

Total Published = 201 articles (1 co-authored with undergraduate students and 86 co-authored with graduate students)

Journal Articles = 134; Articles in Proceedings = 66; Chapters in Books = 1

- Aggarwal*, G.S., J. Park, and **I. Smid**, "Development of Niobium Powder Injection Molding - Part I: Feedstock and Injection Molding," *Int. J. Refractory Metals & Hard Materials*, 24:253-262 (2006).
- Agrawal, D.** "Microwave sintering of ceramics, composites and metallic materials, and melting of glasses," *Trans. Indn. Cer. Soc.* 65(3):129-144 (2006).
- Anderson, M.E., M. Mihok, H. Tanaka, L.P. Tan*, **M.W. Horn**, G.S. McCarty, and P.S. Weiss, 2006, "Hybrid approaches to nanolithography: Photolithographic structures with precise, controllable nanometer-scale spacings created by molecular rulers," *Advanced Materials* 0935-9648 APR 18 2006 (2006).
- Andia*, P.C., **F. Costanzo**, and **G.L. Gray**, "A Classical Mechanics Approach to the Determination of the Stress-Strain Response of Particle Systems," *Modelling and Simulation in Materials Science and Engineering*, 14:741-757 (2006).
- Arpaia, P., **M. Urquidi-Macdonald**, C. Romanucci, and A. Zanesco, "Wavelet-based Filtering of EIS Corrosion Data Optimized by Cultural Algorithms," *7th International Congress of Corrosion Protection (CEOCOR 2006)*, Mondorf-les-Bains, Luxembourg, May 30-June 2, 2006 (2006).
- Assaf, H., E. Ntsoenzok, M.-F. Barthe, M.-O. Ruault, T. Sauvage, and **S. Ashok**, "Structural and Nuclear Characterizations of Defects created by Noble Gas Implantation in SiO₂," *Nucl. Instrum. Meth. Phys.*, B253:222-226 (2006).
- Assaf, H., E. Ntsoenzok, M.-O. Ruault, and **S. Ashok**, "Low-k Dielectric Obtained by Noble Gas Implantation in Silicon Oxide," *Materials Research Society Spring Meeting, Proceedings* 914:F03-04 (2006).
- Bakis, C.**, C. Ospina, T. Bradberry, B. Benmokrane, S. Gross, J. Newhook, and G. Thiagarajan, "Evaluation of Crack Widths in Concrete Flexural Members Reinforced with FRP Bars," *Proc. 3rd Intl. Conf. on FRP Composites in Civil Engineering*, CICE 2006, A. Mirmiran and A. Nanni (eds), pp. 307-310 (2006).
- Bersuker, G., C.S. Park, J. Barnett, P.S. Lysaght, P.D. Kirsch, C.D. Young, R. Choi, B.H. Lee, B. Foran, K. van Benthem, S.J. Penneycook, **P.M. Lenahan**, and J.T. Ryan*, "The effect of interfacial layer properties on the performance of Hf based gate stack devices," *Journal of Applied Physics* 100(9) Art.No. 094108 (2006).
- Berzhanskaya J., A. Gorchetnikov, and **S.J. Schiff**, "Switching between gamma and theta: dynamic network control using subthreshold electric fields," *Neurocomputing* (2006). In press.
- Blaine*, D., J.D. Gurosik*, S.J. Park, **D. Heaney**, and R.M. German, "Master Sintering Curve Concepts as Applied to the Sintering of Molybdenum," *Metallurgical and Materials Transactions A* 37A:1-6 (2006).
- Bogart, T., B. Everson, R. Gamble, E. Oslosky, D. Snyder, E. Furman, S. Perini, and **M. Lanagan**, "Microwave Dielectric Loss Characterization of Silicon Carbide Wafers," *Mater. Sci. Forum* 527-29(1):733-736 (2006).
- Boykov, I.V., A.I. Boykova, and **E.S. Ventsel**, "An approximate method for evaluating hypersingular integrals," *Engineering Analysis with Boundary Elements*, 30:799-807 (2006).
- Brown, N.R. and **J.M. Catchmark**, "Alignment of Bacterial Cellulose," *2006 International Conference on Nanotechnology for the Forest Products Industry*, Atlanta, GA, April 26-28, 2006 (2006).
- Brown, N.R. and **J.M. Catchmark**, "Engineering Nanotechnology for Cellulosic Materials," *2006 BIO World Congress on Industrial Biotechnology and Bioprocessing*, Toronto, Canada, July 12-14, 2006 (2006).
- Brugan**, P., G. Cai*, R. Akarapu*, and **A.E. Segall**, "Controlled-Fracture of Thick Ceramics using Dual CO₂ Beams," *Journal of Laser Applications*, 18(3):236-241 (2006).
- Campbell*, J.P., **P.M. Lenahan**, A.T. Krishnan, and S. Krishnan, "Observation of NBTI-Induced Atomic Scale Defects," *IEEE Trans. on Device and Materials Reliability*, 6:117 (2006).
- Campbell*, J.P., **P.M. Lenahan**, A.T. Krishnan, and S. Krishnan, "Negative bias stressing interface trapping centers in metal gate hafnium oxide field effect transistors using spin dependent recombination," *Proceedings IEEE International Reliability Physics Symposium* (2006).
- Carey*, R.J. and **A. Lakhtakia**, "Shear axial modes in a PCTSCM, Part VIII: Spectral holes with dissimilar materials but without phase defects," *Sensors and Actuators A: Physical* 126:382-385 (2006).
- Catchmark, J.M.**, and **J. Todd**, "The Role of Forest Resources in Providing Green, Renewable materials and Energy - Nanotechnology in the Forest Products Industry," *International Forum on Green Chemical Science and Engineering and Process Systems Engineering, 2006*, Binhai New Area, Tianjin, P. R. China, October 8-10, 2006 (2006) Invited paper.
- Catchmark, J.M.**, "Self assembly and organization of nanofibers using

*denotes co-authored with graduate student(s)

