

2011 CINT Publications

1. Achermann, M., L. Balet, J. Hollingsworth, S. Jeong, G. Montaño (2011). "Efficient Quantum Dot-Quantum-Quantum Dot-Dye Energy Transfer in Biотemplated Assemblies." *ACS Nano* 5 (3): 1761-1768.
2. Ahirwar, P., Clark, S., Jaeckel, F., Hains, C., Albrecht, A., Schjetnan, P., Rotter, T.J., Dawson, L.R., Balakrishnan, G., Phinney, L., Hopkins, P.E., Hader, J., Moloney, J.V., "Growth and Thermal Conductivity Analysis of Poly-Crystalline GaAs on CVD Diamond for use in Thermal Management of High-Power Semiconductor Lasers," *Journal of Vacuum Science and Technology B* 29, 03C130 (2011).
3. Arikawa, T., X. Wang, D. Hilton, J. L. Reno, J. Kono, W. Pan (2011). "Quantum Control of a Landau-Quantized Two-Dimensional Electron Gas in a GaAs Quanum Well Using Coherent Terahertz Pulses." *Physical Review B* 84, 241307
4. Baber, S., S. Baily, E. Bauer, Z. Bi, A. Burrell, L. Civale, S. Deng, N. Haberkorn, M. Hawley, Q. Jia, Q. Lin, H. Luo, T. Mccleskey, H. Wang, H. Yang, S. Zollner, G. Zou (2011). "Magnetic Properties of Self-Assembled Epitaxial Nanocomposite Cofe₂O₄:SrTiO₃ and Cofe₂O₄:Mgo Films" *Journal of Physical Chemistry C* 115, 25338
5. Bellou, A., D. Bahr, A. Misra, C. Overman, H. Zbib (2011). "Strength and Strain Hardening Behavior of Cu-based Bilayers and Trilayers." *Scripta Materialia*, 64, 641-644
6. Bi, Z., A. Chen, Q. Jia, H. Luo, J. Macmanus-Driscoll, H. Wang, E. Weal (2011) "Microstructure and Magnetic Properties of (La 0.7Sr0.3mno3)0.7:(Mn 3O 4)0.3 Nanocomposite Thin Films." *Journal of Applied Physics* 109, 054302
7. Boyce, B., H. Padilla (2011) "Anomalous Fatigue Behavior and Fatigue-Induced Grain Growth in Nanocrystallin Nickel Alloys." *The Minerals, Metals, and Materials Society and ASM International Vol. 42 Number 7*, 1793-1804
8. Bringa, E., F. Abraham, A. Caro, M. Duchaineau, D. Farkas, A. Misra, J. Monk, M. Nastasi, S. Picraux, Y. Wang, L. Zepeda-Ruiz (2011). "Are Nanoporous Materials Radiation Resistant?" *Nano Letters* 9 June 10.1021.
9. Bryant, H., N. Adolphi, D. Fegan, E. Flynn, D. Huber, T. Monson, T. Tessier (2011). "Magnetic Properties of Nanoparticles Useful For SQUID Relaxometry in Biomedical Applications." *Journal of Magnetism and Magnetic Materials*, 323(6): P. 767-774
10. Burghoff, D., D. Ban, Q. Hu, T. Kao, A. Lee, J. Reno (2011). "A Terahertz Pulse Emitter Monolithically Integrated With A Quantum Cascade Laser." *Applied Physics Letters*, 98, 061112
11. Chapler, B., D. Awschalom, D. Basov, K. Burch, A. Dattelbaum, A. Frenzel, S. Mack, R. Myers, B. Pursley, N. Samarth, E. Singley (2011). "On Magnetism and the Insulator-To- Metal Transition in P-Doped GaAs." *Physical Review B*, 84, 081203.
12. Chen, L., Z. Bi, H. Hazariwala, Q. Jia, J. Macmanus-Driscoll, Q. Su, H. Wang, X. Zhang (2011). "Microstructure, Magnetic, and Low-Field Magnetotransport Properties of Self- Assembled

- (La_{0.7}Sr_{0.3}MnO₃)_{0.5}:(CeO₂)_{0.5} Vertically Aligned Nanocomposite Thin Films." Nanotechnology 22, 315712
- 13. Chen, L., Z. Bi, Q. Jia, J. Lee, J. Macmanus-Driscoll, Q. Su, C. Tsai, H. Wang, X. Zhang (2011) "Tunable Low-Fiel Magnetoresistance in (La_{0.7}Sr_{0.3}MnO₃):(ZnO) 0.5 Self-Assembled Vertically Aligned Nanocomposite Thin Films." Advanced Functional Materials 21, 2423-2429
 - 14. Talbayev, D., S. Cheong, S. Lee, A.T Aylor, S. Trugman, H. Yi (2011). "Long Wavelength Magnetic and Magnetoelectric Excitations in the Ferroelectric Antiferromagnet BiFeO₃" Physical Review B, 094403
 - 15. Choi, E.M., Z. Bi, M. Blamire, Q. Jia, J. Macmanus-Driscoll, S. Patnaik, S. Sahonta, E. Weal, H. Wang, J. Xiong (2011). "Strong Room Temperature Magnetism in Highly Resistive Strained Thin Films of BiFeO_{0.5}Mn 0.5O 3," Applied Physics Letters 98, 012509
 - 16. Collino, R., B. Dick, N. Estrada, R. Goldman, H. Ro, C. Soles, M. Thouless, Y. Wang, A.Wood (2011). "Formation and Transfer of GaAsN Nanostructure Layers." Journal of Vacuum Science and Technology 29, 060601
 - 17. Crochet, J., J. Duque, S. Doorn, J. Sau, M. Cohen (2011). "Electrodynamic and Excitonic Inter-Tube Interactions in Semiconducting Carbon Nanotube Aggregates." ACS Nano, 5, 2611. (Cited: 2)
 - 18. Demkowicz, M., O. Anderoglu, J. Mater, A. Misra, X. Zhang (2011). "The Influence of Sigma 3 Twin Boundaries on the Formation of Radiation-Induced Defect Clusters in Nanotwinned Cu." Res., Vol. 26, No. 14.
 - 19. Duque, J.G., H. Chen, S. Doorn, S. Kilina, A. Shreve, A. Swan, S. Tretiak, X. Tu, M. Zheng (2011). "Violation of the Condon Approximation in Semiconducting Carbon Nanotubes." American Chemical Society Nano, VOL. 5 NO. 6, 5233–5241.
 - 20. Duque, J., J. Crochet, S. Crooker, A. Dattelbaum, K. Defriend Obrey, S. Doorn, G. Gupta, C. Hamilton, H. Htoon, A. Mohite (2011). "Fluorescent Single-Walled Carbon Nanotube Aerogels in Surfactant-Free Environments." American Chemical Society Nano, VOL. 5 NO. 8, 6686–6694.
 - 21. Duque, J.G., H. Chen, S. Doorn, E. Haroz, J. Kono, A. Swan, X. Tu, M. Zheng (2010). "Revealing New Electronic Behaviours in the Raman Spectra of Chirality-Enriched Carbon Nanotube Ensembles." Physics Status Solidi B, 1–6, DOI 10.1002
 - 22. Duque, J.G., G. Gupta, L. Cognet, B. Lounis, S. Doorn, A. Dattelbaum (2011). "A New Route to Fluorescent SWNT/Silica Nanocomposites: Balancing Fluorescence Intensity and Environmental Sensitivity." Journal of Physical Chemistry C, 115, 15147.
 - 23. Elbert, E., J. Chia, D. Talbayev, A. Taylor, Zhu (2011). "Competing Energy Scales in High-Temperature Superconductors: Ultrafast Pump-Probe Studies." Physics Status Solidi RRL 5,

