPIE*, 6370, p. 637058, (2006).

CINT Proposal: Nonlinear Optical Spectroscopy of Nanocrystal Quantum Dots in Photonic Crystal Cavities, University of Texas at Arlington, U2006A041.

E. J. Reed, M. Soljacic, R. Gee, J. D. Joannopoulos, "Coherent optical photons from shock waves in crystals," *Phys. Rev. Lett.* 96, p. 013904 (2006).

CINT Proposal: Shocked photonic crystals: Frequency conversion in a new regime, Lawrence Livermore National Laboratory, P2005088.

E. J. Reed, M. Soljacic, R. Gee, J. D. Joannopoulos, "Prediction of coherent optical radiation from shock waves in polarizable crystals," *Proc. Conf. Shock Compression of Condensed Matter 2005* (New York, 2006).

CINT Proposal: Shocked photonic crystals: Frequency conversion in a new regime, Lawrence Livermore National Laboratory, P2005088.

S. J. Koch, G. E. Thayer, A. D. Corwin, & M. P. de Boer, "Micromachined piconewton force sensor for biophysics investigations", *Appl. Phys. Lett.* 89, p. 173901-3, (2006).

M. Piech, M. C. George, N. S. Bell and P. V. Braun, "Patterned colloid assembly by grafted photochromic polymer layers", *Langmuir*, 22, p. 1379-1382, (2006).

CINT Proposal: Direct Writing of Nanophotonic Structures in Self-Organized Photonic Crystals, P2003157/R2006A094.

H.-T. Chen, W. J. Padilla, J. M. O. Zide, A. C. Gossard, A. J. Taylor, R. D. Averitt, Active terahertz metamaterial devices, *Nature*, vol. 444, no.7119, pp. 597-600, (Nov. 2006).

CINT Proposal: Optical and Terahertz characterization of epitaxially-grown semimetal/semiconductor nanocomposites, University of California, Santa Barbara, U2006A062.

J. F. O'Hara, J. M. O. Zide, A. C. Gossard, A. J. Taylor, R. D. Averitt, "Enhanced terahertz detection via ErAs:GaAs nanoisland superlattices," *Applied Physics Letters*, vol.88, no.25, 19, pp. 251119-1-3, (June 2006).

CINT Proposal: Optical and Terahertz characterization of epitaxially-grown semimetal/semiconductor nanocomposites, University of California, Santa Barbara, U2006A062.

R. P. Prasankumar, A. Scopatz, D. J. Hilton, A. J. Taylor, R. D. Averitt, J. M. Zide, A. C. Gossard, "Carrier dynamics in self-assembled ErAs nanoislands embedded in GaAs measured by optical-pump terahertz-probe spectroscopy", *Applied Physics Letters*, vol.86, no.20, pp. 201107-1-3, (May 2005). Publisher: AIP, USA.

CINT Proposal: Optical and Terahertz characterization of epitaxially-grown semimetal/semiconductor nanocomposites, University of California, Santa Barbara, U2006A062.

R. P. Prasankumar, A. Scopatz, D. J. Hilton, A. J. Taylor, R. D. Averitt, J. M. Zide, A. C. Gossard, "Carrier dynamics in self-assembled ErAs nanoislands measured by optical-pump THz-probe spectroscopy," 2005 Quantum Electronics and Laser Science Conference (QELS) (IEEE Cat. No. 05CH37696). IEEE. Part Vol. 1, 2005, pp. 446-8 1.

CINT Proposal: Optical and Terahertz characterization of epitaxially-grown semimetal/semiconductor nanocomposites, University of California, Santa Barbara, U2006A062.

Y. Song, R. E. Haddad, S.-L. Jia, S. Hok, M. M. Olmstead, D. J. Nurco, N. E. Schore, J. Zhang, J.G. Ma, K. M. Smith, S. Gazeau, J. Pécaut, J.C. Marchon, C.J. Medforth and J. A. Shelnut, "Energetics and Structural Consequences of Axial Ligand Coordination in Nonplanar Nickel Porphyrins", *Journal of the American Chemical Society* 2005, 127, 1179.

CINT Proposal: Highly Functional Nanomaterials Based on Self-Assembled Porphyrin Arrays, University of California, Davis, P2004035.

J. M. Oliver, J. R. Pfeiffer, Z. Surviladze, S. L. Steinberg, K. Leiderman, M. Sanders, C. Wofsy, J. Zhang, H.Y. Fan, N. Andrews, S. Bunge, T. J. Boyle, P. Kotula and B. S. Wilson, "Membrane receptor mapping: The membrane topography of FceRI signaling", In *Subcellular Biochemistry 37: Membrane Dynamics and Domains*, pp 3-43. Ed PJ Quinn. Kluwer Press.

CINT Proposal: Fluorescent Nanocrystal Probes for the Spatiotemporal Analysis of Signal Transduction Networks, University of New Mexico, P2003148.

H. Fan, E.W. Leve, C. Scullin, J. Gabaldon, D. Tallant, S. Bunge, T. Boyle, M.C. Wilson, C. J. and Brinker, "Surfactant-assisted synthesis of water-soluble and biocompatible semiconductor quantum dot-micelles," *NanoLetters* 5: 645-648.

CINT Proposal: Fluorescent Quantum Dot FRET-based synaptic event nanosensors for analysis of neurotransmission, University of New Mexico, P2004093.

M. Buehler, Y. Kong, H. Gao, Y. Huang, "Self-folding and unfolding of carbon nanotubes," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 128, pp 3-10, 2006.