**denotes co-authored with undergraduate student(s)

- biological molecular motors,” *2006 International Conference on Nanotechnology for the Forest Products Industry*, Atlanta, GA, April 26-28, 2006 (2006). Invited paper.
- Cetinkaya, M.C., A. Zeytun, J. Sofo, and **M.C. Demirel**, “How do insertions affect Green Fluorescent Protein,” *Chemical Physics Letters*, 419:48-54 (2006).
- Chang, W.-S., T. Krauthammer, and **E. Ventsel**, “Elast-Plastic Analysis of Corrugated-Core Sandwich Plates,” *Mechanics of Advanced Materials and Structures*, 13(2):151-161 (2006).
- Chelidze, D., and **J.P. Cusumano**, “Phase Space Warping: Nonlinear Time Series Analysis for Slowly Drifting Systems,” *Philosophical Transactions of the Royal Society London, Series A*, 364:2495-2513, 2006 (2006). Invited paper.
- Chen, C., **M.W. Horn**, S. Pursel*, C. Ross, and R.W. Collins, “The ultimate in real-time ellipsometry: Multichannel Mueller matrix spectroscopy,” *Applied Surface Science* 0169-4332 Oct 31 2006 (2006).
- Chen, Y., **M. Urquidi-Macdonald**, and D.D. Macdonald, “The Electrochemistry of Zirconium in Aqueous Solutions at Elevated Temperatures and Pressures,” *Journal of Nuclear Materials* 348(1): 133-147 (2006).
- Cho, Y., C.M. Lee*, and **J.L. Rose**, “Rail Inspection with Guided Waves,” *12th Asia-Pacific Conference on Non-Destructive Testing 2006* Auckland, New Zealand, November 5-10, 2006 (2006).
- Cho, Y., **J.L. Rose**, and H. Kwun, “SH Guided Wave Scattering in a Structure with Thickness Variation,” *Key Engineering Materials* V 321-323 I:792-794 (2006).
- Cochrane*, C. J., **P.M. Lenahan**, J.P. Campbell*, G. Bersuker, P. Lysaght, and A. Neugroschel, “Negative bias stressing interface trapping centers in metal gate hafnium oxide field effect transistors using spin dependent recombination,” *Proceedings IEEE International Integrated Reliability Workshop* (2006).
- Cochrane*, C.J., **P.M. Lenahan**, J.P. Campbell*, G. Bersuker, and A. Neugroschel, “Observation of negative bias stressing interface trapping centers in metal gate hafnium oxide field effect transistors using spin dependent recombination,” *Applied Physics Letters*, 90, March 12, 2007 (2007). In press.
- Cochrane*, C.J., **P.M. Lenahan**, and A.J. Leelis, “Deep Level Defects Which Limit Current Gain in 4H SiC Bipolar Junction Transistors,” *Applied Physics Letters*, 90, March 12, 2007 (2007). In press.
- Cochrane*, C.J., **P.M. Lenahan**, P.J. Campbell, G. Bersuker, and A. Neugroschel, “Observation of negative bias stressing interface trapping centers in metal gate hafnium oxide field effect transistors using spin dependent recombination,” *Applied Physics Letters* 90, March 12, 2007 (2007). In press.
- Cui*, D., **J. Xu**, T. Zhu, G. Paradee, **S. Ashok**, and M. Gerhold, “Harvest of near infrared light in PbSe nanocrystal-polymer hybrid photovoltaic cells,” *Appl. Phys. Lett.* 183111-182113 (2006).
- Cui*, D., **J. Xu**, T. Zhu*, G. Paradee, and **S. Ashok**, “Efficient Harvest of Near Infrared Light in Nanocrystal-Polymer Hybrid Photovoltaic Devices,” *Appl. Phys. Lett.* 88:1831111-1/3 (2006).
- Vasin, A.V., S.P. Kolesnik, A.A. Konchits, V.I. Kushnirenko, V.S. Lysenko, A.N. Nazarov, A.V. Rusavsky, and **S. Ashok**, “Hydrogen Bond Redistribution Effects on Photoluminescence of a-SiC:H Films under Thermal Treatment,” *J. Appl. Phys.* 99:113520-113527 (2006).
- Cui*, D., **J. Xu**, S. Xu, G. Paradee, B.A. Lewis, and M. Gerhold, “Infrared Photodiode Based on Colloidal PbSe Nanocrystal Quantum Dots,” *IEEE Transactions on Nanotechnology* 5:362-367 (2006).
- field effect transistors using spin dependent recombination,” *Applied Physics Letters* 90, March 12, 2007 (2007). In press.
- Khalmanova, D. K., and **F. Costanzo**, “Discontinuous Space-Time Galerkin Finite Element Method in Linear Dynamic Fully Coupled Thermoelastic Problems with Strain and Heat Flux Discontinuities,” *ECCM-2006—III European Conference on Computational Mechanics*, Lisbon, Portugal, June 5-9 (2006).
- Cui, D., **J. Xu**, T. Zhu, G. Paradee, **S. Ashok**, and M. Gerhold, “Harvest of near infrared light in PbSe nanocrystal-polymer hybrid photovoltaic cells,” *Appl. Phys. Lett.* 183111-182113 (2006).
- Cui*, D., **J. Xu**, T. Zhu*, G. Paradee, and **S. Ashok**, “Efficient Harvest of Near Infrared Light in Nanocrystal-Polymer Hybrid Photovoltaic Devices,” *Appl. Phys. Lett.* 88:1831111-1/3 (2006).
- Vasin, A.V., S.P. Kolesnik, A.A. Konchits, V.I. Kushnirenko, V.S. Lysenko, A.N. Nazarov, A.V. Rusavsky, and **S. Ashok**, “Hydrogen Bond Redistribution Effects on Photoluminescence of a-SiC:H Films under Thermal Treatment,” *J. Appl. Phys.* 99:113520-113527 (2006).
- Cui*, D., **J. Xu**, S. Xu, G. Paradee, B.A. Lewis, and M. Gerhold, “Infrared Photodiode Based on Colloidal PbSe Nanocrystal Quantum Dots,” *IEEE Transactions on Nanotechnology* 5:362-367 (2006).
- Cusumano, J.P.**, and P. Cesari, “Body-Goal Variability Mapping in an Aiming Task,” *Biological Cybernetics*, 94(5):367-379 (2006).
- D. Macdonald, J. Ai, Y. Chen, and **M. Urquidi-Macdonald**, “Electrochemical Impedance Spectroscopic Study of Passive Zirconium in High Temperature De-aerated Aqueous Solutions,” *ECS Transactions - Denver Impedance in Electrochemistry: From Analytical Applications to Mechanistic Speculations*, Denver, CO, May 7-12, 2006 (2006).
- Dautrich*, M.S., **P.M. Lenahan**, and A.J. Leelis, “Identification of Trapping Defects in 4H-Silicon Carbide Metal-Insulator-Semiconductor Field Effect Transistors by Electrically Detected Magnetic Resonance,” *Applied Physics Letters*, 89(22):Art.No. 223502 (2006).
- Dautrich*, M.S., **P.M. Lenahan**, and A.J. Leelis, “Observation of Deep Level Centers in 4H - Silicon Carbide Metal Oxide Semiconductor Field Effect Transistors by Spin Dependent Recombination,” *Materials Science Forum* 527-529:1101 (2006).
- Demirel, M.C.**, E. So*, T. Ritty, S.H. Naidu, and **A. Lakhtakia**, “Nanoengineered Sculptured Thin Films for Fibroblast Cell Attachment and Growth,” *Journal of Biomedical Materials Research-B*, 80B(3) (2006).