24. Fraboni, B., A. Bonfiglio, A. Cavallini, P. Cosseddu, Z. Di, M. Nastasi, R. Schulze, Y. Wang (2011). "Aging Control of Organic Thin Film Transistors via Ion-Implantation." *Organic Electronics*, Vol. 12, Issue 1.
25. Frischknecht, A.L., A. Yethiraj (2011). "Two- and Three-Body Interactions among Nanoparticles in a Polymer Melt." *Journal of Chemical Physics*, 134, 174901
26. Gabbay, A., J. Reno, J. Wendt (2011). "Interaction between Metamaterial Resonators and Intersubband Transitions in Semiconductor Quantum Wells." *Applied Physics Letters* Vol: 98, Issue: 20 Art: 203103
27. Galland, C., Y. Ghosh, J. Hollingsworth, H. Htoon, V. Klimov, A. Steinbruck, M. Sykora (2011). "Two Types of Luminescence Blinking Revealed by Spectroelectrochemistry of Single Quantum Dots." *Nature*, 479, 203-U275
28. Gambari, J., A. Fernandez-Dominguez, Q. Hu, S. Kumar, S. Maier, C. Phillips, J. Reno, B. Williams (2011). "Thresholdless Thz Lasing From a Semiconductor Nanostructure in a Strongly-Coupled Plasmonic Microcavity." 3rd International Topical Meeting On Nanophotonics and Metamaterials, 1/3-6/2011, Tirol, Austria
29. Ganguly, K., P. Goodwin, R. Iyer, M. Ollivault-Shiflett, L. Silks, R. Wu (2011). "Design, Synthesis, and a Novel Application of Quorum-Sensing Agonists as Potential Drug-Delivery Vehicles." *Journal of Drug Targeting*, Vol. 19, Issue 7.
30. Haroz, E., C. Densmore, S. Doorn, J. Duque, J., Kono, W. Rice (2011). "Resonant Raman Spectroscopy of Armchair Carbon Nanotubes: Absence of Broad G- Feature." *Physical Review B*, 84, 121403(R)
31. Haroz, E.H., J. Duque, W. Rice, C. Densmore, J. Kono, S. Doorn (2011). "Resonant Raman Spectroscopy of Armchair Carbon Nanotubes: Absence of Broad G- Feature." *Physical Review B*, 84, 121403 (R).
32. Harrington, S., S. Baek, C. Bark, Z. Bi, S. Denev, C. Eom, V. Gopalan, Q. Jia, J. Macmanus-Driscoll, S. Redfern, M. Vickers, H. Wang, J. Zhai (2011). "Thick Lead-Free Ferroelectric Films with High Curie Temperatures through Nanocomposite-Induced Strain." *Nature Nanotechnology*, 6, 491-495
33. Hathaway, H., N. Adolphi, R. Belfon, H. Bryant, K. Butler, D. Fegan, E. Flynn, D. Huber, R. Larson, D. Lovato, T. Monson, T. Tessier, J. Trujillo (2011). "Detection of Breast Cancer Cells Using Targeted Magnetic Nanoparticles and Ultra-Sensitive Magnetic Field Sensors." *Breast Cancer Research*, 13(5), P. R108
34. Hopkins, P., H. Li, A. Misra, L. Phinney, J. Serrano (2011). "Boundary Scattering Effects during Electron Thermalization in Nanoporous Au." *Journal of Applied Physics*, 109, 013524
35. Hopkins, P. E., M. Mittal, L. M. Phinney, A. M. Grillet, and E. M. Furst, "Ultra-Low Thermal Conductivity of Ellipsoidal TiO₂ Nanoparticle Films," *Applied Physics Letters*, Vol. 99, No. 13, Article ID 133106, 3 Pp. 2011).

36. Hopkins, P.E., Beechem, T.E., Duda, J.C., Hattar, K., Ihlefeld, J.F., Rodriguez, M. A. Piekos, E.S., "Influence of Anisotropy on Thermal Boundary Conductance at Solid Interfaces," *Physical Review B* 84, 125408 (2011).
37. Hopkins, P.E., Duda, J.C., Petz, C.W., Floro, J.A., "Controlling Thermal Conductance Through Quantum Dot Roughening At Interfaces," *Physical Review B* 84, 035438 (2011)
38. Hopkins, P.E., Hattar, K., Beechem, T., Ihlefeld, J.F., Medlin, D.L., Piekos, E.S., "Reduction in Thermal Boundary Conductance Due To Proton Implantation in Silicon and Sapphire," *Applied Physics Letters* 98, 231901 (2011).
39. Hopkins, P.E., Duda, J.C., Clark, S.P., Hains, C.P., Rotter, T.J., Phinney, L.M., Balakrishnan, G., "Effect of Dislocation Density on the Thermal Boundary Conductance Across GaSb/GaAs Interfaces," *Applied Physics Letters* 98, 161913 (2011).
40. Huang, J., H. Fan, N. Hudak, A. Kushima, J. Li, X. Liu, S. Mao, L. Qi, A. Subramanian, J. Sullivan, C. Wang, W. Xu, L. Zhang, L. Zhong (2010). "in Situ Observation of The Electrochemical Lithiation of a Single SnO₂ Nanowire Electrode" *Science*, 330, 1515
41. Hur, S.M., G. Fredrickson, A. Frischknecht, D. Huber (2011). "Self-Consistent Field Simulations of Self- and Directed-Assembly in a Mixed Polymer Brush." *Soft Matter*, 7, 8776
42. Johnson, A., B. Adams, A. Dattelbaum, D. Fullwood, C. Gardner, G. Hansen, G. Kaschner, N. Mara, T. Mason (2011). "Multi-Scale Model for the Extreme Piezoresistivity in Silicone/Nickel Nanostrand Nanocomposites." *Metallurgical Trans. A*, 42, 3898-3906.
43. Kadel, K., J. Huang, L. Kumari, W. Li, P. Provencio (2011). "Synthesis and Thermoelectric Properties of Bi₂Se₃ Nanostructures." *Nanoscale Research Letters* 6, 57, DOI: 10.1007/S11671-010-9795-7
44. Kalb, J., D. Dukes, G. Grest, R. Hoy, S. Kumar (2011). "End Grafted Polymer Nanoparticles in a Polymeric Matrix: Effect of Coverage and Curvature." *Soft Matter*, 7, 1418–1425.
45. Kang, B., P. Arendt, R. Depaula, T. Harriman, Q. Jia, J. Lee, D. Lucca, J. Mcmanus- Driscoll, M. Nastasi, B. Park, L. Stan, I. Usov (2011). "Strain Mismatch Induced Titled Heteroepitaxial Hexagonal ZnO Films On (001) Cubic Substrates." *Adv. Eng. Mater*, 13, 1142
46. Laroche, D., G. Gervais, M. Lilly, J. Reno (2011). "Positive and Negative Coulomb Drag in Vertically Integrated One-Dimensional Quantum Wires." *Nature Nanotechnology*, 6, 793
47. Lee, J., S. Cheong, R. Prasankumar, D. Talbayev, A. Taylor, X. Xu, C. Zhang (2011). "Ultrafast Polaron Dynamics in LuFe₂O₄." *Ultrafast Phenomena XVII*, Oxford University Press, P. 182
48. Li, N., J. Huang, A. Misra, J. Wang, X. Zhang (2011). "Influence of Slip Transmission on the Migration of Incoherent Twin Boundaries in Epitaxial Nanotwinned Cu." *Scripta Materialia*, 64, 149-15
49. Li, N., J. Hirth, J. Huang, A. Misra, J. Wang, X. Zhang (2011). "Twinning Dislocation Multiplication at a Coherent Twin Boundary." *Acta Materialia*, 59, 5989-5996

