

- Kaminiani, C.S., N.D. Basim, M.J. Kaufman, **M.F. Amateau**, T.J. Eden and J.M. Galbraith, "Challenges in the Development of Aluminum – Based Bulk Amorphous Alloys," *Key Engineering Materials*, vol. 189-191, pp. 503-508, 2001.
- Afonso, C.R.M., C. Bolfarinin, C.S. Kiminami, N.D. Bassim, M.J. Kaufman, **M.F. Amateau**, T.J. Eden and J.M. Galbraith, "Amorphous Phase Formation in Spray Deposited ALYNiCo and AIYNiCoZr Alloys," *Scripta Materialia*, vol. 44, pp. 1625-1628, 2001.
- Afonso, C.R.M., C. Bolfarinin, C.S. Kiminami, N.D. Bassim, M.J. Kaufman, **M.F. Amateau**, T.J. Eden and J.M. Galbraith, "Amorphous Phase Formation in Spray Deposited $Al_{84}Y_3Ni_8Co_4Zr_1$ Alloys," *Journal of Non-crystalline Solids*, vol. 284, pp. 134-138, 2001.
- Nazarov, A.N., V.M. Pinchuk, T.B. Yanchuk, V.S. Lysenko, Y.N. Vovk, S. Rangan, **S. Ashok**, V. Kudoyarova and E.I. Terukov, "Hydrogen effect on enhancement of defect reactions in semiconductors: Example for silicon and vacancy defects," *International Journal of Hydrogen Energy*, vol. 26, pp. 521-526, 2001.
- Nazarov, A.N., Y.N. Vovk, V.S. Lysenko, V.I. Turchanikov, V.A. Scryshevskii and **S. Ashok**, "Carrier Transport in Amorphous SiC / Crystalline Silicon Heterojunctions," *J. Appl. Phys.*, vol. 89, pp. 4422-4428, 2001.
- Rangan, S., **S. Ashok**, G. Chen and D. Theodore, "Formation and Characterization of Multi-layered Nanocavities in Silicon with Cascade Helium Implantation," *Proc. International Conference on Semiconductor and Integrated Circuit Technology*, Shanghai, China, pp. 22-25, Oct. 2001.
- Ashok, S.** and S. Rangan, "Helium-Induced Nanocavities in Silicon: Formation, Properties and Applications," *Proc. 11th International Workshop on Physics of Semiconductor Devices*, New Delhi, V. Kumar and P.K. Basu (Eds), Allied Publishers, pp. 255-261, 11-15 Dec. 2001.
- Singh, S.P., Y.N. Mohapatra, S. Rangan, **S. Ashok**, "Carrier Dynamics at Deep Traps in Ion Implanted Silicon: Possible signature of Defect Clusters," *Proc. 11th International Workshop on Physics of Semiconductor Devices*, New Delhi, V. Kumar and P.K. Basu (Eds), Allied Publishers, pp. 1025-1029, 11-15 Dec. 2001.
- Suliman, S.A.**, N. Gollagunta, L. Trabzon, J. Hao, R.S. Ridley, C.M. Knoedler, G.M. Dolny, **O.O. Awadelkarim**, and **S.J. Fonash**, "The dependence of UMOSFET characteristics and reliability on geometry and processing," *Semicond. Sci. Technol.*, vol. 16, pp. 447-454, 2001.
- Suliman, S.A., O.O. Awadelkarim, S.J. Fonash**, G.M. Dolny, J. Hao, R.S. Ridley, and C.M. Knoedler, "The Effects of Channel Boron Doping on the Performance and Hot Electron Reliability of N-Channel Trench UMOSFETs," *Solid-State Electronics*, vol. 45, pp. 655-661, 2001.
- Suliman, S.A.**, N. Gollagunta, L. Trabzon, J. Hao, G. Dolny, R. Ridley, T. Grebs, J. Benjamin, C. Kocon, J. Zeng, C.M. Knoedler, **M. Horn, O.O. Awadelkarim, S.J. Fonash**, and J. Ruzyllo, "The impact of trench geometry and processing on the performance and reliability of low voltage power UMOSFETs," *Proceedings of the 39th International Reliability Physics Symposium*, Sponsored by IEEE Electron Devices Society and IEEE Reliability Society, Orlando, FL, pp. 308-314, April 30-May 3, 2001.