*denotes co-authored with graduate student(s)

**denotes co-authored with undergraduate student(s)

- Depine, R.A., M.E. Inchaussandague, and **A. Lakhtakia**, "Application of the differential method to uniaxial gratings with an infinite number of refraction channels: Scalar case," *Optics Communications* 258:90-96 (2006).
- Depine, R.A., M.E. Inchaussandague, and **A. Lakhtakia**, "Classification of dispersion equations for homogeneous dielectric-magnetic uniaxial materials," *Journal of the Optical Society of America A* 23:949-955 (2006).
- Depine, R.A., M.E. Inchaussandague, and **A. Lakhtakia**, "Vector theory of diffraction by gratings made of a uniaxial dielectric-magnetic material exhibiting negative refraction," *Journal of the Optical Society of America B* 23:514-528 (2006).
- Du*, J., and **B.R. Tittmann**, "Acoustic Evaluation of the Integrity of Thin Film Structures," Presented at Review of Progress in Quantitative NDE, Bowdoin College, Brunswick, Maine, July 31-August 5, 2005. *Review of Progress in Quantitative Nondestructive Evaluation*. D.O. Thompson and D.E. Chimenti (eds), 25B:1090-1097 (2006).
- Ebert*, A., **B.R. Tittmann**, J. Du*, and W. Scheuchenzuber, "Technique for Rapid in Vitro Single-Cell Elastography," *Ultrasound in Medicine and Biology* 32(11):1687-1702 (2006).
- Eldridge, J., **J. Singh**, and D. Wolfe, "Erosion Indicating Thermal Barrier Coatings Using Luminescent Sub-layers" *J. of American Society* (2006).
- Eldridge, J., T.J. Bencic, C.M. Spuckler, **J. Singh**, and D. Wolfe, "Delamination-Indicating Thermal Barrier Coatings Using YSZ:Eu Sub-layers" *J. of American Society* (2006).
- Fang*, L., and **L.H. Friedman**, "Analytic Treatment of Metallic Multilayer Strength at All Length Scales: influence of dislocation sources," *Acta Materialia* 55(5):1505-1514 (2007). In press.
- Feteira, A., R. Elsebrock, A. Dias, R.L. Moreira, **M.T. Lanagan**, and D.C. Sinclair, "Synthesis and Characterization of Lao.4Ba0.6Tio.6RE04.O3 (where RE=Y, Yb) Ceramics," *Journal of the European Ceramic Society* 26(10-11):1947-1951 (2006).
- Fiumara, V., F. Chiadini, **A. Lakhtakia**, and A. Scaglione, "Theory of thin-film, narrowband, linear-polarization rejection filters with superlattice structure," *Optics Communications* 268:182-188 (2006).
- Fonash, S.J.**, D. Fenwick, P. Hallacher, T. Kuzma, and W.J. Nam, "Education and Training Approach for the Future Nanotechnology Workforce," *NanoSingapore 2006*, Singapore, (January 2006) (2006).
- Fonash, S.J.**, D. Fenwick, P. Hallacher, T. Kuzma, A. Brunner*, W. Mahoney, and R. Ehrmann, "Nanotechnology Education: The Pennsylvania Approach," *Education in Nanoscience and Engineering MRS Proceedings* 931E:KK04-06 (2006).
- Friedman, L.H.**, "Exponent for Hall-Petch behavior of ultra-hard multilayers," *Philosophical Magazine* 86(11):1443-1481 (2006).
- Friedman, L.H.**, and **J. Xu**, "Feasibility Study for Thermal-Field Directed Self-Assembly of Heteroepitaxial Quantum Dots," *Applied Physics Letters* 88:093105 (2006).
- Gao*, H., M. Guers*, **J.L. Rose**, X. Zhao, and X. Kwan, "Ultrasonic Guided Wave Annular Array Transducers for Structural Health Monitoring," *AIP Conference Proceedings* 820 Review of Progress in Quantitative Nondestructive Evaluation, 25, D.O. Thompson and D.E. Chimenti (eds) 1680-1686 (2006).
- Gao*, H., and **J.L. Rose**, "Ultrasonic Sensor Placement Optimization in Structural Health Monitoring Using Evolutionary Strategy," *AIP Conference Proceedings* 820 Review of Progress in Quantitative Nondestructive Evaluation, 25, D.O. Thompson and D.E. Chimenti (eds) 1687-1693 (2006).
- Geddes III*, J.B., and **A. Lakhtakia**, "Durations and average speeds of ultrashort optical pulses shaped by chiral sculptured thin films," *Proceedings of SPIE* 6328: *Nanomodeling II* San Diego, California, August 13-17, Paper No. 632811 (2006).
- Geddes III*, J.B., and **A. Lakhtakia**, "Quantification of optical pulsed-plane-wave-shaping by chiral sculptured thin films," *Journal of Modern Optics* 53:2763-2783 (2006).
- Greene, C.D., and **D.F. Heaney**, "The PVT Effect on the Final Sintered Dimensions of Powder Injection Molded Components," *Materials and Design* (2006).
- Grujicic, M., Y.-P. Sun, and **K.L. Koudela**, "Micro-mechanics Based Derivation of the Materials Constitutive Relations for Carbon Nanotube Reinforced Poly-Vinyl-Ester-Epoxy Based Composites," *J. Mater. Sci.*, (2006).
- Grujicic, M., B. Pandurangan, C.D. Angstadt, **K.L. Koudela**, and B.A. Cheeseman, "Ballistic-Performance Optimization of a Hybrid Carbon-Nanotube /E-glass Reinforced Poly-Vinyl-Ester-Epoxy-Matrix Composite Armor," *J. Mater. Sci.*, (2006).
- Grujicic, M., B. Pandurangan, **K.L. Koudela**, and B.A. Cheeseman, "A Computational Analysis of the Ballistic Performance of Light-Weight Hybrid-Composite Armor," *Appl. Surf. Sci.*, (2006).
- Grujicic, M., B. Pandurangan, **K.L. Koudela**, and B.A. Cheeseman, "Ballistic-Performance of Alumina/S-2 Glass-Reinforced Polymer-Matrix Composite Hybrid Lightweight Armor Against Armor Piercing (AP) and Non-AP Projectiles," *J. Multidiscipline Modeling in*

*denotes co-authored with graduate student(s)