50. Li, W., T. Luk, X. Miao, P. Zhang (2011). "Reporter-Embedded TiO₂ Core-Mixed Metal Shell Nanoparticles with Enormous Average Surface-Enhanced Raman Scattering Enhancement Factors." *Journal of Physical Chemistry C*, DOI:10.1021
51. Lin, Q., S. Baber, Z. Bao, E. Bauer, A. Burrell, S. Deng, E. Fu, J. Hollingsworth, Q. Jia, J. Kundu, H. Luo, T. Mccleskey, Y. Xu, L. Yu (2011). "Polymer-Assisted Chemical Solution Approach To YVO₄:Eu Nanoparticle Networks" *Journal of Material Chemistry*, DOI: 10.1039/C2jm15628h
52. Liu, M., R. Averitt, E. Bauer, T. Durakiwicz, P. Tobash, A. Taylor, S. Trugman, D. Yarotski (2011). "Evidence of a Hidden-Order Pseudogap State in UrU₂Si₂ using Ultrafast Optical Spectroscopy." *Physics Review B*, 161101.
53. Liu, X., J. Huang, A. Kushima, J. Li, S. Mao, J. Sullivan, Z. Ye, L. Zhang, Z. Zhong (2011). "Lithium Fiber Growth on the Anode in a Nanowire Lithium Ion Battery during Charging." *Applied Physics Letters*, 98, 183107.
54. Liu, X., J. Cho, S. Dayeh, J. Huang, Y. Liu, S. Mao, S. Picraux, J. Sullivan, J. Wang, H. Zheng, L. Zhong, Z. Ye (2011). "Ultrafast Electrochemical Lithiation of Individual Si Nanowire Anodes." *Nano Letters*, 11, 2251-2258.
55. Liu, X., J. Cho, J. Cummings, E. Epstein, J. Huang, S. Huang, K. Karki, A. Kushima, W. Liang, J. Li, Y. Liu, S. Mao, S. Picraux, J. Sullivan, C. Wang, J. Wang, S. Zhang, L. Zhang, H. Zheng, Z. Zhi, L. Zhong, T. Zhu (2011). "Anisotropic Swelling and Fracture of Silicon Nanowires during Lithiation." *Nano Letters*, 10, 1021/NI201684d.
56. Liu, Y., J. Huang, S. Huang, X. Huang, N. Hudak, A. Kushima, J. Li, X. Liu, S. Mao,
57. X. Qian, J. Wang, S. Zhang, H. Zheng, T. Zhu (2011). "Lithiation Induced Embrittlement of Multi-Walled Carbon Nanotube." *American Chemical Society Nano*, 10.1021, Nn202071y
58. Y. Liu, H. Zheng, X.H. Liu, S. Huang, T. Zhu, J.W. Wang, A. Kushima, N.S. Hudak, X. Huang, S.L. Zhang, S.X. Mao, X.F. Qian, J. Li, and J.Y. Huang, "Lithiation-induced Embrittlement of Multiwalled Carbon Nanotubes", *ACS Nano*. (2011) DOI: 10.1021/Nn202071y.
59. Loh, O., H. Espinosa, C. Ke, J. Sullivan, X. Wei (2011). "Robust Carbon- Nanotube-Based Nano-Electromechanical Devices: Understanding and Eliminating Prevalent Failure Modes using Alternative Electrode Materials." *Small*, Vol. 7, No. 1, Pp. 79-86, 2011. DOI: 10.1002/Smi.201001166
60. Lu, Y., J. Huang, J. Lou, J. Song (2011). "Fracture of Sub-20 nm Ultrathin Gold Nanowires." *Nanotechnology*, 22, 355702
61. Lu, Y., Y. Ganesan, J. Huang, J. Lou, C. Peng (2011). "Quantitative In-situ TEM Tensile Testing of an Individual Nickel Nanowire." *Nanotechnology*, 22, 355702
62. Lucca, D.A., J. Dong, T. Harriman, A. Mehner, M. Nastasi, T. Prenzel, Y. Qi, Y. Wang (2010) "Effects of Ion Irradiation on the Mechanical Properties of SiNa w O x CyHz Sol-gel Derived Thin Films." *Nuclear Instruments and Methods in Physics Research B*, 268, 2926– 2929

63. Luk, T., C. Brinker, W. Chow, A. Fishcer, X. Miao, P. Resnick, G. Subramania, S. Xiong (2011). "Anomalous Enhanced Emission from PbS Quantum Dots on a Photonic-crystal Microcavity." *Journal of The Optical Society of America B*, Vol. 28, Issue 6 DOI:142653
64. Luo, H., E. Bauer, A. Burrell, S. Deng, Q. Jia, J. Lee, Q. Lin, Y. Lin, T. McCleskey, H. Peng, H. Wang, G. Zou (2011). "Controlling Crystal Structure and Oxidation State in Molybdenum Nitrides through Epitaxial Stabilization." *Journal of Physics and Chemistry C*, 115, 17880-17883
65. Mack, N.H., J. Bailey, S. Doorn, C. Chen, H. Gau, D. Williams, E. Akhadov, H. Wang (2011). "Mechanistic Study of Silver Nanoparticle Formation on Conducting Polymer Surfaces." *Langmuir*, 27, 4979
66. Malko, A., Y. Chen, C. Galland, J. Hollingsworth, H. Htoon, V. Klimov, Y. Park, S. Sampat, J. Vela (2011). "Pump- intensity and Shell-thickness-dependent Evolution of Photoluminescence Blinking in Individual Core/Shell CdSe/CdS Nanocrystals." *Nano Letters*, 11, 5213-5218
67. Maskey, S., F. Pierce, D. Perahia, G. Grest (2011). "Conformational Study of a Single Molecule of Poly (P-Phenylenethynylene) in Dilute Solutions." *Journal of Chemical Physics*, 134(24), 244906/1-244906/8
68. Mehner, A., W. Datchary, J. Dong, D. Lucca, T. Prenzel (2010). "Mechanical and Chemical Properties of Thick Hybrid Sol-gel Silica Coatings from Acid and Base Catalyzed Sols." *Journal of Sol-Gel Science and Technology*, 54, 355-362
69. Mehner, A., E. Brinksmeier, J. Dong, T. Hoja, F. Klaiber, D. Lucca, Y. Mutluguenes, T. Prenzel (2010) "Diamond Machinable Sol-gel Silica Based Hybrid Coatings for High Precision Optical Molds." *Key Engineering Materials*, 438, 65-72
70. Miao, X., I. Brener, T. Luk (2010). "Nanocomposite Plasmonic Fluorescence Emitters with Core/Shell Configurations." *Journal of The Optical Society of America B*, Vol. 27, Issue 8, Pp. 1561-1570
71. Mierzejewski, M., J. Bonca, P. Prelovesk, L. Vidmar (2011). "Nonequilibrium Quantum Dynamics of a Charge Carrier Doped into a Mott Insulator." *Physics Review Letter*, 106, 196401
72. Padmanabhan, V., A. Frischknecht, M. Mackay (2011). "Effect of Chain Stiffness on Nanoparticle Segregation in Polymer/Nanoparticle Blends near a Substrate." *Macromolecular Theory and Simulations*, Vol. 21, Issue 2, 98-105
73. Park, Y.S., A. Malko, J. Vela (2011). "Near-Unity Quantum Yields of Biexciton Emission from CdSe/CdS Nanocrystals Measured using Single-Particle Spectroscopy." *Physical Review Letters*, Vol. 106, Issue 18
74. Peralta, X., A. Azad, I. Brener, H. Chen, W. Goodhue, J. Li, J. O'Hara, A. Taylor,
75. J. Waldman, M. Wanke (2010). "Metamaterial-based Devices for Terahertz Imaging." *Proc. SPIE*, Vol. 7562, 75620I

76. Peteanu, L., G. Sherwood, A. Shreve, T. Smith, J. Werner (2011). "Visualizing Core-shell Structure in SubstitutedPPV Oligomer Aggregates Using Fluorescence Lifetime Imaging Microscopy (FLIM)." *Journal of Physics and Chemistry C*, 115, 15607-15616.
77. Pierce F., G. Grest, D. Perahia (2011). "Dynamics of Polymers across an Interface." *Europhysics Letters*, 95, 46001
78. Qi, J.S., J. Feng, J. Huang, J. Li, D. Shi (2011). "The Possibility of Chemically Inert, Graphene-Based All-carbon Electronic Devices with 0.8 Ev Gap." *American Chemical Society Nano*, 5, 3475.
79. Qi, L., J. Feng, J. Huang, J. Li (2010). "In-situ Observations of the Nucleation and Growth of Atomically Sharp Graphene Bilayer Edges." *Carbon*, 48, 2354
80. Qi, Y., J. Dong, T. Harriman, D. Lucca, A. Mehner, M. Nastasi, T. Prenzel, Y. Wang, D. Williams (2010). "Investigation of Hydrogen Concentration and Hardness of Ion Irradiated Organically Modified Silicate Thin Films." *Nuclear Instruments and Methods in Physics Research B*, 268, 1997–2000
81. Qin, Q., Q. Hu, J. Reno (2011). "MEMS-Based Tunable Terahertz Wire-Laser Over 330 GhZ." *Optics Letters* 36, 692
82. Ren, Y., J. Gao., R. Higgins, J. Hovenier, Q. Hu, T. Kao., T. Klapwijk, B. Klein, J. Reno, S. Shi (2011). "High-Resolution Heterodyne Spectroscopy using a Tunable Quantum Cascade Laser around 3.5 ThZ." *Applied Physics Letters*, 98, 231109
83. Ren, Y., A. Bell, J. Gao, R. Higgins, J. Hovenier, Q. Hu, T. Klapwijk, B. Klein, S. Kumar, J. Reno, S. Shi, B. Williams (2010). "Terahertz Heterodyne Spectrometer using a Quantum Cascade Laser." *Applied Physics Letters*, 97, 161105
84. D.R.P. Singh, N. Chawla, G. Tang, and Y.-L. Shen, "Anomalous Viscoplasticity during Nanoindentation of Al/SiC Nanolaminated Composites," *Mater. Sci. Eng. A*, (2011) A528 4608–4614.
85. Smolev, S., L. Basilio, I. Brener, S. Brueck, Z. Ku, W. Langston, M. Sinclair, G. Ten Eyck (2010). "Resonant Coupling to a Dipole Absorber Inside A Metamaterial: Anticrossing of The Negative Index Response." *Journal of Vacuum Science & Technology B*, 28
86. Stevens, M., J. Hoh (2010). "Conformational Dynamics of Neurofilament Side-arms." *Journal of Physics and Chemistry B*, 114, 8879–8886
87. Stevens, M., J. Hoh (2011). "Interactions between Planar Grafted Neurofilament Side-arms." *Journal of Physics and Chemistry B*, 115, 7541–7549
88. Subramania, G., I. Brener, S. Foteinopoulou (2011). "Nonresonant Broadband Funneling of Light via Ultrasubwavelength Channels." *Physics Review Letter*, 107 (16), 163902
89. Talbayev, D., S. Cheong, S. Lee, A. Taylor, S. Trugman, H. Yi (2011). "Long-Wavelength Magnetic and Magnetoelectric Excitations in the Ferroelectric Antiferromagnet BiFeO₃." *Physics Review B*, 83, 094403