- Dolny, G., N. Gollagunta*, **S.A. Suliman**, L. Trabzon*, **M. Horn, O.O. Awadelkarim, S.J. Fonash**, J. Hao, R.S. Ridley, T. Grebs, J. Zeng, and C. Kocon, "Characterization of gate oxide degradation mechanisms in trench-gated power MOSFETs using the charge pumping technique," *Proceeding of 2001 International Symposium on Power Semiconductor Devices & ICs*, ISPSD, pp. 431-434, 2001.
- Wu, C.T., R. Ridley, G. Dolny, T. Grebs, J. Hao, **S. Suliman, B. Venkataraman***, **O. Awadelkarim**, R. Williams, P. Roman, and J. Ruzyllo, "Processing of thick thermal gate oxides in trenches," *Proceeding of the Sixth International Symposium on Silicon Nitride and Silicon Dioxide Thin Insulating Films*, The Electrochemical Society Spring Meeting, Washington, D. C., 2001.
- Bakis, C.E.**, A. Nanni, J.A. Terosky*, and S.W. Koehler*, "Self-Monitoring, Pseudo-Ductile, Hybrid FRP Reinforcement Rods for Concrete Applications," *Composites Science and Technology*, vol. 61, pp. 815-823 (2001).
- Al-Dulaijan, S.U., M.M. Al-Zahrani, A. Nanni, **C.E. Bakis**, and T.E. Boothby, "Effect of Environmental Pre-Conditioning on Bond of FRP Reinforcement to Concrete," *J. Reinforced Plastics and Composites*, vol. 20, pp. 881-900, 2001.
- Streit, D., C.-Y. Wang, C. **Bakis**, C. Randall, M. Lanagan, R. Tallon, J. Anstrom, D. Jonassen, R. Marra, and J. Wakhungu, "Graduate Automotive Technology Education in Energy Storage Systems – GATE Penn State," *Intl. J. Continuing Engineering Education and Lifelong Learning*, vol. 11, pp. 534-541, 2001.
- Roko, K.E., T.E. Boothby, and **C.E. Bakis**, "Strain Transfer Analysis of Masonry Prisms Reinforced with Sheet Bonded Carbon Fiber Reinforced Polymers," *The Masonry Soc. J.*, vol. 19, pp. 57-68, 2001.
- Bakis, C.E.**, B.B. Bhat*, A.J. Schokker, and T.E. Boothby, "Flexure of Concrete Beams Prestressed with FRP Tendons," *Proc. 5th Intl. Symp. on Fiber Reinforced Polymer Reinforcement for Concrete Structures*, (FRPRCS-5), C. Burgoyne, Ed., Thomas Telford, London, ISBN: 0-7277-3029-0, pp. 689-697, 2001.

- Engel, R.S., C.E. Bakis**, T.E. Boothby, S.P. Pannala*, and S.M. Karnes, "An Analytic Model for CFRP Grid Reinforced Narrow Concrete Slabs," *Proc. 5th Intl. Symp. on Fiber Reinforced Polymer Reinforcement for Concrete Structures, (FRPRCS-5)*, C. Burgoyne, Ed., Thomas Telford, London, ISBN: 0-7277-3029-0, pp. 927-936, 2001.
- Goldman, R.W., **A.E. Segall** and **J.C. Conway, Jr.**, "The Dry Sliding Wear Behavior of Aluminum Alloys against Steel in Sheave Wheel Applications," *ASME Journal of Tribology*, vol. 123, no. 4, October 2001.
- Costanzo, F.**, "An Analysis of 3D Crack Propagation Using Cohesive Zone Models and the Theory of Configurational Forces," *Mathematics and Mechanics of Solids*, vol. 6, no. 2, pp. 149-173, 2001.
- Caiazzo, A.A. and **F. Costanzo**, "Modeling the Constitutive Behavior of Layered Composites with Evolving Cracks," *International Journal of Solids and Structures*, vol. 38, no. 20, pp. 3469-3485, 2001.
- Caiazzo, A.A. and **F. Costanzo**, "Effective 3D Constitutive Relations of Composites with Evolving Damage," *Journal of Engineering Mechanics*, vol. 127, no. 7, pp. 661-666, 2001.