**denotes co-authored with undergraduate student(s)

- Materials and Structures*, (2006).
- Grujcic, M., W.C. Bell, **K.L. Koudela**, and B.A. Cheeseman, "Ballistic-Protection Performance of Carbon-Nanotube Doped Poly-Vinyl-Ester-Epoxy-Matrix Composite Armor Reinforced with E-glass Fiber Mats," *J. Mater. Sci.*, November 2006 (2006).
- Grujcic, M., Y.-P. Sun, and **K.L. Koudela**, "The Effect of Covalent Functionalization of Carbon Nanotube Reinforcements on the Atomic-Level Mechanical Properties of Poly-Vinyl-Ester-Epoxy," *Appl. Surf. Sci.*, (2006). In press.
- Hallacher, P.M., **S.J. Fonash**, and D.E. Fenwick, "The Pennsylvania Nanofabrication Manufacturing Technology (NMT) Partnership: Resource Sharing for Nanotechnology Workforce Development," *International Journal of Engineering Education* 18(5) (2006).
- Hay*, T.R., R.L. Royer*, H. Gao*, X. Zhao, and **J.L. Rose**, "A comparison of embedded sensor Lamb wave ultrasonic tomography approaches for material loss detection," *Smart Materials and Structures* 15:946-951 (2006).
- He, C., J.K. Van Velsor*, C.M. Lee*, and **J.L. Rose**, "Health Monitoring of Rock Bolts Using Ultrasonic Guided Waves," *AIP Conference Proceedings* 820 Review of Progress in Quantitative Nondestructive Evaluation, 25, D.O. Thompson and D.E. Chimenti (eds), pp. 195-201 (2006).
- Heaney, D.F.** "Mass Production of Micro Components Utilizing Lithographic Tooling and Injection Molding Technologies," *First International Conference on Micro-Manufacturing ICOMM* 2006, No.: 61 (2006).
- Heaney, D.F.**, and R. Spina, "Numerical Analysis of Debinding and Sintering of MIM Parts," *Journal of Materials Processing Technology* (2006).
- Heaney, D.F.**, "Injection Molding of Micro Medical Components Utilizing MEMS Technologies for Tooling," *Materials Science & Technology* 2006 October 15-18, 2006 Cincinnati, OH, (2006).
- Heaney, D.F.**, "Powder Injection Molding of Implantable Grade Materials," *Proceedings of MSEC:2006 ASME International Conference on Manufacturing Science and Engineering* October 8-11, 2006, Ypsilanti, MI, paper no. MSEC2006-21049 (2006).
- Hennings, A., **E. Semouchkina**, A. Baker, and G. Semouchkin, "Design Optimization and Implementation of Band-Pass Filters with Normally Fed Microstrip Resonators Loaded by High-Permittivity Dielectric," *IEEE Transactions on Microwave Theory Techniques* (2006).
- Hennings, A., **E. Semouchkina**, G. Semouchkin, and **M. Lanagan**, "Novel Compact Band-Pass Filters with Horse-Shoe Microstrip Resonators," *Proc. 34th European Microwave Conf.*, Amsterdam (2006).
- Huang, T.J.**, A.H. Flood, B. Brough, Y. Liu, P.A. Bonvallet, S. Kang, C.-W. Chu, T.-F. Guo, W. Lu, Y. Yang, J.F. Stoddart, and C.-M. Ho, "Understanding and Harnessing Biomimetic Molecular Machines for NEMS Actuation Materials," *IEEE Transactions on Automation Science and Engineering* 3:254-259 (2006).
- Huang, T.J.**, and J.R. Waldeisen*, "Biologically Inspired Energy: Harnessing Molecular Functionality towards Nanosystemic Design," *Nanomedicine* 1(3):369-372 (2006).
- Huang, T.J.**, S. Saha, and J.F. Stoddart, "Understanding and Harvesting Biomimetic Molecular Motors as Novel Energetic Materials," *2006 ASME International Mechanical Engineering Congress & Exposition* Chicago, IL, November 5-10, 2006 (2006).
- Iwasaki, M., **E. Semouchkina**, G. Semouchkin, K. Rajab, C. Randall, C., and **M. Lanagan**, "Symmetry Matching of Hybrid Modes for Dielectric Metamaterials," *Japanese Journal of Applied Physics* (2006).
- Jain, M., G. Skandan, K. Martin*, D. Kapoor, K. Cho, B. Klotz, R. Dowing, **D. Agrawal**, and J. Cheng, "Microwave Sintering: A New Approach to Fine-grain Tungsten - I," *Intl. J. Powder Metl.* 5(2):45-50 (2006).
- Jayaraman*, S., M. Pedrick*, and **B.R. Tittmann**, "Measurement of Absolute Acoustic Strain by Non-Contact Technique," Presented at Review of Progress in Quantitative NDE, Bowdoin College, Brunswick, Maine, July 31-August 5, 2005. *Review of Progress in Quantitative Nondestructive Evaluation*. D.O. Thompson and D.E. Chimenti (eds), 25B:1469-1475 (2006).
- Kalkan, A.K., and **S.J. Fonash**, "Laser-Activated Surface-Enhanced Raman Scattering Substrates Capable of Single Molecule Detection," *Applied Physics Letters* 89:233103 (2006).
- Kang, N.H., and **J. Singh** "Gravitational Effects on the Weld Pool Shape and Microstructural Evolution of Ni, 304 Stainless Steel, and Al-4 wt.% Cu Alloy" book chapter in *Trend in Materials Science and Research* (2006).
- Keebaugh*, S., A.K. Kalkan, W.-J. Nam, and **S.J. Fonash**, "Gold Nanowires for the Detection of Elemental and Ionic Mercury," *Electrochemical and Solid-State Letters* 9(9):h88-h91 (2006)
- Kelly*, M., D. Wolfe, **J. Singh**, J. Eldridge, D. Zhu, and B. Miller "Thermal Barrier Coatings Design With Increased Thermal Reflectivity and Lower Thermal Conductivity for High Temperature Turbine Applications" *International Journal of Applied Ceramic*

*denotes co-authored with graduate student(s)

**denotes co-authored with undergraduate student(s)

- Technology* 3(2):81-93 (2006).
- Kelly*, M., **J. Singh, S.** Copley, D. Wolfe, and **J. Todd** "Quantitative Microstructural Analysis of Thermal Barrier Coatings Produced By Electron Beam-Physical Vapor Deposition," 30th *International Conference on Advanced Ceramics and Composites*, Daytona Beach, FL, 2007 (2006).
- Khalmanova, D.K., and **F. Costanzo**, "Discontinuous Space-Time Galerkin Finite Element Method in Linear Dynamic Fully Coupled Thermoelastic Problems with Strain and Heat Flux Discontinuities," *ECCM-2006---III European Conference on Computational Mechanics*, Lisbon, Portugal, June 5-9 (2006).
- Kropf*, M.M., and **B.R. Tittmann**, "Remote High Temperature Thermography Using Ultrasonic Guided Waves in Thin Wires," Presented at Review of Progress in Quantitative NDE, Bowdoin College, Brunswick, Maine, July 31-August 5, 2005. *Review of Progress in Quantitative Nondestructive Evaluation*. D.O. Thompson and D.E. Chimenti (eds), 25B:1570-1576 (2006).
- Lakhtakia, A.**, "Bragging electrically," *Proceedings of SPIE 6320: Complex Photonic Media* San Diego, California, USA, August 13-17, Paper No. 63200L (2006).
- Lakhtakia, A., M.C. Demirel, M.W. Horn, and J. Xu**, "Emerging Directions in Sculptured Thin Film Research," *Advances In Solid State Physics* 46 (2006).
- Lakhtakia, A.**, "Electrically tunable, ultranarrowband, circular-polarization rejection filters with electro-optic structurally chiral materials," *Journal of the European Optical Society Rapid Publications* 1:06006 (2006).
- Lakhtakia, A.**, "Generalized Oseen transformation for and enhancement of Bragg characteristics of Electro-optic structurally chiral materials," *Optics Communications* 261:213-217 (2006).
- Lakhtakia, A.**, "Narrowband and ultranarrowband filters with electro-optic structurally chiral materials," *Asian Journal of Physics* 15:275-282 (2006).
- Lakhtakia, A.**, "Boundary value problems and the validity of the Post constraint in modern electromagnetism," *Optik* 117:188-192 (2006).
- Lakhtakia, A.**, "Priming pre-university education for nanotechnology," *Current Science* 90:37-40 (2006).
- Lakhtakia, A., and J. Xu**, "Planewave remittances of an axially excited chiral sculptured thin film with gain," *Optik* 118:94-99 (2007). In press.
- Lanagan, M., E. Semouchkina, G. Semouchkin, R. Mittra, and C. Randall**, "Dielectric Metamaterials for Microwave and mm-wave Devices," *Proceedings of the 10th Conference on Complex Media and Metamaterial*, *Bianisotropics*, Het Pand, Ghent, Belgium (2006).
- Lee*, C.M., **J.L. Rose**, and Y. Cho, "A Characteristic of Scattering Patterns from Defect in a Rail," *Key Engineering Materials* V 321-323 I:788-791 (2006).
- Lee*, C.M., **J.L. Rose**, W. Luo, and Y. Cho, "A Computational Tool for Defect Analysis in Rail with Ultrasonic Guided Waves," *Key Engineering Materials* V 321-323 I:784-787 (2006).
- Lee*, C.M., **J.L. Rose**, W. Luo, and Y. Cho, "A Computational Tool for Defect Analysis in Rail with Ultrasonic Guided Waves," *Key Engineering Materials* V 321-323 I:784-787 (2006).
- Lenahan, P.M.**, "Deep Level Defects Involved in MOS Device Instabilities," *Microelectronics Reliability* (2006).
- Lenahan, P.M., N.T. Pfeffenberger*, T.G. Pribicko*, and A.J. Leelis**, "Identification of Deep Level Defects in SiC Bipolar Junction Transistors," *Materials Science Forum* 527-529:567 (2006).
- Li, J., and **J.L. Rose**, "Natural beam focusing of non-axisymmetric guided waves in large-diameter pipes," *Ultrasonics* 44:35-45 (2006).
- Liang, Z., K.L. Dzienis, **J. Xu**, and Q. Wang, "Covalent Layer-by-Layer Assembly of Conjugated Polymers and CdSe Nanoparticles: Multilayer Structure and Photovoltaic Properties," *Advanced Functional Materials* 16:542-548 (2006).
- Lissenden, C.J., D. Doraiswamy, and S.M. Arnold**, "Experimental investigation of cyclic and time-dependent deformation of titanium alloy at elevated temperature," *International Journal of Plasticity* 23:1-24 (2006).
- Liu, A., **J.H. Huang, K.W. Wang, and C.E. Bakis**, "Effects of Interfacial Friction on the Damping Characteristics of Composites Containing Randomly Oriented Carbon Nanotube Ropes," *J. Intelligent Material Systems and Structures*, 17:217-229 (2006).
- Liu, G., K.B. Rider, W.-J. Nam, **S.J. Fonash, and S.H. Kim**, "Dendritic Aggregation of Oligothiophene During Desorption of 2,5-Diiodothiophene Multilayer and Topography Induced Alignment of Oligothiophene Nanofibers," *Journal of Physical Chemistry B* 2006 110 20197-20201 (2006).
- Lucas*, I., and **B.R. Tittmann**, "High Amplitude Studies of Natural Dome Salt and Hydrostatically Pressed Salt," Presented at 17th *International Symposium on Nonlinear Acoustics*, July 18-22, 2005, State College, Pennsylvania. Innovations in Nonlinear Acoustics, A.A. Atchley, V.W. Sparrow, and R.M. Keolian (eds), pp. 83-86 (2006).
- Luo*, W., **J.L. Rose, J.K. Van Velsor*, and J. Mu**, "Phased-Array Focusing with Longitudinal Guided