CINT Proposal: Atomic-scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties, Univ. of Illinois at Urbana-Champaign, P2005069.

Y. Huang, J. Wu, K. C. Hwang, "Thickness of graphene and single-wall carbon nanotubes," *Physical Review B*, v 74, article 245413, 2006.

CINT Proposal: Atomic-scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties, Univ. of Illinois at Urbana-Champaign, P2005069.

A.Y.T. Leung, X. Guo, X.Q. He, H. Jiang, Y. Huang, "Post-buckling of carbon nanotubes by atomic-scale finite element," *Journal of Applied Physics*, v 99, article 124308, 2006.

CINT Proposal: Atomic-scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties, Univ. of Illinois at Urbana-Champaign, P2005069.

J. Song, Y. Huang, H. Jiang, K.C. Hwang, M. F. Yu, "Deformation and bifurcation analysis of boron-nitride nanotubes," *International Journal of Mechanical Sciences*, v 48, pp 1197-1207, 2006.

CINT Proposal: Atomic-scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties, Univ. of Illinois at Urbana-Champaign, P2005069.

J. Song, H. Jiang, D. L. Shi, X. Q. Feng, Y. Huang, M. F. Yu, K. C. Hwang, "Stone-Wales transformation: precursor of fracture in carbon nanotubes," *International Journal of Mechanical Sciences*, v 48, pp 1464-1470, 2006.

CINT Proposal: Atomic-scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties, Univ. of Illinois at Urbana-Champaign, P2005069.

T. Morimoto, M. Henmi, R. Naito, K. Tsubaki, N. Aoki, J. P. Bird, and Y. Ochiai, "Resonantly enhanced nonlinear conductance in long quantum point contacts near pinch-off", Phys. Rev. Lett. 97, 096801 (1 - 4) (2006).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum Wires, University of Buffalo, The State University of New York, P2003140/R2006A002.

A. Ramamoorthy, J.P. Bird, and J.L. Reno, "Switching characteristics of coupled quantum wires with tunable coupling strength", Appl. Phys. Lett. 89, 013118 (1 - 3) (2006).

CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum Wires, University of Buffalo, The State University of New York, P2003140/R2006A002.

X. Weng, W. Ye, S. Clarke, A. Daniel, V. Rotberg, R. Clarke, and R.S. Goldman, "Matrix Seeded Growth of Nitride Semiconductor Nanostructures using Ion Beams", J. Appl. Phys. 97, 064301 (2005).

CINT Proposal: Matrix-Seeded Growth of Narrow Gap Nitride Semiconductor Nanostructures, University of Michigan, P2004032.

J.K. Lee, D.W. Hamby, D.A. Lucca, M. Nastasi, "Optical observation of donor-bound excitons in hydrogen-implanted ZnO", Appl. Phys. Lett. 86, 171102 (2005).

CINT Proposal: Quantum Confinement and Strain Effects in Photonic Nanocrystals, Oklahoma State University, P2003139/R2006A057.

D.W. Hamby, D.A. Lucca, J.K. Lee, M. Nastasi, "Photoluminescence of He-implanted ZnO", Nuclear Instruments and Methods in Physics Research B, 242, (2006) 663-666.

CINT Proposal: Quantum Confinement and Strain Effects in Photonic Nanocrystals, Oklahoma State University, P2003139/R2006A057.

D.W. Hamby, D.A. Lucca, J.K. Lee, M. Nastasi, H.S. Kang, S.Y. Lee, "Effects of hydrogen implantation on the photoluminescence and carrier mobility of ZnO films", Nuclear Instruments and Methods in Physics Research B, 249, (2006) 196-199.

CINT Proposal: Quantum Confinement and Strain Effects in Photonic Nanocrystals, Oklahoma State University, P2003139/R2006A057.

Y.N. Joglekar, A.V. Balatsky, and S. Das Sarma, "Wigner supersolid of excitons in electron-hole bilayers", Phys. Rev. B 74, 233302 (2006).

CINT Proposal: Excitonic Condensation in Double Quantum Wells, Indiana University - Purdue University, U2006A089.

X. H. Tan and Y.L. Shen, "Modeling Analysis of the Indentation-Derived Yield Properties of Metallic Multilayered Composites," Composites Science and Technology, 65, 1639-1646 (2005).

CINT Proposal: Mechanical Characterization of Nanolayers using Nanoindentation, University of New Mexico, P2003126.

X. H. Tan and Y. L. Shen, "Analysis of Indentation-Derived Yield Strength in Metallic Multilayers," in 2004 ASME International Mechanical Engineering Congress and Exposition, paper number: IMECE2004-61393.

CINT Proposal: Mechanical Characterization of Nanolayers using Nanoindentation, University of New Mexico, P2003126.

Z. Qiang, W. D. Zhou, "Fast evaluation of cavity-mode characteristics of photonic crystal cavities", IEEE Photon. Technol. Lett., vol. 18, pp.1940-2, 2006.

CINT Proposal: Nonlinear Optical Spectroscopy of Nanocrystal Quantum Dots in Photonic Crystal Cavities, University of Texas at Arlington, U2006A041.

Li-Chung Ku and S. A. Trugman, "Quantum Dynamics of Polaron Formation", Phys. Rev. B 75, 014307 (2007).

CINT Proposal: Dynamics of excitons and polarons in low dimensional and mesoscopic devices, Ernst-Moritz-Arndt Universitaet Greifswald, U2006A088.