- Andia, P.C., **F. Costanzo, G.L. Gray**, T.J. Yurick, "Calculation of Intrinsic Stresses and Elastic Moduli in Nonhomogeneous Thin Films," *Multiscale Modeling of Materials-2000*, L.P. Kubin, R.L.B. Selinger, J.L. Bassani and K. Cho, Pittsburgh, PA, Materials Research Society, vol. 653, pp. Z10.3.1-Z10.3.6., 2001.
- Feeny, B.F., C.-M. Yuan, and **J.P. Cusumano**, "Parameter Identification of and Experimental Magneto-Elastic Oscillator," *Journal of Sound and Vibration*, vol. 247, no. 5, pp. 785-806, 2001.
- Dingwell, J.B., **J.P. Cusumano**, P.R. Cavanagh, and D. Sternad, "Local Dynamic Stability Versus Kinematic Variability of Continuous Overground and Treadmill Walking," *ASME Journal of Biomechanical Engineering*, vol. 123, no. 1, pp. 27-31, 2001.
- Chelidze, D., **J.P. Cusumano** and A. Chatterjee. "Failure Prognosis Using Nonlinear Short-Time Prediction and Multi-Time Scale Recursive Estimation," *Proceedings of ASME 2001 Design Engineering Technical Conferences, and Computers and Information in Engineering Conference*, Pittsburgh, Pennsylvania, 10 pages on CDROM, September 9-12, 2001.
- Chelidze, D., **J.P. Cusumano**, and A. Chatterjee, "Procedure for Tracking Damage Evolution and Predicting Remaining Useful Life with Application to an Electromechanical Experimental System, in Component and Systems Diagnostics, Prognostics, and Health Management," P. K. Willett, and T. Kirubarajan, eds., *Proceedings of SPIE*, Orlando, Florida, vol. 4389, pp. 16-17, pp. 12-22, April 2001.
- Barger, M., **R.S. Engel**, R. Gilbert, M. Maughmer, and B. Osif, "The Role of the Lecturer in the New Learning Strategies," *Proceedings of the 2001 American Society for Engineering Education Annual Conference and Exposition*, Session 2457, CD-ROM, 8 pages, 2001.
- Salamon, N.** and **R.S. Engel**, "Design Projects for Mechanics Courses," *Proceedings of the 2001 American Society for Engineering Education Annual Conference and Exposition*, Session 3268, CD-ROM, 14 pages, 2001.
- Krishnan, A., S. Bae, **S.J. Fonash**, "Fabrication of Microcrystalline Silicon TFTs Using a High-Density Plasma Approach," *IEEE Electron Device Letters*, vol. 22, no. 8, pp. 399-401, Aug. 2001.
- Nam, W.J., S. Bae, A.K. Kalkan, **S.J. Fonash**, "Nano- and Microchannel Fabrication Using Column/Void Network Deposited Silicon," *J. Vac. Sci. Technol. A*, vol. 19, no. 4, July/Aug 2001.
- Cuiffi, J., D. Hayes, **S. Fonash**, K. Brown, and A. Jones, "Desorption-Ionization Mass Spectrometry using Deposited Nano-Structured Silicon Films," *Analytical Chemistry*, vol. 73, pp. 1292-1295, 2001.
- Liu, J. and **R.M. German**, "Rearrangement Densification in Liquid-Phase Sintering," *Metallurgical and Materials Transactions A*, vol. 32A, pp. 3125-3131, December 2001.
- Bakan, H.I., D. Heaney, and **R.M. German**, "Effect of Nickel Boride and Boron Additions on Sintering Characteristics of Injection Moulded 316L Powder Using Water Soluble Binder System," *Powder Metallurgy*, vol. 44, no. 3, pp. 235-242, 2001.
- German, R.M.**, "Manipulation of Strength During Sintering as a Basis for Obtaining Rapid Densification without Distortion," *Materials Transactions*, vol. 42, pp. 1400-1410, 2001.
- Liu, J. and **R.M. German**, "Microstructure Effect on Dihedral Angle in Liquid Phase Sintering," *Metallurgical and Materials Transactions*, vol. 32A, pp. 165-169, 2001.