90. Taylor, R., A. Ali, M. Bisoffi, D. Huber, T. Monson, L. Sillerud (2011). "Multifunctional Iron Platinum Stealth Immunomicelles: Targeted Detection of Human Prostate Cancer Cells using both Fluorescence and Magnetic Resonance Imaging." *Journal of Nanoparticle Research*, 13, P. 4717-4729.
91. Tian, Y., C. Beavers, T. Busani, J. Jacobsen, K. Martin, C. Medforth, J. Shelnutt, B. Swartzentruber, F. Van Swol (2012). "Binary Ionic Porphyrin Nanosheets: Electronic and Light Harvesting Properties Regulated by Crystal Structure." *Nanoscale*, 4, 1695
92. Tsai, H., M. Cotlet, A. Dattelbaum, R. Pai, A. Shreve, H. Wang, L. Wang, Z. Xu (2011) "Structural Dynamics and Charge Transfer via Complexation with Fullerene in Large Area Conjugated Polymer Honeycomb Thin Films." *Chemical Materials Journal*, 23, 759-761
93. Vidmar, L., J. Bonca, M. Mierzejewski, P. Prelovsek, S. Trugman (2011). "Nonequilibrium Dynamics of the Holstein Polaron driven by an External Electric Field." *American Physics Society B*, 83, 134301. (User Proposal: U2010A989)
94. Vidmar, Lev, Bonca, Janez, Tohyama, Takami, Maekawa, Sadamichi. Quantum Dynamics of A Driven Correlated System Coupled to Phonons. *Phys. Rev. Lett.*, 2011, Vol. 107, No. 24, Pg. 246404-1-246404-5
95. Wood, A.W., R. Goldman, Y. Wang, X. Weng (2011). "Formation Mechanisms of Embedded Wurtzite and Zincblende Indium Nitride Nanocrystals." *Applied Physics Letters*, 99, 093108 (2011). (User Proposal: C2010B1038)
96. Xiao, X., G. Montaño, A. Allen, K. Achyuthan, D. Wheeler, S. Brozik (2011). "Lipid Bilayer Templatied Gold Nanoparticles Nanoring Formation using Zirconium Ion Coordination Chemistry." *Langmuir*, 27 (15): 9484-9489. (User Proposal: RA2011A1266)
97. Xiao X, J. Nogan, T. Beechem, G. Montaño, C. Washburn, J. Wang, S. Brozik, D. Wheeler, D. Burckel, R. Polksky (2011). "Lithographically-defined 3D Porous Networks as Active Substrates for Surface Enhanced Raman Scattering." *Chem Comm. (Camb)*, 47(35): 9858-60. (User Proposal: RA2011A1266)
98. Xu, P., M. Anghe, H. Chen, X. Han, S. Jeon, Q. Jia, H. Luo, C. Teuscher, D. Williams, H. Wang, B. Zhang, G. Zou (2010). "Facile Synthesis and Electrical Properties of Silver Wires through Chemical Reduction by Polyaniline." *Journal of Physics and Chemistry C*, 114, 22147-22154 (2010). (User Proposal: C2009A043)
99. Yang, L., J. Koralek, M. Lilly, J. Orenstein, J. Reno, D. Tibbetts (2011). "Measurement of Electron-Hole Friction in an N-Doped GaAs/AlGaAs Quantum Well using Optical Transient Grating Spectroscopy." *Physics Review Letters*, 106, 247401, 2011. (User Proposal: U2009A060)
100. Yang, L., J. Koralek, M. Lilly, J. Orenstein, J. Reno, D. Tibbetts (2011). "Doppler Velocimetry of Spin Propagation in a Two-dimensional Electron Gas" *Nature Physics*, 8, 153- 157 (User Proposal: C2010B1051)

101. Yoo, H., J. Kim, J. Martinez, J. Sharma, A. Shreve (2011). "Tailored Microcrystal Growth: A Facile Solution-Phase Synthesis of Gold Rings" *Advanced Materials*, 23, 4431-4434. (User Proposal: U2010A1010)
102. Zhang, L., L. Gui, J. Huang, S. Huang, X. Liu, Y. Liu, S. Mao, J. Sullivan, C. Wang, Z. Ye, T. Zhu (2011). "Controlling the Lithiation-induced Strain and Charging Rate in Nanowire Electrodes by Coating." *American Chemical Society Nano*, 5, 4800-4809 (User Proposal: C2010B1063)
103. Zhang, Y., E. Bauer, K. Blackmore, A. Burrell, L. Civale, N. Haberkorn, M. Hawley, Q. Jia, J. Lee, C. Li, N. Mara, T. McCleskey, F. Ronning, R. Schulze, T. Tajima, H. Wang, M. Zhuo (2011). "Epitaxial Superconducting Delta-Mon Films by a Chemical Solution Method." *J. Am. Chem. Soc.*, 133, 20735 (User Proposal: U2009B059)
104. Zhong, L., J. Huang, X. Liu, S. Mao, C. Wang, G. Wang (2011). "Multiple-Stripe Lithiation Mechanism of Individual SnO₂ Nanowires in a Flooding Geometry." *Physics Review Letters*, 106, 248302 (User Proposal: C2010B1063)
105. Zhuo, M.J., R. Dickerson, E. Fu, Q. Jia, A. Misra, M. Nastasi, M., Uberuaga, R., Wang, Y., Yan, L., Zhang, Y., "Interface-enhanced Defect Absorption between Epitaxial Anatase TiO₂ Film and Single Crystal SrTiO₃," *Scripta Materialia* 65, 807-810 (2011). (User Proposal: U2010B1098)
106. Zou, G., Baily, S., Bauer, E., Burrell, A., Civale, L., Haberkorn, N., Jia, Q., Luo, H., Macmanus-Driscoll, J., McCleskey, T., Xiong, J., Zhang, Y., Zhu, Y.T., "Highly Aligned Carbon Nanotube Forests Coated by Superconducting NbC," *Nature Communications Journal* 2, 248 (2011). (User Proposal: U2009B059)
107. Alexandrov, B., Bishop, A., Booshehri, L., Chen, H.T., Chong, S., Dagon, Y., Ludmil, B., Martinez, J., Mielke, C., Phipps, M., Rasmussen, K., Rodriguez, G., Usheva, A., "Non- thermal Effects of Terahertz Radiation on Gene Expression in Mouse Stem Cells," *Biomedical Optics Express* 2, 2679-2689(2011) (User Proposal: C2010B1102)
108. Biedermann, L.B., Beechem, T. E., Howell, S., Ohta, T., Ross III, A.J., "Electrostatic Transfer of Patterned Epitaxial Graphene From SiC (0001) To Glass," *New Journal of Physics*. 12, 125016, 2010. (User Proposal: U2009B048)
109. Bock, J., Alexandrov, B., Fukuyo, Y., Kang, S., Phipps, M.L., "Mammalian Stem Cells Reprogramming in Response to Terahertz Radiation," *Public Library of Science ONE* 5(12): E15806. Doi:10.1371/Journal.Pone.0015806 (User Proposal: C2010B1102)
110. Brovelli, S., Crooker, S.A., Schaller, R.D., "Nano-engineered Electron-Hole Exchange Interaction controls Exciton Dynamics in Core-shell Semiconductor Nanocrystals," *Nature Communications* Vol. 2, Article Number 280 (2011) (User Proposal: U2009A043)
111. Burckel, D., Brener, I., Ellis, A., Ginn, J., Sinclair, M., Ten Eyck, G., Wendt, J., "Micrometer-Scale Cubic Unit Cell 3D Metamaterial Layers," *Advanced Materials*, Volume 22, Issue 44, 2010, Pages: 5053–5057. (User Proposal: U2010A1001)
112. Burckel, D., Brener, I., Ellis, A., Sinclair, M., Ten Eyck, G., Wendt, J., "Fabrication of 3D Metamaterial Resonators using Self-aligned Membrane Projection Lithography," *Advanced*

Materials, Volume 22, Issue 29, Pages 3171–3175, August 3, 2010 (User Proposal: U2007A191)