A. Efimov, A. J. Taylor, A. V. Yulin, D. V. Skryabin, J. C. Knight, "Phase-sensitive scattering of a continuous wave on a soliton," Opt. Lett. 31, 1624 (2006).

CINT Proposal: Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared, University of Bath, P2003115/R2006A055.

D. M. Follstaedt, K. Hattar, J. A. Knapp and I. M. Robertson, "In-situ TEM investigation of abnormal grain growth in nanocrystalline nickel," (Invited), Proc. Materials Research Society, vol. 907E, MM06-01, 2006.

CINT Jump-start Proposal: Direct correlation of the macroscopic mechanical properties with the deformation mechanisms in nanograined metallic systems, University of Illinois, Urbana-Champaign, P2003123.

K. Hattar, J. H. Han, D. M. Follstaedt, S. J. Hearne, T. A. Saif and I. M. Robertson, "Length scale effects on deformation and failure mechanisms of ultra-fine and nanograined metals", Proc. Materials Research Society, vol. 907E, MM01-03.1, 2006.

CINT Proposal: Direct correlation of the macroscopic mechanical properties with the deformation mechanisms in nanograined metallic systems, University of Illinois, Urbana-Champaign, P2003123.

N. Liu, B. S. Prall, and V. I. Klimov, "Hybrid Gold/Silica/ Nanocrystal-Quantum-Dot Superstructures: Synthesis and Analysis of Semiconductor-Metal Interactions," J. Am. Chem. Soc. 128, 15362 (2006).

CINT Proposal: Energy Transfer in Metal-Semiconductor Quantum Dot Nanoparticles, Georgia State University, U2006A063.

V. K. Thorsmølle, R. D. Averitt, T. Shibauchi, M. F. Hundley, and A. J. Taylor, "Dynamic Coupling-decoupling Crossover in the Current-driven Vortex State in $Tl_2Ba_2CaCu_2O_8$ Probed by the Josephson Plasma Resonance," Phys. Rev. Lett. 97, 237001 (2006).

CINT Proposal: Ultrafast Dynamics in Pentacene Single Crystals and Films, Ecole Polytechnique Federal de Lausanne, U2006A054.

A. Gambetta, C. Manzoni, E. Menna, M. Meneghetti, G. Cerullo, G. Lanzani, S. Tretiak, A. Piryatinski, A. Saxena, R. L. Martin and A. R. Bishop, "Real time Observation of non-linear vibrational dynamics in semiconducting single wall carbon nanotubes," *Nature Phys.*, 2, 515-520 (2006).

CINT Proposal: Time-Domain Atomistic Simulation of Quantization Effects on the Relaxation Dynamics of Photogenerated Carriers in Quantum Dots, University of Washington, U2006A134.

C. Wu, S. Malinin, S. Tretiak, and V. Chernyak, "Exciton scattering and Localization in branched dendrimeric structures," *Nature Phys.*, 2, 631 - 635 (2006).

CINT proposal: Design and Engineering of Optical Nanomaterials Based on Organic Branched Structures, Wayne State University, U2006A116.

S. Tretiak, S. Kilina, A. Piryatinski, A. Saxena, R. L. Martin and A. R. Bishop, "Excitons and Peierls distortion in conjugated carbon nanotubes," *Nano Letters*, 7, 86 - 92 (2007).

CINT Proposal: Time-Domain Atomistic Simulation of Quantization Effects on the Relaxation Dynamics of Photogenerated Carriers in Quantum Dots, University of Washington, U2006A134.

C. Wu, S. Tretiak, and V. Chernyak, "Excited states and optical response of a donor acceptor substituted polyene: a TD-DFT study," *Chem. Phys. Lett.*, 433, 305 – 311 (2007).

CINT proposal: Design and Engineering of Optical Nanomaterials Based on Organic Branched Structures, Wayne State University, U2006A116.

S. Jeong and J. A. Hollingsworth, "Polymerization of nanocrystal quantum dot-tubulin bioconjugates" Special Issue of the IEEE Transactions on Nanobioscience on "Colloidal Quantum Dots for Biomedical Applications." 5: 239, 2006.

CINT mini DR, "Assembly and Actuation of Nanomaterials Using Active Biomolecules" (#20030419DR).

S. Jeong, M. Achermann, J. Nanda, S. Ivanov, V. I. Klimov, and J. A. Hollingsworth, "Effect of the thiol-thiolate equilibrium on the photophysical properties of aqueous CdSe/ZnS nanocrystal quantum dots", *J. Am. Chem. Soc.* 127: 10126, 2005.

CINT mini DR, "Assembly and Actuation of Nanomaterials Using Active Biomolecules" (#20030419DR).

Anatoly Efimov, A. J. Taylor, F. G. Omenetto, N. Y. Joly, D. V. Skryabin, J. C. Knight, W. J. Wadsworth, and P. St. J. Russell, "Spectral-temporal soliton dynamics analysis near second zero-dispersion point in photonic crystal fibers," T. Kobayashi, T. Okada, T. Kobayashi, K. A. Nelson, and S. De Silvestri eds., Springer Series in Chemical Physics, v.79, p.52-54 (2005).

CINT Proposal: Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared, University of Bath, P2003115/R2006A055.

Anatoly Efimov, Antoinette J. Taylor, Fiorenzo G. Omenetto, Jonathan C. Knight, William J. Wadsworth, and Philip St. J. Russell, "Simple optical profiling of complex guiding structures," *Applied Optics* 43, 29 (2004).

CINT Proposal: Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared, University of Bath, P2003115/R2006A055.