*denotes co-authored with graduate student(s)

**denotes co-authored with undergraduate student(s)

- Waves in a Viscoelastic Coated Hollow Cylinder,” *AIP Conference Proceedings 820 Review of Progress in Quantitative Nondestructive Evaluation*, 25, D.O. Thompson and D.E. Chimenti (eds), pp. 869-876 (2006).
- Luo*, W., **J.L. Rose**, J.K. Van Velsor*, “Circumferential Guided Waves for Defect Detection in Coated Pipe,” *AIP Conference Proceedings 820 Review of Progress in Quantitative Nondestructive Evaluation*, 25, D.O. Thompson and D.E. Chimenti (eds), pp. 165-172 (2006).
- Lynnworth, L.C., R. Cohen, **J.L. Rose**, J.O. Kim, and E.R. Furlong, “Vortex Shedder Fluid Flow Sensor,” *IEEE Sensor Journal* 6(6):1488-1496 (2006).
- Mackay, T.G., and **A. Lakhtakia**, “Correlation length and negative phase velocity in isotropic dielectric-magnetic materials,” *Journal of Applied Physics* 100: 063533 (2006).
- Mackay, T.G., and **A. Lakhtakia**, “Enhancement of group velocity via homogenization: isotropic and anisotropic dielectric scenarios,” *Proceedings of SPIE 6328: Nanomodeling II* San Diego, California, USA, August 13-17, Paper No. 63280H (2006).
- Mackay, T.G., and **A. Lakhtakia**, “Percolation thresholds in the homogenization of spheroidal particles oriented in two directions,” *Optics Communications* 259:727-737 (2006).
- Maksimenco, S.A., G. Ya. Slepyan, M.V. Shuba, and **A. Lakhtakia**, “Optical scattering by achiral carbon nanotubes and application as nanoantennas and composite mediums,” *Proceedings of SPIE 6328: Nanomodeling II* San Diego, California, USA, August 13-17, Paper No. 632807 (2006).
- McConnell*, J.E., **A.E. Segall**, and T.J. Eden, “The Dry Sliding Behavior of Al₂O₃ Transformed, Hypereutectic, 2xxx, and 7xxx, Aluminum Alloys under Simulated Wire-Rope Induced Wear,” *STLE Tribology Transaction*, 49 (4):563-575 (2006).
- Miller*, A.J., P.C. Andia*, **F. Costanzo**, and **G.L. Gray**, “The Stress-Strain Response of Nanoscale Systems,” *The 43rd Annual Technical Meeting of the Society of Engineering Science*, State College, Pennsylvania, August 13-16 p. 227 (2006).
- Mu*, J., L. Zhang*, **J.L. Rose**, and J. Spanner, “Defect Sizing in Pipe Using an Ultrasonic Guided Wave Focusing Technique,” *AIP Conference Proceedings 820 Review of Progress in Quantitative Nondestructive Evaluation*, 25, D.O. Thompson and D.E. Chimenti (eds), pp. 760-766 (2006).
- Mullen, T.J., C. Srinivasan*, J.N. Hohman, S.D. Gillmor, M.J. Shuster, **M.W. Horn**, A.M. Andrews, and P.S. Weiss, “Microcontact insertion printing,” *Applied Physics Letters* (2006).
- Nam, W.J., S. Joshi, and **S.J. Fonash**, “A STEP-and-GROW Technique - An Economic and Environmentally Safe Manufacturing Approach for Fabricating Ordered Nano Structures,” *NanoSingapore 2006*, Singapore, January 2006 (2006).
- Neubauer, E., **I. Smid**, G. Requena, H.P. Degischer, and P. Angerer, “Thermophysical Properties of Copper Composites Reinforced with Negative CTE Fillers,” *Advances in Powder Metallurgy and Particulate Materials 2006 (Int. Conference on Powder Metallurgy & Particulate Materials* (PowderMet2006); San Diego, June 2006, pp. 9.37–9.43 (2006).
- Ntsoenzok, E., H. Assaf, M.O. Ruault, and **S. Ashok**, “Xe implantation in SiO₂: Low-k applications,” *International Conference on Solid state and Integrated Circuit Technology (ICSICT2006)*, Oct. 2006, Shanghai, China T.-A. Tang, G.-P. Ru, and Y.-L. Jiang (Eds), pp. B1-3:9-11 (2006).
- Ospina, C.E., and **C.E. Bakis**, “Indirect Flexural Crack Control Procedure for FRP-reinforced Concrete Beams and One-way Slabs,” *Proc. 3rd Intl. Conf. on FRP Composites in Civil Engineering, CICE 2006*, A. Mirmiran and A. Nanni, (eds), pp. 535-538 (2006). Best Paper Award in New Construction.
- Palacios, J.L., H. Gao, E.C. Smith, and **J.L. Rose**, “Ultrasonic Shear Wave Anti-Icing System for Helicopter Rotor Blades,” *Annual Forum Proceedings - AHS International v iii*,
- AHS International 62nd Annual Forum - Vertical Flight: Leading Through Innovation - Proceedings, p. 1492-1502 (2006).
- Panda, S.S., V. Singh, A. Upadhyaya, and **D. Agrawal**, “Effect of Conventional and Microwave Sintering on the Properties of Ytria Aluminum Garnet-Dispersed Austenitic Stainless Steel,” *Metall. And Mats Trans A 37A*, 2253-2263 (2006).
- Panda, S.S., V. Singh, A. Upadhyaya, and **D. Agrawal**, “Sintering response of austenitic (316L) and ferritic (434L) stainless steel consolidated in conventional and microwave furnaces,” *Scripta Materialia*, 54:2179-2183 (2006).
- Passmore* L.J., K. Sarpatwari*, and **S.A. Suliman**, “Fowler-Nordheim and hot carrier reliabilities of U-shaped trench-gated transistors studied by three terminal charge pumping,” *Thin Solid Films* 504(1-2):302-306 (2006).
- Passmore*, L.J., K. Sarpatwari*, **S.A. Suliman**, **O.O. Awadelkarim**, R.S. Ridley, G.M. Dolny, J. Michalowicz, and C.-T. Wu, “Fowler-Nordheim and Hot Carrier Reliabilities of U-Shaped Trench-Gated Transistors Studied by Three Terminal Charge Pumping,” *Thin Solid Films* 504(1-2):302 (2006).
- Passmore*, L.J., K. Sarpatwari*, **S.A. Suliman**, **O.O. Awadelkarim**, R.S. Ridley, G.M. Dolny, J. Michalowicz, and C.-T.