113. Chen, H., Azad, A., O'Hara, J., Taylor, A., "Manipulation of Terahertz Radiation using Metamaterials," *Laser Photon. Review* 5, 513 (2011). (User Proposal: U2010A985)
114. Chen, H., Azad, A., Jia, Q., O'Hara, J., Singh, R., Taylor, A., Trugman, S., Yang, H., "Superconducting Terahertz Metamaterials," *Ultrafast Phenomena XVII*, Oxford University Press, P. 637 (2011). (User Proposal: U2010A985)
115. Chen, H., Azad, A., Jia, Q., O'Hara, J., Singh, R., Taylor, A., Trugman, S., Yang, H., "Tuning the Resonance in High Temperature Superconducting Metamaterials," *Physics Review Letter* 105, 247402 (2010). (User Proposal: U2010A985)
116. Chen, H., Azad, A., Chowdhury, D., Jia, Q., O'Hara, J., Reiten, M., Singh, R., Taylor, A., Trugman, S., Zhou, J., "Active Terahertz Metamaterials" IRMMW Conference (2011) (User Proposal: U2010A985)
117. Duque, J., Chen, H., Doorn, S., Kilina, S., Shreve, A., Swan, A., Tretiak, S., Tu, X., Zheng, M., "Violation of the Condon Approximation in Semiconducting Carbon Nanotubes," *American Chemical Society Nano* 5 (2011) 5233-5241. (User Proposal: U2010A946)
118. Dyer, G. C., Aizin, G. R., Allen, S. J., Mikalopas, J., Reno, J. L., Shaner, E. A., Vinh, N. Q., "A Terahertz Plasmon Cavity Detector," *Applied Physics Letters* 97, 193507 (2010). (User Proposal: C2010A962)
119. Dyer, G. C., Aizin, G. R., Allen, S. J., Preu, S., Reno, J. L., Shaner, E. A., Vinh, N. Q., "On-chip 2D Plasmonic Wave Vector Engineering in Si Lens Coupled Terahertz Detectors," 19th International Conference On Electronic Properties of 2-Dimensional Systems (EP2DS19), July 25-29, 2011, Tallahassee, Florida. (User Proposal: C2010A962)
120. Gabbay, A., Brener, I., Gin, A., Reno, J. L., Shaner, E., Sinclair, M. B., Wanke, M. C., Wendt, J. R., "Interaction between Metamaterial Resonators and Intersubband Transitions in Semiconductor Quantum Wells," *Applied Physics Letters* 98, 203103, 2011. (User Proposal: C2009B040)
121. Gabbay, A., Brener, I., Gin, A., Reno, J. L., Shaner, E., Sinclair, M. B., Wanke, M. C., Wendt, J., "Interaction between Metamaterial Resonators and Intersubband Transitions in Quantum Wells," Conference On Lasers and Electro-Optics (CLEO), 5/1-6/2011, Baltimore, MD. (User Proposal: C2010A962)
122. Gabbay, A., Gin, A., Reno, J. L., Shaner, E. A., Sinclair, M. B., Wanke, M. C., Wendt, J., Peters, D. W., Miao, X., Passmore, B. S., Shelton, D. J., Ginn, J. C., Boreman, G. D., Vangala, S., Goodhue, W., Brener, I., "Interactions in Planar Metamaterials NaD their use for Active Tuning," Metamorphose, 10/10-15/11, Barcelona, Spain. (User Proposal: C2010A962)
123. Garcia-Santamaria, F., Brovelli, S., Ranjani, V., "Breakdown of Volume Scaling in Auger Recombination in CdSe/CdS Heteronanocrystals: The Role of the Core-shell Interface", *Nano Letters* Vol. 11, Issue 2. (User Proposal: U2010A955)

124. Greene, A.C., Bachand, G.D., James, C.D., Washburn, C.M., "Combined Chemical and Topographical Guidance Cues for Directing Cytoarchitectural Polarization in Dissociated Primary Neurons," *Biomaterials* 2011; 32, Pp. 8860-8869. (User Proposal: C2010A931)
125. Harper, J.C., Ashley, C. E., Brinker, C. J., Brinker, L.M., Brozik, S.M., Carnes, E. C., Davis, R.W., Jones, H.D.T., Kaehr, B., Khripin, C.Y., Lopez, D.M., Savage, T., "Cell- directed Integration into 3D Lipid-Silica Nanostructured Matrices.,," *American Chemical Society Nano* 4, 5539–5550. (2010) (User Proposal: U2010B1047)
126. Hopkins, P.E., Brinker, C.J., Dunphy, D., Garcia, F., Kaehr, B., Koehler, T.P., Phinney, L.M., "Measuring the Thermal Conductivity of Porous, Transparent Silica Films with Time Domain Thermoreflectance," *Journal of Heat Transfer*, 133, 061601. (2011) (User Proposal: U2010B1047)
127. Jung, Y., Vacic, A., Perea, D.E., Picraux, S.T., Reed, M., "Minority Carrier Lifetimes and Surface Effects in VLS-Grown Axial Pn Junction Silicon Nanowires," *Advanced Materials* (in Press) (User Proposal: U2009B041)
128. Khripin, C.Y., Brinker C. J., Dunphy, D.R., Grillet, A.M., Kaehr, B, Pristinski, D., "Protein- Directed Assembly of Arbitrary Three-Dimensional Nanoporous Silica Architectures," *American Chemical Society Nano*, 5, 1401-1409. (2011) (User Proposal: U2010B1047)
129. Lee, K., Beechem, T. E., Friedmann, T. A., Kim S., Points M.S., Ohta, T., Tutuc E., Magnetotransport Properties of Quasi-Free Standing Epitaxial Graphene Bilayer on SiC: Evidence for Bernal Stacking, *Nano Letters*, Published Online, 2011. (User Proposal: U2009B048)
130. Li, N., Mara, N., Misra, A., Nastasi, M., Wang, Y.; "Compressive Flow Behavior of Cu Thin Films and Cu/Nb Multilayers containing Nanometer-Scale Helium Bubbles," *Scripta Materialia*, Vol. 64, Issue 10 (2011) (User Proposal:C2010A971)
131. Neidig, M., Conradson, S., Martinez, J., Sharma, J., Shreve, A., Yeh, H.S., "Ag K-Edge EXAFS Analysis of DNA-Templated Fluorescent Silver Nanoclusters: Insight into the Structural Origins of Emission Tuning by DNA Sequence Variations," *Journal of The American Chemical Society* 133 (2011) 11837-11839. (User Proposal: U2010A916)
132. Pan, W., Howell S.W., Ohta, T., Ross III, A. J., Observation of the Integer Quantum Hall Effect in Record High Mobility, Uniform Wafer-Scale Epitaxial Graphene Films Grown on the Si-Face of 6H-SiC (0001)," *Applied Physics Letters* 97, 252101, 2010. Selected for a Cover of *Applied Physics Letters* 97, and virtual *Journal of Nanoscale Science & Technology*, 23, 1, 2011. (User Proposal: U2009B048)
133. Perea, D., Dickerson, R., Li, N., Misra, A., Picraux, S.T., "Controlling Heterojunction Abruptness in VLS-Grown Semiconductor Nanowires Via Catalyst Alloying," *Nano Letters* 2011, 11, 3117–3122. (User Proposal: U2009B041)
134. Reiten, M., Azad, A., O'Hara, J., Roy Chowdhury, D., Taylor, A., Zhou, J., "Resonance Tuning Behavior in Closely Spaced Inhomogeneous Bilayer Metamaterials," *Applied Physics Letters* 98, 131105 (2011). (User Proposal: U2010A985)