W.J. Padilla, M. T. Aronsson, C. Highstrete, Mark Lee, A.J. Taylor, and R.D. Averitt, "Novel electrically resonant terahertz metamaterials: Theoretical and experimental investigations, *Phys. Rev. B* 75, 041102R (2007).

CINT Proposal: Active Terahertz Metamaterials, Boston College, U2006A184.

F. G. Omenetto, N. A. Wolchover, M. R. Wehner, M. Ross, A. Efimov, A. J. Taylor, V. V. R. K. Kumar, A. K. George, J. C. Knight, N. Y. Joly, P. St. J. Russell, "Spectrally smooth supercontinuum from 350 nm to 3 μ m in sub-centimeter lengths of soft-glass photonic crystal fibers," *Opt. Express* 14, 4928 (2006). Nanophotonic thrust.

CINT Proposal: Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared, University of Bath, P2003115/R2006A055.

J. F. O'Hara, R. P. Prasankumar, J. M. Zide, A. C. Gossard, A. J. Taylor, and R. D. Averitt, "Enhanced terahertz detection using self-assembled ErAs nanoislands," *Appl. Phys. Lett.* 88, p. 251119-1-3 (2006).

CINT Proposal: Optical Characterization of Self-Assembled Metallic Nanoislands in Semiconductors, University of California at Santa Barbara, P2003107.

May Nyman, Aaron J. Celestian, John B. Parise, Gregory P. Holland, and Todd M. Alam, "A Rigid Framework of Lacunary Heteropolyniobates: Solid-state Structure and Benign Method for Framework Disruption," *Inorganic Chemistry*, 45, p. 1043-1052 (2006).

CINT Proposal: Designing general synthetic routes to mesostructured and nanostructured materials using miscible-immiscible solvents, State University of New York, P2004112.

L. A. Tracy, J. P. Eisenstein, M. P. Lilly, L. N. Pfeiffer, and K. W. West, "Surface Acoustic Wave Propagation and Inhomogeneities in Low Density Two-Dimensional Electron Systems near the Metal-Insulator Transition," *Solid State Communications*, 137, p.150-153 (2006).

CINT Proposal: Surface Acoustic Wave Studies of Ultra-Low Density 2D Electron Systems, California Institute of Technology, P2003183.

Z. Yuan, P. Atanassov, H. Nakotte, R.P. Hjelm, A. Alsmadi and S. te Velthuis, "Magnetic Properties of Self-Assembled Ferritin-Core Arrays," *Journal of Applied Physics*, 99, p. 8Q509-1-3 (2006).

CINT Proposal: Colloidal Crystal Templating and Magnetic Nanostructures, New Mexico State University, P2003114.

Reema Zeineldin, Julie A. Last, Andrea Slade, Linnea K. Ista, Paul Bisong, Michael J. O'Brien, Steve R. J. Brueck, Darryl Sasaki, Gabriel P. Lopez, "Using bicellar mixtures to form supported and suspended lipid bilayers on silicon chips," *Langmuir*, 22, p. 8163-8168, (2006).

CINT Proposal: Characterization of Lipid Bilayers Supported on Nanotextured Surfaces, University of New Mexico, P2003154.

T. Clement, S. Ingole, S. Ketharanathan, J. Drucker, and S.T. Picraux, "In Situ Study of Semiconductor Nanowire Growth using Optical Reflectometry", Appl. Phys. Lett. 89, p. 163125 (2006).

CINT Proposal: Strain Engineered Nanowire Heterostructures, Arizona State University, U2006A058.

In Press

H-T. Chen, J.F. O'Hara, A. J. Taylor, R. D. Averitt, C. Highstrete, Mark Lee, and W.J. Padilla, "Complementary planar, terahertz materials," to appear in Opt. Exp. (2007).

CINT Proposal: Active Terahertz Metamaterials, Boston College, U2006A184.

J. F. O'Hara, E. Smirnova, H.-T. Chen, A.J. Taylor, R. D. Averitt, C. Highstrete, M. Lee, W. J. Padilla, "Properties of Planar electric metamaterials for novel terahertz applications," to appear in Journal of Nanoelectronics and Optoelectronics, (2007).

CINT Proposal: Active Terahertz Metamaterials, Boston College, U2006A184.

E. Nazaretski, J. D. Thompson, R. Movshovich, M. Zalalutdinov, J.W. Baldwin, B. Houston, T. Mewes, D. V. Pelekhov, P. E. Wigen, J. Kim, P. C. Hammel, "Magnetic Resonance Force Microscopy Studies in a Thin Permalloy Film", Journal of Magnetism and Magnetic Materials (in press).

CINT Proposal: Magnetic Resonance Force Microscopy Studies of Sub-micron Ferromagnetic Particles, Ohio State University, P2005034.

W. D. Zhou, Z. X. Qiang, L. Chen, "Photonic crystal defect mode cavity modeling: a phenomenological dimensional reduction approach", J. Phys. D., vol. 40, pp. xxx, 2007 (in press) (Special issue on photonic crystal devices).

CINT Proposal: Nonlinear Optical Spectroscopy of Nanocrystal Quantum Dots in Photonic Crystal Cavities, University of Texas at Arlington, U2006A041.

H. Fehske and S. A. Trugman, "Numerical Solution of the Holstein Polaron Problem" book chapter in, Polarons in Advanced Materials, ed. A. Alexandrov (2006), (Canopus Publishing and Springer Verlag GmbH, Bath (UK)), 2007, to appear, LA-UR-06-6072.