- German, R.M.** and R.G. Cornwall, "Powder Injection Molding: Year 2000 Market and Industry Report," *International Journal of Powder Metallurgy*, vol. 37, no. 1, pp. 40-44, 2001.
- Upadhyaya, A. and **R.M. German**, "Gravitational Effects During Liquid Phase Sintering," *Materials Chemistry and Physics*, vol. 67, pp. 25-31, 2001.
- Johnson, J.L. and **R.M. German**, "Role of Solid-State Skeletal Sintering during Processing of Mo-Cu Composites," *Metallurgical and Materials Transactions*, vol. 32A, pp. 605-613, 2001.
- Olevsky, E.A., G.A. Shoales, and **R.M. German**, "Temperature Effect on Strength Evolution Under Sintering," *Materials Research Bulletin*, vol. 36, pp. 449-459, 2001.
- Liu, J. and **R.M. German**, "Grain Boundary Sliding and Component Shape Distortion during Liquid Phase

- Sintering,” *Metallurgical and Materials Transactions*, vol. 32A, pp. 2087-2095, 2001.
- Lu, P., **R.M. German**, and R.G. Iacocca, “Presintering Effects on Ground-Based and Microgravity Liquid Phase Sintering,” *Metallurgical and Materials Transactions*, vol. 32A, pp. 2097-2107, 2001.
- Liu, J., **R.M. German**, A. Cardamone, T. Potter, and F.J. Semel, “Boron-Enhanced Sintering of Iron-Molybdenum Steels,” *International Journal of Powder Metallurgy*, vol. 37, no. 5, pp. 39-46, 2001.
- German R.M.**, “Manipulation of Strength During Sintering as a Basis for Obtaining Rapid Densification without Distortion,” *Materials Transactions*, vol. 42, pp. 1400-1410, 2001.
- Lu, P., **R.M. German**, and B.M. Marx, “Liquid Phase Sintering of Tungsten Heavy Alloys,” *International Journal of Powder Metallurgy*, vol. 37, no. 6, pp. 45-56, 2001.
- Lu, P. and **R.M. German**, “Multiple Grain Growth Events in Liquid Phase Sintering,” *Journal of Materials Science*, vol. 36, pp. 3385-3394, 2001.
- Bakan, H.I., D. Heaney and **R.M. German**, “Effect of Nickel Boride and Boron Additions on Sintering Characteristics of Injection Moulded 316L Powder Using Water Soluble Binder System,” *Powder Metallurgy*, vol. 44, pp. 235-242, 2001.
- Yi, W., X. Xu, P. Lu and **R.M. German**, “Green Microstructure Effects on Densification and Distortion in Liquid Phase Sintering,” *International Journal of Refractory Metals and Hard Materials*, vol. 19, pp. 149-158, 2001.
- Lu P., X. Xu, W. Yi, and **R.M. German**, “Porosity Effect on Densification and Shape Distortion in Liquid Phase Sintering,” *Materials Science and Engineering*, vol. A318, pp. 111-121, 2001.
- Takahashi, S., K. Irie, T. Nakagawa, J.A. Thomas, and **R.M. German**, “Evaluation to Combined Sintered Compact from Iron Powder Admixed with Fine Iron Powder and Microwax Powder By Flow Compaction,” *Journal of the Japan Society of Powder and Powder Metallurgy*, vol. 48, pp. 1112-1118, 2001.
- German, R.M.**, “Powder Injection Molding Process, Successes, Applications and Growth Prospects,” *Proceedings of 2000 Powder Metallurgy World Congress*, Part 1, K. Kosuge and H. Nagai (eds.), Japan Society of Powder and Powder Metallurgy, Kyoto, Japan, pp. 286-291, 2001.
- Upadhyaya, A. and **R.M. German**, “Strategies for Controlling Shape Distortion and Dimensional Precision in Liquid Phase Sintering,” *Proceedings of 2000 Powder Metallurgy World Congress*, Part 1, K. Kosuge and H. Nagai (eds.), Japan Society of Powder and Powder Metallurgy, Kyoto, Japan, pp. 639-642, 2001.