135. Roy Chowdhury, D., Azad, A., Chen, H., O'Hara, J., Reiten, M., Singh, R., Taylor, A., "A Broadband Planar Terahertz Metamaterial with Nested Structure" Optics Express 19, 15818 (2011) (User Proposal: U2010A985)
136. Roy Chowdhury, D., Singh, R., O'Hara, J., Chen, H., Taylor, A., Azad, A. "Dynamically Reconfigurable Terahertz Metamaterial through Photo-Doped Semiconductor," Applied Physics Letters 99. 231101 (2011) (User Proposal: U2010B1078)
137. Roy Chowdhury, D., O'Hara, J., Reiten, M., Singh, R., Taylor, A., Zhou, J., "Tailored Resonator Coupling For Modifying the Terahertz Metamaterial Response" Optics Express 19, 10679 (2011) (User Proposal: U2010A985)
138. Sharma, J, Yeh, HC, Yoo, H, Werner, JH and Martinez, JS, "Silver Nanocluster Aptamers: In-situ Generation of Intrinsically Fluorescent Recognition Ligands for Protein Detection," Chemical Communications, 47, 2294-2296, (2011). User Proposal: U2010A916
139. Shelton, D., Boreman, G., Brener, I., Coffey, K., Ginn, J., Peters, D., Sinclair, M., "Strong Coupling between Nanoscale Metamaterials and Phonons," Nano Letters, Article ASAP, DOI: 10.1021/NL200689z, April 4, 2011. (User Proposal: U2010A1001)
140. Subramania, G., Figiel, J., Fischer, A., Lee, Y., Li, Q., Wang, G., "Gallium Nitride-based Logpile Photonic Crystals," Nano Letters 2011. (User Proposal: C2010B1049)
141. Upadhyay, P.C., Li, Q., Martinez, J., Prasankumar, R., Swartzentruber, B., Taylor, A., Wang, G., "Non-Degenerate Pump-Probe Spectroscopy of Single GaN Nanowires," Ultrafast Phenomena XVII, Oxford University Press, P. 308 (2011). (User Proposal: U2010B1024)
142. Vela, J., Chen, Y., Htoon, H., "Effect of Shell Thickness and Composition on Blinking Suppression and the Blinking Mechanism in 'Giant' CdSe/CdS Nanocrystal Quantum Dots," Journal of Biophotonics, Vol. 3, Issue 10-11. (User Proposal: U2008A109)
143. Yeh, HC, Sharma, J, Martinez, JS and Werner, JH, "Nanocluster Beacon: A New Molecular Probe for Homogeneous Detection of Nucleic Acid Targets," IEEE Nanotechnology Magazine, 5, 28-33, (2011). User Proposal: U2010A916
144. Achermann, M., Balet, L., Hollingsworth, J., Jeong, S., Montano, G. "Efficient Quantum Dot-Quantum Dot and Quantum-Dot Dye Energy Transfer in Biotemplated Assemblies," ACS Nano 2011, 5, 1761-68
145. An, Y., Conradson, S., Durakiewicz, T., Rodriguez, G., Taylor, A., Trugman, S. "Ultrafast Hopping Dynamics of 5f Electrons in the Mott Insulator UO₂ Studied By Femtosecond Pump-Probe Spectroscopy," Physics Review Letters 106, 207402 (2011).
146. An, Y., Durakiewicz, T., Rodriguez, G., Taylor, A. "Pump-Probe Reflectivity Study of Strongly Correlated 5f Electrons in UO₂," Journal of Physics. Conference Series 273 012144 (2011).
147. An, Y., Durakiewicz, T., Rodriguez, G., Taylor, A., Trugman, S. "Probing the Ultrafast Dynamics of Ultrafast of 5f Electrons in Crystalline UO₂," in Ultrafast Phenomena XVII, Oxford University Press, P. 239-241 (2011).

148. Bai, F., Coker, E.N., Fan, H., Haddad, R., Huang, J., Rodriguez, M.A., Sun, Z., Wu, H. "Dimensional J-Aggregates through Confined Cooperative Self-Assembly," Submitted
149. I.J. Beyerlein, Alexander, D., Bhattacharyya, D., Mara, N., Necker, C., "Texture Evolution via Combined Slip and Deformation Twinning in Rolled Silver-Copper Eutectic Nanocomposite," International Journal of Plasticity, Vol. 27, Iss. 1, P.121-146 (2011).
150. Burckel, D., Brener, I., Sinclair, M., Wendt, J. "Dynamic Membrane Projection Lithography," Optical Materials Express, Vol. 1 Issue 5, Pp.962-969 (2011).
151. Burke, P.J.; Jain, D.; Rouhi, N.; Rutherglen, C.; Densmore, C.G.; and Doorn, S.K. "Effect of Source, Surfactant, and Deposition Process on Electronic Properties of Nanotube Arrays," J. Nanomat., 2011, 2011, 174268.
152. Dani, K., Brueck, S., Ku, Z., Prasankumar, R., Taylor, A.J., Upadhyay, P. "Ultrafast Nonlinear Optical Spectroscopy of a Dual-Band Negative Index Metamaterial All-optical Switching Device," Vol. 19, No. 5 Optics Express 3973.
153. Dani, K., Ajayan, P.M., Dattelbaum, A.M., Galande, C., Htoon, H., Lee, J., Mohite, A., Prasankumar, R., Sharma, R., Taylor, A.J. "Observation of the Relativistic Response of an Electron-Hole Plasma in Graphene on Femtosecond Timescales," CLEO Proceedings, Nonlinear Optics, 2011, Paper: NFB2. (CINT Science)
154. D'Archangel, J., Boreman, G., Brener, I., Shelton, D., Sinclair, M. "Releasable Infrared Metamaterials," J. Vac. Sci. Technol. B 29, 051806 (2011) (Doi:10.1116/1.3633695).
155. Dayeh, S.A., Huang, J., Mack, N.H., Picraux, S.T. "Advanced Core/Multishell Germanium/Silicon Nanowire Heterostructures: The Au-diffusion Bottleneck," Applied Physics Letters 99, 023102 (2011).
156. Dayeh, S.A., Gin, A.V., Picraux, S.T. "Advanced Core/Multi-shell Germanium/Silicon Nanowire Heterostructures: Morphology and Transport," Applied Physics Letters 98, 163112 (2011).
157. Dayeh, S.A., Gin, A.V., Huang, J., Picraux, S.T. "Elimination of Gold Diffusion in the Heterostructure Core/Shell Growth of High Performance Ge/Si Nanowire HFETs," Proceedings of the IEEE Nano 2010 Intl. Conference, Seoul, Korea, 2010.
158. Dayeh, S.A., Gin, A.V., Huang, J., Picraux, S.T., "Synthesis, Fabrication, and Characterization of Ge/Si Axial Nanowire Heterostructure Tunnel FETs," Proceedings of the IEEE Nano 2010 Intl. Conference, Seoul, Korea, 2010.
159. Dayeh, S.A., Gin, A.V., Huang, J., Li, N., Picraux, S.T., Wang, J., "Growth, Defect Formation and Morphology Control of Germanium-Silicon Semiconductor Nanowire Heterostructures," Nano Letters. 10.1021/NL202126q.
160. Dayeh, S.A., Picraux, S.T. "Axial Ge/Si Nanowire Heterostructure Tunnel FETs," Electrochemical Society Transactions, - Las Vegas, NV Volume 33, SiGe, Ge, and Related Compounds 4: Materials, Processing, and Devices, D. Harame, Ed., (Electrochemical Society, New Jersey, 2010).

161. Dayeh, S.A., Picraux, S.T. "Ge/Si Core/Multi-Shell Heterostructure FETs, Electrochemical Society Transactions," Las Vegas, NV Volume 33, SiGe, Ge, and Related Compounds 4: Materials, Processing, and Devices, D. Harame, Ed., (Electrochemical Society, New Jersey, 2010)
162. Dayeh, S.A., Picraux, S.T. "Direct Observation of Nanoscale Size Effects in Ge Semiconductor Nanowire Growth," Nano Letters 10, 4032 (2010).
163. Dayeh, S.A., Gin, A.V., Huang, J., Li, N., Picraux, S.T., Wang, J., "Growth, Defect Formation, and Morphology Control of Germanium Silicon Semiconductor Nanowire Heterostructures," Nano Letters 11, 4200 (2011),
164. Driehorst, T., Fygenson, D., Goodwin, P., O'Neill, P., Pennathur, S. "Distinct Conformations of DNA-Stabilized Fluorescent Silver Nanoclusters Revealed By Electrophoretic Mobility and Diffusivity Measurements," Langmuir, Vol. 27, Issue 14 (2011).
165. Crochet, J.J.; Hoseinkhani, S.; Luer, L.; Hertel, T.; Doorn, S.K.; Lanzani, G. "Free-Carrier Generation in Aggregates of Single-Wall Carbon Nanotubes by Photoexcitation in the Ultraviolet Regime" Phys. Rev. Lett., 2011, 107, 257402.
166. Gaiotto, T., Bradbury, A., Gnanakaran, G., Goodwin, P., Jung, J., Nguyen, H., Schmidt, J., Waldo, G., "A Photophysical Study of Two Fluorogen-activating Proteins bound to their Cognate Fluorogens," Single Molecule Spectroscopy and Imaging IV, Vol. 7905.
167. Gilbertson, S., Dakovski, G., Dattelbaum, A., Durakiewicz, T., Zhu, J., Dani, K., Mohite, A., Rodriguez, A. "Tracing Ultrafast Separation and Coalescence of Carriers in Graphene with Time-resolved Photoemission," J. Phys. Chem. Lett, 3, 64 (2012). (CINT Science)
168. Goertz, M.P., Marks, L.E. & Montaño, G.A. "Biomimetic Monolayer and Bilayer Membranes made from Amphiphilic Block Copolymer Micelles," ACS Nano 6, 1532 (2012)
169. Goertz, M.P., Goyal, N., Bunker, B.C., Montaño, G.A. "Substrate Effects on Interactions of Lipid Bilayer Assemblies with Bound Nanoparticles," J. Coll. & Interf. Sci. 258 (2): 635-638 (2011)
170. Goertz, M.P., Goyal, N., Montaño, G.A. & Bunker, B.C. "Lipid Bilayer Reorganization under Extreme PH Conditions," Langmuir. 27 (9): 5481-5491. (2011)
171. Haraldsen, J., Balatsky, A., Trugman, S. "Induced Polarization at a Paraelectric/Superconducting Interface," Phys. Review B 84, 020103 (2011) CINT SCIENCE
172. Haroz, E.H.; Duque, J.G.; Rice, W.D.; Densmore, C.G.; Kono, J.; Doorn, S.K. "Resonant Raman Spectroscopy of Armchair Carbon Nanotubes: Absence of Broad G - Feature," Phys. Rev. B, 2011, 84, 121403 (R). CINT User Project # U2010A1006.
173. Harris, C.T., Chen, G., Huang, J., Martinez, J.A., Shaner, E.A., Sullivan, J.P., Swartzentruber, B. "Fabrication of a Nanostructure Thermal Property Measurement Platform," Nanotechnology 22, 275308 (2011) Doi:10.1088/0957-4484/22/27/275308.
174. Huang, J., Li, Q., Mao, S.X., Wang, G.T., Zheng, H. "In-situ Nanomechanics of GaN Nanowires," Nano Letters 11, 1618-1622 (2011), Dx.Doi.Org/10.1021/NL200002x.