CINT Proposal: Dynamics of excitons and polarons in low dimensional and mesoscopic devices, Ernst-Moritz-Arndt Universitaet Greifswald, U2006A088.

D. G. Cole and R. L. Clark, "Fluid-structure interaction in atomic force microscope cantilever dynamics and thermal response", J. Appl. Phys., in press, 2007.

CINT Proposal: CADP for Magnetic Cantilever Calibration, Duke University, U2006A113.

T. N. Lambert, N. L. Andrews, H. Gerung, T. J. Boyle, J. M. Oliver, B. S. Wilson and S. M. Han. "Bio-compatible Germanium(0) Nanocrystals - Cell Signaling and Photothermal Discovery", Small, in press.

CINT Proposal: Fluorescent Nanocrystal Probes for the Spatiotemporal Analysis of Signal Transduction Networks, University of New Mexico, P2003148.

B.A. Hernandez-Sanchez, T.J. Boyle, T.N. Lambert, S.D. Daniel-Taylor, J.M. Oliver, B. S. Wilson, D.S. Lidke, and N.L. Andrews, "Synthesizing Biofunctionalized Nanoparticles to Image Cell Signaling Pathways," In Colloidal Quantum Dots for Biomedical Applications II SPIE 6448, in press.

CINT Proposal: Fluorescent Nanocrystal Probes for the Spatiotemporal Analysis of Signal Transduction Networks, University of New Mexico, P2003148.

X. Guo, A. Y. T. Leung, X. Q. He, H. Jiang, Y. Huang, "Bending buckling of single-walled carbon nanotubes by atomic-scale finite element," Composites - Part B: Engineering (in press).

CINT Proposal: Atomic-scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties, Univ. of Illinois at Urbana-Champaign, P2005069.

H. Jiang, M. F. Yu, J. Q. Lu, Y. Huang, H. T. Johnson, X. G. Zhang, P. Ferreira, "Carbon nanotube electronic displacement encoder with sub-nanometer resolution," Journal of Computational and Theoretical Nanoscience (in press).

CINT Proposal: Atomic-scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties, Univ. of Illinois at Urbana-Champaign, P2005069.

L.Y. Jiang, Y. Huang, H. Jiang, G. Ravichandran, H. Gao, K. C. Hwang, B. Liu, "A cohesive law for carbon nanotube/polymer interfaces based on the van der Waals force," Journal of the Mechanics and Physics of Solids (in press).

CINT Proposal: Atomic-scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties, Univ. of Illinois at Urbana-Champaign, P2005069.

A.Y.T. Leung, X. Guo, X. Q. He, H. Jiang, S. Kitipornchai, Y. Huang, "Buckling and post-buckling of carbon nanotubes: an atomic-scale finite element study," Journal of Applied Mechanics (ASME Transactions) (in press).

CINT Proposal: Atomic-scale Finite Element Method (AFEM) for the Study of Nanoscale Material Properties, Univ. of Illinois at Urbana-Champaign, P2005069.

G.A. Crawford, N. Chawla, K. Das, S. Bose, and A. Bandyopadhyay, "Microstructure and Deformation Behavior of Bioactive TiO₂ Coatings," Acta Biomater., (2006) in press.

CINT Proposal: Nanomechanical Characterization of Bioactive TiO₂ Nanotubes on a Titanium Substrate, Arizona State University, U2006A081.

K. Hattar, J. H. Han, D. M. Follstaedt, S. J. Hearne, T. A. Saif and I. M. Robertson, "Deformation and failure processes operating in ultra-fine grain materials", Proc. 16th European Conference on Fracture, Alexandroupolis, Greece, July 3-7, 2006, in press.

CINT Proposal: Direct correlation of the macroscopic mechanical properties with the deformation mechanisms in nanograined metallic systems, University of Illinois, Urbana-Champaign, P2003123.

Melissa A. Holmes, Michael E. Mackay, and Rachel K. Giunta, "Nanoparticles for dewetting suppression of thin polymer films used in chemical sensors," Journal of Nanoparticle Research, in press, 2006.

CINT Proposal: Effect of Nanoparticle Surface Segregation on Polymer Film Dewetting, Michigan State University, P2004017.

V. I. Puller, L. G. Mourokh, J. P. Bird, and Y. Ochiai, "Influence of magnetic moment formation on the conductance of coupled quantum wires," J. Phys.: Condensed. Matter, in press.
CINT Proposal: Spin-Dependent Transport & Many-Body Interactions in Coupled Quantum, University of Buffalo, P2003140.

J.K. Lee, T.A. Harriman, D.A. Lucca, H.S. Jung, D. B. Ryan, M. Nastasi, "Dynamic recovery and optical properties changes in He-implanted ZnO nanoparticles", Nuclear Instruments and Methods in Physics Research B, accepted.
CINT Proposal: Quantum Confinement and Strain Effects in Photonic Nanocrystals, Oklahoma State University, P2003139/R2006A057.

Wang et al, "Irradiation tolerance properties of Nanostructured TiN thin films", accepted by NIMB 2007.
CINT Proposal: Role of Layer-Interfaces and Grain Boundaries on the Properties of Nanostructured Nitride Thin Films, Texas A&M University, U2006A011.