- German, R.M.** and X. Xu, “Final Density and Dimension Predictions based on Control of Strength Evolution in Sintering,” *Proceedings of 2000 Powder Metallurgy World Congress*, Part 1, K. Kosuge and H. Nagai (eds.), Japan Society of Powder and Powder Metallurgy, Kyoto, Japan, pp. 647-650, 2001.
- Oehlers, M., C. Tybaert, J. Peersman, **R.M. German**, T. Potter, and M.J. Yang, “Comparison of Different Carbide Grades,” *Tungsten Hard Metals and Refractory Alloys - 5*, M. S. Greenfield and J. J. Oakes (eds.), Metal Powder Industries Federation, Princeton, NJ, pp. 115-123, 2001.
- German, R.M.** and R.G. Iacocca, “Gravitational Effects on Distortion in Sintering,” *Microgravity Materials Science Conference*, N. Ramachandran, N. Bennett, D. McCauley, K. Murphy, and S. Poindexter (eds.), Universities Space Research Association, Marshall Space Flight Center, Huntsville, AL, pp. 239-243, 2001.
- Zhang, H., D.F. Heaney, and **R.M. German**, “Effect of Carbide Addition on Sintering of M2 Tool Steel,” *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 4.166-4.4.179, 2001.
- Atre, S.V., P. Suri, C. Scott, J.A. Thomas, and **R.M. German**, “A Microstructural Model for Feedstock Homogeneity,” *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 4.131-4.139, 2001.
- Atre, S.V., A.J. Kuhar, K. Cronin, and **R.M. German**, “Process Modeling of Thermal Debinding,” *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 1.97-1.104, 2001.
- Zhang, R., Y. Liu, **N.J. Salamon, R.M. German**, and **R.S. Engel**, “Finite Element Analysis of the Solid Phase Sintering of Bronze,” *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 1.80-1.86, 2001.
- German, R.M.**, “Best Practices in Powder Injection Molding,” *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 4.1-4.10, 2001.
- Cornwall, R.G. and **R.M. German**, “An Analysis of the Powder Injection Molding Industry Global Market,” *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 4.11-4.16, 2001.
- Myers, N. and **R.M. German**, “Binder Selection for PIM of Water Atomized 316L,” *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 4.27-4.34, 2001.
- Atre, S.V., P. Suri, C. Scott, J.A. Thomas, and **R.M. German**, “A Microstructural Model for Feedstock Homogeneity,” *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries

- Federation, Princeton, NJ, pp. 4.131-4.139, 2001.
- King, L.Y., R. Baumgartner, and **R.M. German**, "Powder Injection Molding of Bi-Metal Components," *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 4.191-4.198, 2001,
- Suri, P. and **R.M. German**, "Mechanical Properties of Sintered Iron-Boron Alloys," *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 5.186-5.194, 2001.
- Yi, W., **R.M. German**, and X. Xu, "Microstructure Manipulations to Attain Densification Without Distortion During Liquid Phase Sintering," *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 5.227-5.241, 2001.
- Lu, P. and **R.M. German**, "Presintering Effects on Tungsten Heavy Alloy Liquid Phase Sintering," *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 5.242-5.256, 2001.
- Heaney, D.F. and **R.M. German**, "Porous Stainless Steel Parts Using Selective Laser Sintering," *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 8.73-8.83, 2001.
- Myers, N. and **R.M. German**, "Sintering of Aluminum Flakes for Lightweight Applications," *Advances in Powder Metallurgy and Particulate Materials - 2001*, Metal Powder Industries Federation, Princeton, NJ, pp. 9.192-9.198, 2001.
- Hayek, S.I.** and J. Won, "Active Control of Radiated Acoustic Power from Elastic Plates," *Proc. of International Noise Control Conference, INTERNOISE '01*, Hague, Netherland, pp 595-601, August 27-30, 2001.
- Hayek, S.I.** and J. Won, "Zonal and Global Control of Vibrational Intensity in an Infinite Fluid-Loaded Elastic Plate," *Proc. 17th International Congress on Acoustics*, Rome, Italy, pp 4A05-1-2, September 2-7, 2001.
- Ertekin, E. and **A. Lakhtakia**, "Optical Interconnects Realizable with Thin-Film Helicoidal Bianisotropic Mediums," *Proc. R. Soc. Land. A*, vol. 457, pp. 817-836, 2001.