175. Huang, J., Liu, X. " In-situ TEM Electrochemistry of Anode Materials in Lithium Ion Batteries," Eng. Env. Sci. DOI: 10.1039/C1ee01918j (Invited Perspective).
176. Hudak, N., Huber, D. "Nanostructured Lithium-Aluminum Alloy Electrodes for Lithium-Ion Batteries," ECS Transactions 2011.
177. Hudak, N., Huber, D. "Size Effects in the Electrochemical Alloying and Cycling of Electrodeposited Aluminum with Lithium," J. Electrochem. Soc. 159, A688 (2011).
178. Kar, A., Dayeh, S., Picraux, S., Prasankumar, R., Taylor, A., Upadhy, P. "Probing Ultrafast Carrier Dynamics in Silicon Nanowires," IEEE J. Selected Topics in Quantum Electronics, 17, 889 (2011).
179. Katzenmeyer, M., Cederberg, J., Huang, J., Lensch-Falk, J.L., Leonard, F., Talin, A.A., Toimil-Molares, M.E. "Observation of Space-charge-limited Transport in InAs Nanowires," IEEE Transactions on Nanotechnology 10, 92-95 (2011).
180. Kim, Y., Baldwin, K., Budiman, A., Han, S., Mara, N., Misra, A. "Microcompression Study of Al-Nb Nanoscale Multilayers," Journal of Materials Research 27, 592 (2012).
181. Lee, J., Dani, K., Mohite, A., Prasankumar, R., Sharma, R., Taylor, A. "Probing Intraband Conductivity Dynamics in Graphene," Ultrafast Phenomena XVII, Oxford University Press, P. 239 (2011).
182. Li, X.; Thompson, J.D.; Zhang, Y.; Brady, C.I.; Zou, G.; Mack, N.H.; Williams, D.; Duque, J. G.; Jia, Q.; Doorn, S.K. "Efficient Synthesis of Tailored Magnetic Carbon Nanotubes via A Noncovalent Chemical Route," Nanoscale, 2011, 3, 668.
183. Liu, W., Bradford, P., Jia, Q., Li, Q., Qiu, Y., Wang, X., Xu, G., Yuan, F., Zhang, X., Zhang, Y., Zhao, H., Zhu, Y., "Producing Superior Composites By Winding Carbon Nanotubes Onto A Mandrel Under A Poly(Vinyl Alcohol) Spray," Carbon 49, 4786-4791 (2011). CINT SCIENCE
184. Liu, X., Huang, J., Huang, S., Mao, S.X., Zhong, L., Zhu, T. "Size Dependent Fracture of Silicon Nanoparticles during Lithiation," ACS Nano 6, 1522 (2012).
185. Liu, X., Huang, J., Huang, S., Li, J., Picraux, S.T., Zhu, T. "Reversible Nanopore Formation in Ge Nanowires during Lithiation-Delithiation Cycles: An in-situ TEM Study," Nano Lett. 11, 3991 (2011)
186. Liu, Y., Huber, D.L., Hudak, N.H., Limmer, S.J., Sullivan, J.P., Yelton, W.G. "In-situ TEM Observation of Pulverization of Aluminum Nanowires and Evolution of the Thin Surface Al₂O₃ Layers during Lithiation-delithiation Cycles," Nano Letters 11. 4188 (2011).
187. Lu T., Bishop, N., Carroll, M., Cederberg, J., Dominguez, J., Kotula, P., Lilly, M., Means, J., Pluym, T., Tracy, L. "Enhancement-mode Buried Strained Silicon Channel Quantum Dot with Tunable Lateral Geometry," Applied Physics Letters 99, 043101, (2011).
188. Mafra, D.L., Doorn, S.K., Moujaes, E.A. "A Study of Inner Process Double-Resonance Raman Scattering in Bilayer Graphene," Carbon, Vol. 49, Issue 5.

189. Magana, D., Dyer, R., Parul, D., Shreve, A. "Implementation of Time-Resolved Step-Scan Fourier Transform Infrared (FT-IR) Spectroscopy using a KhZ Repetition Rate Pump Laser," *Applied Spectroscopy* 65 (2011) 535-542.
190. Nenoff, T., Hanson, D.J., Huang, J., Jacobs, B.W., Provencio, P., Robinson, D. "Synthesis and Low Temperature In-situ Sintering of Uranium Oxide Nanoparticles," *Chemistry of Materials* 23, 5185 (2011).
191. Park, H., Jia, Q., Li, Y., Xiong, J. "Dielectric Properties of Epitaxial Ba_{1-X} Sr_X TiO₃ Films on MgO Substrates," *Functional Materials Lett.* 4, 41-44 (2011).
192. Seo, M., Dayeh, S.A., Martinez, J., Picraux, S.T., Prasankumar, R.P., Swartzentruber, B., Taylor, A.J., Upadhyay, P. "Understanding Ultrafast Carrier Dynamics in Single Quasi-one-dimensional Si Nanowires," *Nano Letters* 2011 (Submitted).
193. Singh, R., Azad, A., Chen, H., Jia, Q., Taylor, A. "Thermal Tunability in Terahertz Metamaterials Fabricated in Strontium Titanate Single-crystal Substrates," *Optics Letters* 36, 1230 (2011).
194. Wang, J., Beyerlein, I., Bhattacharyya, D., Mara, N. "Interface-facilitated Deformation Twinning in Copper within Submicron Ag-Cu Multilayered Composites," *Scripta Materialia*, Vol. 64, Iss. 12, P. 1083-1086 (2011)
195. Wei, Q., Li, N., Mara, N., Misra, A., Nastasi, M. "Suppression of Irradiation Hardening in Nanoscale V/Ag Multilayers," *Acta Materialia* (2011) Vol. 59, Issue 16.
196. Wendt, J., Brener, I., Burckel, D., Ellis, A., Sinclair, M., Ten Eyck, G. "Fabrication Techniques for Three-Dimensional Metamaterials in the Mid-infrared," *Journal of Vacuum Science and Technology B* 28, C6O30 (2010).
197. Zhang, S., Huang, J., Li, T., Shenoy, V. "Low-Dimensional Carbon Nanomaterials: Synthesis, Properties, and Applications," *Journal of Nanomaterials* 2011, Article ID 518189, DOI: 1155/2011/518189 (Editorial).
198. Zhang, Y., Haberkorn, N., Mara, N.A., Ronning, F., Wang, H. "Epitaxial Superconducting-Mon Films grown by a Chemical Solution Method," *Journal of The American Chemical Society* (2011) Vol.133, Iss.51, P.20735-20737
199. Mednikov, E., Dahl, L., Ivanov, S. "CO-Induced Formation of an Interpenetrating Bicuboctahedral Au₂Pd₁₈ Kernel in Nanosized Au₂Pd₂₈(CO)₂₆ (Pet 3)10: Formal Replacement of an Interior (M₁₂-Pd)₂ Fragment in The Corresponding Known Isostructural Homopalладиум Pd₃₀(CO)₂₆(Pet 3)10 With Nonisovalent (M₁₂-Au)₂ and Resulting Experimental/Theoretical Implications," *Inorg. Chem.* 2011, 50(22), 11795-1180.
200. Yoon, Y., Aoki, N., Bird, J. P., Fransson, J., Kang, Kida, M., Morimoto, Mourokh, L., Ochiai, Y., Reno, J. L. "Talking through the Continuum: A Robust Scheme For Coupling Quantum States," *Nature Nanotechnology*, Submitted 11/2010. (User Proposal: C2009A041) In Press/In Process