D.P. Sheehan, J.R. Webster and L. Baird, "Orthogonally-oriented nanotube arrays: Experiment I," J. Nanosci. Nanotech. (in review, 2006).
CINT Proposal: Novel Low-Voltage, Coupled Electrical-nanomechanical Resonator, University of San Diego, U2006A078

Submitted

E. Nazaretski, J. D. Thompson, R. Movshovich, M. Zalalutdinov, J.W. Baldwin, B. Houston, T. Mewes, D. V. Pelekhov, P. E. Wigen, P. C. Hammel, "Temperature-Dependent Magnetic Resonance Force Microscopy Studies of a Thin Permalloy Film", submitted to Journal of Applied Physics.
CINT Proposal: Magnetic Resonance Force Microscopy Studies of Sub-micron Ferromagnetic Particles, Ohio State University, P2005034.

M.L. McLauchlin, D. Yang, P. Aella, A.A. Garcia, S.T. Picraux, and M.A. Hayes, "Hydrophilic Sites on Lotus Leaf-Like Fractal Surfaces," Langmuir (submitted).
CINT Proposal: Nanoporous Metal Electrodes Integrated into Microsystems, Arizona State University, P2004082.

D.P. Sheehan, J.R. Webster and L. Baird, "Orthogonally-oriented nanotube arrays: Experiment I," J. Nanosci. Nanotech. (in review, 2006).
CINT Proposal: Novel Low-Voltage, Coupled Electrical-nanomechanical Resonators, University of San Diego, U2006A078.

H. J. Lee, J. Workman, J. S. Wark, R. D. Averitt, A. J. Taylor, J. Roberts, Q. McCulloch, D. E. Hof, N. Hur, S.-W. Cheong, and D. J. Funk, "Optically Induced Lattice Dynamics Probed with Ultrafast X-Ray Diffraction," Physical Review B, submitted.
CINT Proposal: Complex Nanoscale Phenomena in Doped Manganites, Rutgers University, P2003131.

D.W. Hamby, D.A. Lucca, J.-K. Lee, M. Nastasi, H. Seong, and S.Y. Lee, "Effects of Hydrogen Implantation on the Photoluminescence and Carrier Mobility of ZnO Films," Nuclear Instrument and Methods (NIM.) B (submitted).

CINT Proposal: Quantum Confinement and Strain Effects in Photonic Nanocrystals, Oklahoma State University, P2003139.

S. Tretiak, S. Kilina, A. Piryatinski, A. Saxena, R.L. Martin, A.R. Bishop, "Excitons and Peierls distortion in conjugated carbon nanotubes," submitted to Nanoletters.

CINT Proposal: Time-Domain Atomistic Simulation of Quantization Effects on the Relaxation Dynamics of Photogenerated Carriers in Quantum Dots, University of Washington, U2006A134.

C. Wu, S. Tretiak, V. Chernyak, "Excited states and optical response of a donor-acceptor substituted polyene: a TD-DFT study," (submitted to Chem. Phys. Lett.).

CINT Proposal: Design and Engineering of Optical Nanomaterials Based on Organic Branched Structures, Wayne State University, U2006A116.

W. Li, K.L. Kavanagh, A. A. Talin, J. W. P. Hsu, "Ballistic Electron Emission Microscopy Studies of Au/Molecule/n-GaAs Diodes," submitted to J. Appl. Phys.

CINT Proposal: Probing Molecular Junctions at the Nanoscale with Ballistic Electrons, Simon Fraser University, U2004108/R2006A019.

M. Achermann, K. D. Shuford, G. C. Schatz, D. H. Dahanayaka, L. A. Bumm, and V. I. Klimov, "Local near-field spectroscopy of surface plasmons in flat gold nanoparticles," Submitted to Opt. Lett. (2007).

CINT Proposal: Broadband Near-Field Interference Spectroscopy of Flat Gold Nanoparticles, University of Oklahoma, R2006A126.

V. Klimov, "Spectral and dynamic properties of multiexcitons in semiconductor nanocrystals," Annu. Submitted, Rev. Phys. Chem. (2007).

CINT Proposal: Dynamical and Spectroscopic Signatures of Carrier Multiplication in Semiconductor Quantum Dot, University of New Mexico, U2006A155.

K. Igumenshchev, S. Tretiak, and V. Chernyak, "Excitonic effects in a time-dependent density functional theory", (submitted to Phys. Rev. B).

CINT proposal: Design and Engineering of Optical Nanomaterials Based on Organic Branched Structures, Wayne State University, U2006A116.

C. Katan, F. Terenziani, C. Droumaguet, O. Mongin, M.H.V. Werts, A. Bain, E.

Badaeva, S. Tretiak, and M. Blanchard-Desce, "Two-photon transitions in quadrupolar and branched chromophores: experiment and theory", (submitted to J. Chem. Phys.).

CINT proposal: Supramolecular Nanophotonics: a concerted experimental and theoretical approach, CNRS, France, U2006A056.

S. Kilina, S. Tretiak, D. Yarotskii, J. X. Zhu, N. Modine, A. Taylor and A. V. Balatsky,

"Electronic properties of DNA base molecules adsorbed on a metallic surface", (submitted to J. Chem. Phys.).

CINT Proposal: Time-Domain Atomistic Simulation of Quantization Effects on the Relaxation Dynamics of Photogenerated Carriers in Quantum Dots, University of Washington, U2006A134.

H. Mack, J. Riordon, C. Dean, R. Talbot, and G. Gervais, "Local Control of Light Polarization with Low-Temperature Fiber Optics," Submitted to Optics Letters.

CINT Proposal: Quantum electronics in GaAs/AlGaAs by means of resistive NMR and scanned probe imaging, McGill University, P2006A105.

H.-T. Chen, W. J. Padilla, J. M. O. Zide, A. C. Gossard, A. J. Taylor, R. D. Averitt, "Ultrafast THz metamaterials switching using ErAs:GaAs nanoisland superlattices", submitted to Optics Letters.