- Lakhtakia, A.**, "On Bioluminescent Emission from Chiral Sculptured Thin Films," *Optics Communications*, vol. 188, pp. 313-320, 2001.
- Lakhtakia, A.**, "Axial Excitation of Tightly Interlaced Chiral Sculptured Thin Films: "Averaged" Circular Bragg Phenomenon," *Optik*, vol. 112, no. 3, pp. 119-124, 2001.
- Geddes III, J.B. and **A. Lakhtakia**, "Reflection and Transmission of Optical Narrow-Extent Pulses by Axially Excited Chiral Sculptured Thin Films," *Eur. Phys. J. AP*, vol. 13, pp. 3-14, 2001.
- Lakhtakia, A.**, and N. Mercedes, "Anisotropic Composite Materials with Intensity-Dependent Permittivity Tensor: The Bruggeman Approach," *Electromagnetics*, vol. 21, pp. 129-138, 2001.
- Slepyan, G.Y., N.A. Krapivin, S.A. Maksimenko, **A.Lakhtakia**, and O.M. Yevtushenko, "Scattering of Electromagnetic Waves by a Semi-Infinite Carbon Nanotube," *Int. J. Electron. Commun.*, vol. 55, no. 4, pp. 273-280, 2001.
- Mackay, T.G., **A. Lakhtakia**, and W.S. Weiglhofer, "Ellipsoidal Topology, Orientation Diversity and Correlation Length in Bianisotropic Composite Mediums," *Int. J. Electron. Commun.*, vol. 55, no. 4, pp. 243-251, 2001.
- Lakhtakia, A.**, "Application of strong permittivity fluctuation theory for isotropic, cubically nonlinear, composite mediums," *Optics Communications*, Elsevier Science B.V., vol. 192, pp. 145-151, 2001.
- McCall, M.W. and **A. Lakhtakia**, "Development and assessment of coupled wave theory of axial propagation in thin-film helicoidal bi-anisotropic media. Part 2: Dichroisms, ellipticity transformation and optical rotation," *Journal of Modern Optics*, vol. 48, no. 1, pp. 143-158, 2001.
- Lakhtakia, A.**, "Enhancement of optical activity of chiral sculptured thin films by suitable infiltration of void regions," *Optik*, vol. 112, no. 4, pp. 145-148, 2001.
- Lakhtakia, A.**, M.W. McCall, J.A. Sherwin, Q.H. Wu, and I.J. Hodgkinson, "Sculptured-thin-film spectral holes for optical sensing of fluids," *Optics Communications*, Elsevier Science B.V., vol. 194, pp. 33-46, 1 July 2001.
- Mackay, T.G., **A. Lakhtakia**, and W.S. Weiglhofer, "Homogenisation of similarly oriented, metallic, ellipsoidal inclusions using the bilocally approximated strong-property-fluctuation theory," *Optics Communications*, Elsevier Science B.V., vol. 197, pp. 89-95, 15 September 2001.
- Mackay, T.G., **A. Lakhtakia**, and W.S. Weiglhofer, "Third-order implementation and convergence of the strong-property-fluctuation theory in electromagnetic homogenization," *Physical Review E*, vol. 64, pp. 066616, 2001.
- Michel, B., **A. Lakhtakia**, W.S. Weiglhofer and T.G. Mackay, "Incremental and differential Maxwell Garnett formalisms for bianisotropic composites," *Composites Science and Technology*, vol. 61, pp. 13-18, 2001.
- Lakhtakia, A.**, "An electromagnetic trinity from 'negative permittivity' and 'negative permeability'," *International Journal of Infrared and Millimeter Waves*, vol. 22, pp. 1731-1734, 2001.
- Sherwin, J.A., **A. Lakhtakia**, "Nominal model for structure-property relations of chiral dielectric sculptured thin films," *Mathematical and Computer Modelling*, vol. 34, pp. 1499-1514, 2001.
- Lakhtakia, A.**, G.Y. Slepyan and S.A. Maksimenko, "Towards cholesteric

- absorbers for microwave frequencies,” *International Journal of Infrared and Millimeter Waves*, vol. 22, pp. 999-1008, 2001.