201. Bi, Z., A. Chen, H. Wang, E. Weal, J. L. Macmanus-Driscoll, H. Luo and Q. Jia (2011). "Microstructural and Magnetic Properties of LSMO/MnO Nanocomposite Thin Films." *Journal of Applied Physics* 109
202. Hamilton, C. E., M. E. Chavez, J. G. Duque, G. Gupta, S. K. Doorn, A. M. Dattelbaum and K. A. Defriend-Obrey (2010). "Carbon Nanomaterials in Silica Aerogel Matrices." *Materials Research Society Symposium Proceedings*
203. Hopkins, P. E., B. J. Kaehr, L. M. Phinney, T. P. Koehler, A. M. Grillet, D. Dunphy, F. Garcia and C. J. Brinker (2011). "Measuring the Thermal Conductivity of Porous, Transparent SiO₂ Films with Time Domain Thermoreflectance." *Journal of Heat*
204. Gupta, G., J. G. Duque, S. K. Doorn and A. M. Dattelbaum (2010). "Stable and Responsive Fluorescent Carbon Nanotube Silica Gels." *Materials Research Society Symposium Proceedings*
205. McIntyre, N. R., R. Franco, J. A. Shelnutt and G. C. Ferreira (2011). "Porphyrin Interactions with Nickel (II) Chelatase Variants directly evolved from Murine Ferrochelatase." *Biochemistry*
206. Medforth, C. J., J. A. Shelnutt, K. M. Kadish, K. M. Smith and R. Guillard (2011). "Self-Assembled Porphyrin Nanostructures." *Handbook of Porphyrin Science* 11: 50 World Scientific Publishing Company, Hackensack, NJ
207. Katan, C., M. Blanchard-Desce and S. Tretiak (2010). "Position Isomerism on One and Two Photon Absorption in Multibranched Chromophores: A TDDFT Investigation." *Journal Chem. Theory Comput.*
208. Su, Q., S. Cho, Z. Bi, A. Chen and H. Wang (2011). "Enhanced Electrochemical Properties of Bi-Layer La_{0.5}Sr_{0.5}CoO_{3- Δ} Cathode Prepared By A Hybrid Method." *Electrochimica Acta*
209. Su, Q., J. H. Lee, Z. Bi, Q. Zhou, Q. Jia and H. Wang (2011). "Self-Separated PZT Thick Films with Bulk-Like Piezoelectric and Electromechanical Properties." *Journal of Materials Research*
210. Wettach, H., S. Hger, D. Chaudhuri, J. M. Lupton, F. Liu, E. M. Lupton, S. Tretiak, S. De Feyter and S. Forster (2010). "Synthesis and Properties of a Triphenylene-Butadiinylene Macrocyclic." *J. Mater. Chem.*
211. W. Pan, K.W. Baldwin, K.W. West, L.N. Pfeiffer, and D.C. Tsui. "A Quantitative Examination of the Collapse of Spin Splitting in the Quantum Hall Regime."
212. Juan G. Duque, Gautam Gupta, Laurent Cognet, Brahim Lounis, Stephen K. Doorn, Andrew M. Dattelbaum. "New Route to Fluorescent Single-Walled Carbon Nanotube/Silica Nanocomposites: Balancing Fluorescence Intensity and Environmental Sensitivity." *J. Phys. Chem. C*
213. SAND 2011-2177 , Gambari, J., Fernandez-Dominguez, A.I., Maier, S.A., Phillips, C.C., Williams, B.S., Kumar, S., Hu, Q., Reno, J.L. "Thresholdless Thz Lasing From a Semiconductor

- Nanostructure in a Strongly-coupled Plasmonic Microcavity.” 3rd International Topical Meeting on Nanophotonics and Metamaterials, 1/3-6/2011, Tirol, Austria.
214. SAND 2011-3116, Gabbay, A., Reno, J. L., Wendt, J., Gin, A., Wanke, M. C., Sinclair, M. B., Shaner, E., Brener, I. “Interaction between Metamaterial Resonators and Intersubband Transitions in Quantum Wells.” Conference On Lasers and Electro-Optics (CLEO), 5/1-6/2011, Baltimore, MD.
215. J Jian Yu Huang, Li Zhong, Yu-Chieh Lo, S.X. Mao, Ju. “Li Nanowire Liquid Pumps.” User Project 5298547
216. Li Qiang Zhang, Xiao Hua Liu, Ya-Chuan Perng, Jea Cho, Jane P. Chang, Scott X. Mao, Jian Yu Huang “Sn Nanoparticle Precipitation during the Lithiation and Delithiation Processes of SnO₂ Nanowires.” An In-situ TEM Study
217. “Axial Bandgap Engineering in Germanium-Silicon Heterostructured Nanowires.” Shadi A. Dayeh, Robert M. Dickerson, S. T. Picraux. Appl. Phys. Lett.
218. Jung, Y., Vacic, A., Pereira, D., Picraux, S., Reed, M. “Minority Carrier Lifetimes and Surface Effects in VLS-Grown Axial P–N Junction Silicon Nanowires.” Adv. Mater. 37, 4306 (2011).
219. Ghosh, Y., Mangum, B. D., Casson, J. L., Williams, D. J., Htoon, H., Hollingsworth, J. A. “New Insights into the Complexities of Shell Growth and the Strong Influence of Particle Volume in Non-Blinking “Giant” Core/Shell Nanocrystal Quantum Dots.” J. Am. Chem. Soc. (User Proposal: U2010A906)
220. Mohite, A., Campbell, I., Dayeh, S., Htoon, H., Picraux, S., Pereira, D., Singh, S. “Highly Efficient Charge Separation and Collection across In-situ Doped Axial VLS-Grown Si Nanowire P-N Junction.” Nanoletters (User Proposal:U2009B041)
221. Diaconescu B., Klimov V., Nagpal P., Padilha L. A., Swartzentruber B. S. “Local Density of States in Single PbS Nanocrystals and Implications on the Optical Transitions.” User Proposal: U2010A994
222. Pereira, D., Li, N., Misra, A., Picraux, S.T., Yoo, J. Altering Catalytic Activity in Situ To Suppress Kinking in VLS-Grown Semiconductor Nanowire Heterostructures , in Preparation (User Proposal: U2009B041)
223. Spurgeon, S., Baldwin, J., Klie, R., Lofland, S., Misra, A., Runzhe, T., Sloppy, J., Taheri, M. “A Study of the Effect of Iron Island Morphology and Interface Oxidation on the Magnetic Hysteresis of Fe-MgO.” Journal of Applied Physics (2011) (User Proposal: U2009A010)
224. Ozdemir, N., Chumlyakov, Y., Karaca, H., Karaman, I., Mara, N. “Size Effects in Super-elastic Response of Ni 54Fe19Ga 27 Shape Memory Alloy Pillars with Two-Stage -Martensitic Transformation.” Acta Materialia
225. Qiua, Y., Baib, X., Huang, J., Shia, T., Yua, J., Zhoua, X. “Nitrogen-doped Ultrathin Carbon Nanofibers derived from Electrospinning Large-Scale Production, Unique Structure, and Application as Electrocatalysts for Oxygen Reduction.” Journal of Power Sources 196, 9862-9867.

226. Arikawa, T., Hilton, D. J., Kono J., Pan, W., Reno, J. L., Wang, X. "Coherent Control of Many-Electron Qubits in A Quantum Hall System." *Nature Communications* (User Proposal: U2010A1006)
227. Arikawa, T., Hilton, D. J., Kono, J., Pan, W., Reno, J. L., Wang, X. "Terahertz Coherent Control of Cyclotron Resonance." *Nature Photonics* (User Proposal: C2010B1057)
228. Tian Y., Beavers C., Busani T., Martin K. E., Medforth C. J, Shelnutt, J. A., Swartzentruber B. S., Van Swol F. "Crystal Structure and Properties of a Cooperative Binary Ionic Solid" *Journal of The American Chemical Society* (User Proposal: U2009B017)
229. Laroche, D., Gervais, G., Lilly, M.P., Reno, J.L. "Re-Entrant Negative Coulomb Drag in A 1D Quantum Circuit." *Physics Review Letters* (User Proposal: C2010A904)
230. Laroche, D., Gervais, G., Lilly, M., Reno, J.L. "Coulomb Drag in Vertically Integrated One-Dimensional Quantum Wires." *Nature Nanotechnology User Science* (User Proposal: U2011A1083)