CINT Proposal: Optical characterization of self-assembled metallic nanoislands in semiconductors, University of California, Santa Barbara, P2003107.

S. Ingole, P. Aella, Sean J. Hearne, S.T. Picraux, "Self Assembly of Nanowire-Metal Contacts Using Electrodeposition," Appl. Phys. Lett. (submitted).

CINT Proposal: Doped SiGe Nanowires for Functional Nanodevices, Arizona State University, U2006A017.

J. Demsar, A. Gozar, V. K. Thorsmølle, A. J. Taylor, and I. Bozovic, "Long-lived photo-induced absorption in LaSrAlO₄" submitted to Phys. Rev. B, 2006.

CINT Proposal: Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared, University of Bath, P2003115/R2006A055.

To be Submitted

O. Anderoglu, A. Misra, R. G. Hoagland, and X. Zhang, "Thermal Stability of Cu Films with Nanoscale Growth Twins", in preparation.

CINT Proposal: Synthesis and Mechanical Behavior of Metallic Thin Films with Nanoscale Growth Twins, Texas A&M University, U2006A031.

A. Wood, X. Weng, P.T. Wang, R.S. Goldman, Y.Q. Wang, "Ion-Beam-Synthesis of GaAsN and InAsN Nanostructures," in preparation (2007).

CINT Proposal: Matrix-Seeded Growth of Narrow Gap Nitride Semiconductor Nanostructures, University of Michigan, P2004032.

Jessica E. Bickel, Normand A. Modine, Anton VanDerVen, Joanna Mirecki-Millunchick, "The z(4x4) reconstruction in In_{0.27}Ga_{0.73}As Films," (in preparation).

CINT Proposal: Ab Initio Simulated STM Images for Compound Semiconductor Alloys, University of Michigan, U2006A090.

J. Taraci, J. Houston, D. Yang, P. Aella, and S. T. Picraux, "Lateral force measurements of bubble motion on a superhydrophobic surface", Nano Lett. (in prep.)

CINT Proposal: Nanoporous Metal Electrodes Integrated into Microsystems, Arizona State University, P2004082.

H. J. Lee, R. P. Prasankumar, R. D. Averitt, D. J. Funk, and A. J. Taylor, "Optical-pump mid-infrared probe study of quasiparticle dynamics in (La,Pr,Ca)MnO₃," in preparation.
CINT Proposal: Complex nanoscale phenomena in doped manganites, Rutgers University, P2003131.

R. P. Prasankumar, R. D. Averitt, A. J. Taylor, G. V. Winckel, A. Stintz, and S. Krishna, "Time-resolved mid-infrared dynamics of an InAs/InGaAs quantum-dots-in-a-well detector," in preparation.
CINT Proposal: Nanoscale Quantum Dots in a Well (DWELL) Sensors, University of New Mexico, P2004030.

J. K. Lee, J. G. Swadener, M. Nastasi, D. W. Hamby, and D. A. Lucca, "Role of Implantation Temperature on the Photoluminescence of Silicon Nanocrystals," (in preparation).
CINT Proposal: Quantum Confinement and Strain Effects in Photonic Nanocrystals, Oklahoma State University, P2003139.

S. D. Smith, M. W. Hamersky, K. Ø. Rasmussen, M. K. Bowman, R. J. Spontak, "On the Origin of Molecular Bridging in Triblock Copolymer Melts," in preparation for submission to Phys. Rev. Lett.
CINT Proposal: Fundamental Structure-Property Determination in Model Multicomponent Polymer Nanostructures, North Carolina State University, P2004051.

R. J. Spontak, R. Shankar, K. Ø. Rasmussen, "Triblock Copolymers Imbibed with Midblock-Selective Solvent Molecules varying in Size and Selectivity," in preparation for submission to Phys. Rev. Lett.
CINT Proposal: Fundamental Structure-Property Determination in Model Multicomponent Polymer Nanostructures, North Carolina State University, P2004051.

D. R. Heine, D. K. Danova-Okpetu, G. S. Grest, and J. L. Harden, "Dynamical and Mechanical Behavior of Reversible Protein Hydrogels," in preparation.
CINT Proposal: Multi-scale Modeling of Nanostructured Protein Hydrogels, Johns Hopkins University and Sandia National Labs, P2003187.

X. Weng, R.S. Goldman, and Y.Q. Wang, "Structure Evolution of Nitrogen Ion Implanted InAs," in preparation (2005).
CINT Proposal: Matrix-Seeded Growth of Narrow Gap Nitride Semiconductor Nanostructures, University of Michigan, P2004032.

P.T. Wang, X. Weng, R.S. Goldman, and Y.Q. Wang, "Evolution of GaN nanocrystal formation in nitrogen ion implanted GaAs," in preparation (2005).
CINT Proposal: Matrix-Seeded Growth of Narrow Gap Nitride Semiconductor Nanostructures, University of Michigan, P2004032.

Dongqing Yang, Martin Piech, Nelson S. Bell, Devens Gust, Sean Vail, Antonio A. Garcia, John Schneider, Mark A. Hayes, and S.T. Picraux, "Photo-control of Liquid Motion on Reversible Switching Azobenzene Surfaces", Langmuir (in preparation). CINT Proposal: Interfacial Force

Microscopy Studies of the Interaction of Fluids with Optically-Modifiable Nanostructured Surfaces, Arizona State University, U2006A050.