*denotes co-authored with graduate student(s)

**denotes co-authored with undergraduate student(s)

- Wu, "Current-voltage characteristics and charge-carrier taps in n-type 4H-SiC Schottky structures," *Proceedings of the International Workshop on Junction Technology* (2006).
- Patnaik, P., C.X. Huang, and **J. Singh**, "State-of-the-Art and Future Trend in the Development of Thermal Barrier Coatings" *NATO 2006* (2006).
- Pedrick*, M., and **B.R. Tittmann**, "Charged Particle Detection: Potential of Love Wave Acoustic Devices," Presented at Review of Progress in Quantitative NDE, Bowdoin College, Brunswick, Maine, July 31-August 5, 2005. *Review of Progress in Quantitative Nondestructive Evaluation*. D.O. Thompson and D.E. Chimenti (eds), 25B:1476-1483 (2006).
- Peelamedu, R., D. Dube, **M. Lanagan**, and **D. Agrawal**, "In Situ Probing of Magnetic Parameter Variations of Nickel Zinc Ferrites During Microwave H Heating," *Applied Physics Letters* 88(20) Art. No. 204108 (2006).
- Peelamedu, R.D., D.C. Dube, **M.T. Lanagan**, and **D. Agrawal**, "In situ probing of magnetic parameter variations of nickel zinc ferrites during microwave H heating," *Appl. Phys. Letters* 88, 204108 (2006).
- Polo, Jr., J.A., S.R. Nelatury, and **A. Lakhtakia**, "Surface electromagnetic wave at a tilted uniaxial bicrystalline interface," *Electromagnetics* 26:629-642 (2006).
- Pursel*, S.M., **M.W. Horn**, and **A. Lakhtakia**, "Blue-shifting of circular Bragg phenomenon by annealing of chiral sculptured thin films," *Optics Express* 14:8001-8012 (2006).
- Pursel*, S.M., **M.W. Horn**, and **A. Lakhtakia**, "Tuning of sculptured-thin-film spectral-hole filters by post-deposition etching," *Optical Engineering* 46(4) (2007). In press.
- Pursel*, S.M.; **M.W. Horn**, and **A. Lakhtakia**, "Blue-shifting of circular Bragg phenomenon by annealing of chiral sculptured thin films," *Optics Express* 1094-4087 (2006).
- Randow*, C.L., **G.L. Gray**, and **F. Costanzo**, "Directed Continuum Model of Micro- and Nano-scale Thin Films," *International Journal of Solids and Structures* 43(5):1253-1275 (2006).
- RaviPrakash*, J., A.H. McDaniel, **M. Horn**, L. Pilionea, P. Sunal*, **R. Messier**, R.T. McGrath, and F.K. Schweighard, "Hydrogen sensors: Role of palladium thin film morphology," *Sensors and Actuators B: Chemical* 120(2):439-446 (2007). In press.
- Reyes, J.A., and **A. Lakhtakia**, "Electrically controlled optical bandgap in a structurally chiral material," *Optics Communications* 259:164-173 (2006).
- Rose, J.L.**, J. Mu*, L. Zhang*, and **C.J. Lissenden**, "Long range focused ultrasonic guided waves for corrosion detection in tubular structures," *NACE Expo Corrosion 2006* (2006).
- Ross*, B.M., **A. Lakhtakia**, and I.J. Hodgkinson, "Towards the design of elliptical-polarization rejection filters," *Optics Communications* 259:479-483 (2006).
- Sandman, J.S., and **B.R. Tittmann**, "Ultrasonic Sensor for High Temperature Gas Filled Vessels," Presented at the 2006 ASME Pressure Vessels and Piping Conference, July 23-27, 2006, Vancouver, BC, Canada. *Nondestructive Evaluation*, 5:207-214 (2006).
- Schmidt*, D., **B. Shaw**, **E. Sikora**, and W. Shaw, "Corrosion Protection Assessment of Barrier Properties of Several Zinc-Containing Coating System on Steel in Artificial Seawater," *Corrosion*, 62(4):323-340 (2006).
- Schmidt*, D.P., B.A. Shaw, **E. Sikora**, W.W. Shaw, and L. Laliberte, "Corrosion Protection Assessment of Sacrificial Coating Systems as a Function of Exposure Time in a Marine Environment," *Progress in Organic Coatings* 57:352-364 (2006).
- Schmidt*, D.P., **B.A. Shaw**, **E. Sikora**, and W.W. Shaw, "Corrosion Protection Assessment of Sacrificial Coating Systems on Steel in Artificial Seawater," *Corrosion* 62:323-339 (2006).
- Segall, A.E.**, "Manufacturing Defects and the Evidence of Thermomechanical Fatigue in a Ceramic Vacuum Furnace Tube," *Engineering Failure Analysis*, 13:1184-1190 (2006).
- Segall, A.E.**, "Thermoelastic Stresses in Thick-Walled Vessels under an Arbitrary Thermal Transient via the Inverse Route," *ASME Journal of Pressure Vessel Technology*, 128(4):599-604 (2006).
- Akarapu*, R., and **A.E. Segall**, "Investigation of an Active Stressing Technique for Delaying Fracture during Cutting of Alumina," *ASME Journal of Manufacturing Science and Engineering*, 128(4): 921-927 (2006).
- Segall, A.E.**, G. Cai*, and R. Akarapu*, "Studies on the use of Offset and an Angled Pres-cores for Fracture Control during Laser Machining of Alumina Ceramics," *Journal of Laser Applications*, 18(4):325-329, (2006).
- Semak, V.V.**, and T.F. Miller, "Modeling of Laser charring and material removal in fiberglass materials," *Journal of Directed Energy* 2:5-21 (2006).
- Semak, V.V.**, B.R. Campbell, and J.G. Thomas, "On the possible effect of pedestal pulse on materials removal by ultrashort intensity laser pulses," *Journal of Physics D: Appl. Phys.* 39(15):3440-3449 (2006).
- Semak, V.V.**, G.A. Knorovsky, and D.O. MacCallum, "Effect of surface tension on melt pool dynamics during laser pulse interaction," *Journal of Physics D: Appl. Phys.* 39(3):590-595 (2006).