S. Ingole, P. Aella, and S. T. Picraux, "Post Growth Electrical Doping of Silicon Nanowires with Boron", *J. Vac. Sci. Tech. B* (in preparation).

CINT Proposal: Doped SiGe Nanowires for Functional Nanodevices, Arizona State University, U2006A017.

X. Zhang, O. Anderoglu, A. Misra, "Deposition Rate on the Formation of Growth Twins in Sputter Deposited 330 Austenitic Stainless Steel Films", *Applied Physics Letters*, to be submitted.

CINT Proposal: Synthesis and Mechanical Behavior of Metallic Thin Films with Nanoscale Growth Twins, Texas A&M University, U2006A031.

E. Nazaretski, I. Martin, R. Movshovich, M. Zalalutdinov, J. W. Baldwin, B. Houston, D. V. Pelekhov P. C. Hammel, "Ferromagnetic Resonance Force microscopy on a thin permalloy film", in preparation for *Applied Physics Letters*.

CINT Proposal: Magnetic Resonance Force Microscopy Studies of Sub-micron Ferromagnetic Particles, Ohio State University, P2005034.

E. Nazaretski, I. Martin, R. Movshovich, M. Zalalutdinov, J. W. Baldwin B. Houston, D. V. Pelekhov, P. C. Hammel, "Detection of localized excitations in a continuous ferromagnetic film via magnetic resonance force microscopy", in preparation for *Physical Review Letters*.

CINT Proposal: Magnetic Resonance Force Microscopy Studies of Sub-micron Ferromagnetic Particles, Ohio State University, P2005034.

J. Werner, G. Montañó, A. Zurek, E. Akhadov, G. Lopez, A. Shreve, "Formation and Characterization of Supported Phospholipid Membranes on a Periodic Nanotextured Substrate", in preparation for submission to *J. Phys. Chem. B*.

CINT Proposal: Characterization of Lipid Bilayers Supported on Nanotextured Surfaces, University of New Mexico, P2003154.

A. Efimov, A.J.Taylor, F.G.Omenetto, I.Gabitov, J.Knight, "Supercontinuum generation and soliton self-destruction in soft-glass photonic crystal fibers," in preparation

CINT Proposal: Nonlinear Optics in Photonic Crystal Fibers in the Mid-Infrared, University of Bath, P2003115/R2006A055.

B. Medasani, Y. H. Park, and I. Vasiliev, "Surface Energy of Silver Nanoparticles", (in preparation, to be submitted to *Phys. Rev. B* before the end of 2006).

CINT Proposal: Computational Study of Electronic and Optical Properties of Nanoscale Core-Shell Structures, New Mexico State University, U2006A174.

R. P. Prasankumar, R. S. Attaluri, N. Weisse-Bernstein, R. D. Averitt, A. Stintz, S. Krishna, and A. J. Taylor, "Characterization of an InAs/InGaAs quantum-dots-in-a-well mid-infrared detector using ultrafast differential transmission spectroscopy," in preparation.

CINT Proposal: Understanding Carrier Dynamics in a Novel Nanoscale System: Quantum Dots in a Well (DWELL) Heterostructures, University of New Mexico, P2004010/R2006A009.

R. P. Prasankumar, H. J. Lee, S. W. Cheong, A. J. Taylor, and R. D. Averitt, "Quasiparticle dynamics on multiple length and time scales in the phase separated manganites (La,Pr,Ca)MnO₃," in preparation.
CINT Proposal: Complex Nanoscale Phenomena in Doped Manganites, Rutgers University, P2003131.

Mesfin Tsige and Gary S. Grest, "Surface tension and surface activity of fluorinated alkanes," in preparation.
CINT Proposal: Interfacial Effects of Nanometer Fluorinated Segments on Energy Controlled Responsive Polymeric Films, Clemson University, U2006A124.

A. Wood, X. Weng, P.T. Wang, R.S. Goldman, Y.Q. Wang, "Ion-Beam-Synthesis of GaAsN and InAsN Nanostructures," in preparation (2007).
CINT Proposal: Matrix-Seeded Growth of Narrow Gap Nitride Semiconductor Nanostructures, University of Michigan, P2004032.

Jessica E. Bickel, Normand A. Modine, Anton VanDerVen, Joanna Mirecki-Millunchick, "The z(4x4) reconstruction in In_{0.27}Ga_{0.73}As Films," (in preparation).
CINT Proposal: Ab Initio Simulated STM Images for Compound Semiconductor Alloys, University of Michigan, U2006A090.

J. Glennon, H. Htoon, R. A. Loomis, W. Buhro and V. I. Klimov, "Evidence for exciton localization in CdSe Nanowires," in preparation
CINT Proposal: Characterization of the Photoluminescence Spectra and Charge Dynamics within Single CdSe Quantum Wire at Low Temperatures (U2006A133).

D. Bussian, J. Glennon, H. Htoon, R. A. Loomis, W. Buhro and V. I. Klimov, "Intra-wire energy transfer probed by single-quantum-wire photoluminescence spectroscopy," in preparation.
CINT Proposal: Characterization of the Photoluminescence Spectra and Charge Dynamics within Single CdSe Quantum Wire at Low Temperatures, Washington University, U2006A133.

B. Medasani, Y. H. Park, and I. Vasiliev, "Surface Energy of Silver Nanoparticles", -- article (in preparation, to be submitted to Phys. Rev. B. before the end of 2006).
CINT Proposal: Computational Study of Electronic and Optical Properties of Nanoscale Core-Shell Structures, New Mexico State University, U2006A174.