*denotes co-authored with graduate student(s)

**denotes co-authored with undergraduate student(s)

- Semouchkina, E.**, "Double Negative Materials: Hypothesis, Realization, and New Developments," *Smart Processing Technology*, Japan (2006). Invited review paper.
- Semouchkina, E.**, A. Baker, G. Semouchkin, **M. Lanagan**, and R. Mittra, 2005, "New Approaches for Designing Microstrip Filters Utilizing Mixed Dielectrics," *IEEE Transactions on Microwave Theory Techniques* (2006).
- Semouchkina, E.**, A. Baker, G. Semouchkin, C. Randall, and **M. Lanagan**, "Resonant Wave Propagation in Periodic Dielectric Structures," *Proceedings of the IASTED International Conference ANTENNAS, RADAR AND WAVE PROPAGATION*, Banff, Canada (2006).
- Semouchkina, E.**, G. Semouchkin, R. Mittra, and **M. Lanagan**, "Resonant Properties of Dielectric Metamaterials," *IEEE AP-S Digest Proc. International Symposium*, Washington DC (2006).
- Semouchkina, E.**, Y. Miyamoto, S. Kirihara, G. Semouchkin, and **M. Lanagan**, "Simulation and Experimental Study of Electromagnetic Wave Localization in 3D Dielectric Fractal Structures," *36th European Microwave Conf.*, Manchester, UK, September 2006 (2006).
- Semouchkina, E.**, S. Mudunuri, G. Semouchkin, and R. Mittra, "Double Negative Medium Composed from Split-Ring Resonators Only," *IEEE MTT-S International Microwave Symposium Proc.*, San Diego (2006).
- Semouchkina, E.**, S. Mudunuri, G. Semouchkin, and R. Mittra, "Tunneling Behavior of Waveguides with Inserted Single Split-Ring Resonators," *IEEE Antenna and Propagation Society International Symposium*, Albuquerque, New Mexico, July 2006 (2006).
- Semouchkina, E.**, G. Semouchkin, **M. Lanagan**, and C. Randall, "FDTD Study of Resonance Processes in Metamaterials," *IEEE Transactions on Microwave Theory Techniques* (2006).
- Semouchkina, E.**, G. Semouchkin, **M. Lanagan**, I. Ivanchenko, A. Korolev, and N. Popenko, "A New Approach for Enhancement Circular Polarization Output in Square Shaped Microstrip Patch Antennas," *IEEE AP-S Digest Proc. International Symposium*, Monterey (2006).
- Semouchkina, E.**, Y. Miyamoto, S. Kirihara, G. Semouchkin, and **M. Lanagan**, "Analysis of Electromagnetic Response of 3D Dielectric Menger Sponge Fractals," *IEEE MTT* (2006).
- Semouchkina, E.**, Y. Miyamoto, S. Kirihara, G. Semouchkin, and **M. Lanagan**, "Simulation and Experimental Study of Electromagnetic Wave Localization in 3D Dielectric Fractal Structures," *Proceedings of the Microwave Conference, 2006, 36th European* pp. 776-779 (2006).
- Sethi*, G., **M. Lanagan**, and **M. Horn**, "Bombardment Effects on Growth of Amorphous Zirconia Thin Films Through Reactive Sputtering for High Energy Density MIM Capacitors," *Thin Solid Films* (2006).
- Sethi*, G., **M.T. Lanagan**, E.F., and **M.W. Horn**, "Development of Structure-Property Relationships in Disordered Zirconia Thin Films for High Energy Density Mim Capacitors," *MRS Proceedings* (2006).
- Shan*, Y., M.P. Philen, **C.E. Bakis**, K.W. Wang, and C.D. Rahn, "Nonlinear-Elastic Finite Axisymmetric Deformation of Flexible Matrix Composite Membranes under Internal Pressure and Axial Force," *Composites Science and Technology*, 66:3053-3063 (2006).
- Sharma***, **A.**, and **C. E. Bakis**, "C-Shape Specimen for Tensile Radial Strength of Thick, Filament Wound Rings," *J. Composite Materials*, 40:97-117 (2006).
- Shaw, B.A.**, and R.G. Kelly, "What is Corrosion?," *Interface* 15, 24-26 (2006).
- Singh, J.**, "Novel Nanomaterials Synthesis by Laser-Liquid-Solid Interaction Technique" *J. of Materials and Manufacturing Processes* (2006). In press.
- Srinivasan*, C., M.E. Anderson, E.M. Carter, J.N. Hohman, S.S.N. Bharadwaja, S. Trolier-McKinstry, P.S. Weiss, and **M.W. Horn**, "Extensions of molecular ruler technology for nanoscale patterning," *Journal of Vacuum Science & Technology B* 1071-1023 (2006).
- Srinivasan*, C., M.E. Anderson, R. Jayaraman, P.S. Weiss, and **M.W. Horn**, "Electrically isolated nanostructures fabricated using self-assembled multilayers and a novel negative-tone bi-layer resist stack," *Microelectronic Engineering* 0167-9317 (2006).
- Srinivasan*, C., J.N. Hohman, M.E. Anderson, P. Zhang, P.S. Weiss, and **M.W. Horn**, "Molecular-ruler nanolithography," *SPIE Conference on Optical Lithography* (2007). In press.
- Subramanian*, S., and **J.M. Catchmark**, "Molecular ruler lithography with sacrificial multilayer host structure patterned using electron beam lithography," *Journal of Microlithography, Microfabrication and Microsystems*, 5(4):049701, 2006 (2006).
- Subramanian*, S., and **J.M. Catchmark**, "Molecular Ruler Lithography Processes and their Application to sub 50nm MOS Devices," *ACS, Polymers For Enabling Nanoscale Patterning* division, March 2006 (2006).
- Suliman, S.A.**, "Properties of Si/SiO₂ Interfaces in Vertical Trench MOSFETs," *Junction Technology, 2006. IWJT '06. International Workshop on*, IEEE pp. 225- 228 (2006).
- Sun, Z., L. Zhang*, and **J.L. Rose**, "Flexural Torsional

*denotes co-authored with graduate student(s)

**denotes co-authored with undergraduate student(s)

- Guided Wave Pipe Inspection,” *AIP Conference Proceedings* 820 Review of Progress in Quantitative Nondestructive Evaluation, 25, D.O. Thompson and D.E. Chimenti (eds), pp. 181-186 (2006).
- Sunal*, P., **R. Messier**, and **M.W. Horn**, “Reactive co-deposition of TiN_x/SiN_x nanocomposites using pulsed direct current magnetron sputtering,” *Thin Solid Films* 0040-60 (2006).
- Sunderam S., N. Cherny* J. Mason, N. Peixoto, S.L. Weinstein, **S.J. Schiff**, and **B.J. Gluckman**, “Seizure Modulation with Applied Electric Fields in Chronically Implanted Animals,” *Proceedings of the 28th IEEE EMBS Annual International Conference 2006*, pp. 1612-1615 (2006).
- Sunderam, S., N. Cherny*, **J. Mason**, N. Peixoto, S.L. Weinstein, **S.J. Schiff**, and **B.J. Gluckman**, “Seizure Modulation with Applied Electric Fields in Chronically Implanted Animals,” *Proceedings of the 28th IEEE EMBS Annual International Conference 2006*, pp. 1612-1615 (2006).
- Tan*, H., O. Ezekoye*, J. Van Der Schalie, **M. Horn**, **A. Lakhtakia**, **J. Xu**, and W. Burgos, “Biological Reduction of Nanoengineered Iron(III) Oxide Sculptured Thin Films,” *Environ. Sci. Technol* 40:5490-5495 (2006).
- Tan*, H., O. Ezekoye*, J. van der Schalie, **M.W. Horn**, **A. Lakhtakia**, **J. Xu**, and W.D. Burgos, “Biological reduction of nano-engineered iron(III) oxide sculptured thin films,” *Environmental Science and Technology* 40:5490-5495 (2006).
- Tanaka, H., **M.W. Horn**, and Weiss, P.S., “A method for the fabrication of sculptured thin films of periodic arrays of standing nanorods,” *Journal of Nanoscience and Nanotechnology* 1533-4880 (2006).
- Tewari*, V. Sambhy, **M. Urquidi-Macdonald**, and A. Sen, “Quantification of Carbon Dioxide Poisoning in Air Breathing Alkaline Fuel Cells,” *Journal of Power Sources* 153(1): 1-10 (2006).
- Urquidi-Macdonald, M.**, “Heart Rate Variability Analysis and the Structural Health of the Heart,” *Pharmaco-Electrochemistry Symposium, 210th Meeting of the Electrochemical Society* Cancun, Mexico. Oct. 29-Nov. 3 (2006).
- Vengurlekar*, A., S. Balasubramanian*, **S. Ashok**, D. Theodore, and D.Z. Chi, “Influence of Hydrogen Plasma Surface Treatment of Si substrate on Nickel Silicide Formation,” *J. Vac. Sci. Tech.* B24:1449- 1454 (2006).
- Wang, D., X. Huang, P. Patnaik, and **J. Singh** “Computational Analysis of Heat Transfer through a Multiple Thermal Barrier Coating System” *J. of Heat and Mass Transfer* (2006). In press
- Weaver*, K.E., F. Wang*, and **A. Lakhtakia**, “Enhancement of near-field phase-shifting contact lithography by immersion technique,” *Optik* 117:183-187 (2006).
- Wolfe*, R.C, H.W. Pickering, and **B.A. Shaw**, “Microprobe Study of pH During the Induction Period Preceding Crevice Corrosion,” *Journal of the Electrochemical Society* 153:B25-B32 (2006).
- Jiang, X., J.R. Yuan, A. Cheng*, G. Lavallee, P. Rehrig, K. Snook, S. Kwon, W. Hackenberger, **J. Catchmark**, J. McIntosh, and X. Geng, “Micromachined PMN-PT Single Crystal for Advanced Transducers,” *Solid-State Sensors, Actuators, and Microsystems Workshop, 384 Hilton Head Island, South Carolina, June 4-8, 2006* (2006).
- Xu, J.**, and M.L. Tian, “A lowcost platform for linking transport properties to the structure of nanomaterials,” *Nanotechnology* 17:1470-1475 (2006).
- Xu, J.**, **A. Lakhtakia**, J. Lioua, A. Cheng*, and I.J. Hodgkinson, “Circularly Polarized Fluorescence from Light-Emitting Microcavities with Sculptured-Thin-Film Chiral Reflectors,” *Optical communication* 264:235-239 (2006).
- Xu, J.**, D. Cui*, T. Zhu*, G. Paradee, Z. Liang, Q. Wang, S. Xu, and A.Y. Wang, “Synthesis and surface modification of PbSe/PbS core-shell nanocrystals for potential device applications,” *Nanotechnology* 17(21): 5428-5434 (2006).
- Xu, J.**, J. Liu, D. Cui*, M. Gerhold, A.Y. Wang, M. Nagel, and T.K. Lippert, “Laser-assisted forward transfer of multi-spectral nanocrystal quantum dot emitters,” *Nanotechnology* 18(2):025403-025409 (2007). In press.
- Ya, G., M.V. Slepyan, S.A. Shuba, S.A. Maksimenko, and **A. Lakhtakia**, “Theory of optical scattering by achiral carbon nanotubes and their potential as optical nanoantennas,” *Physical Review B* 73:195416 (2006).
- Zhang*, L., B.J. Gavigan*, and **J.L. Rose**, “High Frequency Guided Wave Natural Focusing Pipe Inspection with Frequency and Angle Tuning,” *ASME Transactions Journal of Pressure Vessel Technology* 128(3):433-438 (2006).
- Zhang*, L., W. Luo*, and **J.L. Rose**, “Ultrasonic Guided Wave Focusing Beyond Welds in a Pipeline,” *AIP Conference Proceedings* 820 Review of Progress in Quantitative Nondestructive Evaluation, 25, D.O. Thompson and D.E. Chimenti (eds), pp. 877-884 (2006).
- Zhang, Y., D.D. Macdonald, **M. Urquidi-Macdonald**, G. R. Engelhardt, and R.B. Dooley, “Passivity Breakdown on AISI Type 403 Stainless Steel in Chloride-Containing Borate Buffer Solution,” *Corrosion Science* 48(11): 3812-3823 (2006).
- Zhao, X., **J.L. Rose**, and H. Gao*, “Determination of Density Distribution in Ferrous Powder Compacts Using Ultrasonic Tomography,” *IEEE Transactions on Ultrasonics, Ferroelectrics,*

*denotes co-authored with graduate student(s)

**denotes co-authored with undergraduate student(s)

and Frequency Control
53(2):360-369 (2006).

Zhu*, Y., E.T. Hauck*, and
J.L. Rose, "Novel Methods
for Crack Detection in
Green and Sintered Parts,"
AIP Conference
Proceedings 820 Review of
Progress in Quantitative
Nondestructive Evaluation,
25, D.O. Thompson and
D.E. Chimenti (eds), pp.
1507-1514 (2006).

Ziburkus, J., J.R. Cressman,
E. Barreto, and **S.J. Schiff**,
"Interneuron and pyramidal
cell interplay during in vitro
seizure-like events,"
Journal of
Neurophysiology, 95: 3948-
3954 (2006)