- Geddes, III, J.B., **A. Lakhtakia**, “Time—domain simulation of the circular Bragg phenomenon exhibited by axially excited chiral sculptured thin films,” *European Physical Journal Applied Physics*, vol. 14, pp. 97-105, 2001.
- Geddes, III, **A. Lakhtakia**, “Time-domain signature of an axially excited cholesteric liquid crystal. Part II: Rectangular wide-extent pulses,” *Optik*, vol. 112, pp. 62-66, 2001.
- McCall, M.W. and **A. Lakhtakia**, “Integrated optical polarization filtration via sculptured-thin-film technology,” *Journal of Modern Optics*, vol. 48, no. 15, pp. 2179-2184, 2001.
- Lakhtakia, A.**, “Sculptured thin films and bioluminescence sensors,” *Proceedings of Symposium on Advances in Electronics – ELECTRO-2001*, Varanasi, India, pp. 3-6, January 4-6, 2001.
- Weiglhofer, W.S., **A. Lakhtakia** and T.G. Mackay, “Propagation and radiation in a material combining mirror conjugation and racemic chirality,” *Proceedings of the URSI 17th Triennial International Symposium on Electromagnetic Theory*, Victoria, British Columbia, Canada, pp. 193-195, May 13-17, 2001.
- Mackay, T.G., **A. Lakhtakia** and W.S. Weiglhofer, “Homogenization of bianisotropic composites via strong-property-fluctuation theory,” *Proceedings of the URSI 17th Triennial International Symposium on Electromagnetic Theory*, Victoria, British Columbia, Canada, pp. 377-379, May 13-17, 2001.
- Lakhtakia, A.**, “Microscopic model for static and dynamic loading of chiral sculptured thin films,” *Proceedings of SPIE 4467: Complex Mediums II: Beyond Linear Isotropic Dielectrics*, San Diego, California, USA, pp. 121-127, July 30 – August 1, 2001.
- Mackay, T.G., **A. Lakhtakia** and W.S. Weiglhofer, “The strong-property-fluctuation theory applied to the homogenization of linear bianisotropic composites,” *Proceedings of SPIE 4467: Complex Mediums II: Beyond Linear Isotropic Dielectrics*, San Diego, California, USA, pp. 243-255, July 30 – August 1, 2001.
- Lenahan, P.M.**, T.D. Mishima, T.N. Fogarty, and R. Wilkins, “Atomic-scale processes involved in long-term changes in the density of states distribution at the Si/SiO₂ interface,” *Applied Physics Letters*, vol. 79, no. 20, pp. 3266-3268, 12 November 2001.
- Mishima, T.D., **P.M. Lenahan**, W. Weber, “Response to “Comments on ‘Do P_{b1} centers have levels in the Si band gap? Spin-dependent recombination study of the P_{b1} ‘hyperfine spectrum,’”” *Applied Physics Letters*, vol. 78, pp. 1453, 2001.
- Lenahan, P.M.**, J.P. Campbell, A.Y. Kang, S.T. Liu, and R.A. Weimer, “Radiation-Induced Leakage Currents: Atomic Scale Mechanisms,” *IEEE Transactions on Nuclear Science*, vol. 48, pp. 2101, 2001.
- Lenahan, P.M.**, T.D. Mishima, J. Jumper, T.N. Fogarty, and R.T. Wilkins, “Direct Experimental Evidence for Atomic Scale Structural Changes Involved in the Interface Trap Transformation Process,” *IEEE Transactions on Nuclear Science*, vol. 48, pp. 2131, 2001.
- Lenahan, P.M.**, A.Y. Kang, and J.P. Campbell, “Atomic Scale Defects Involved in Stress Induced Leakage Currents in Very Thin Oxides on Silicon,” *Proceedings of the Eleventh International Workshop on the Physics of Semiconductor Devices*, Delhi, India, vol. 1, pp. 608-615, December 11-15, 2001.
- Weimer, R.A., D.C. Powell, and **P.M. Lenahan**, “Process and Technology Drivers for Single Wafer Processes in DRAM Manufacturing,” *RTP 2001 Conference Proceedings Volume*.
- Lenahan, P.M.**, “A Model for Interface Trap Generation in Stress Induced Leakage Phenomena,” *Proceedings Volume of the 2001 Electrochemical Society Spring Meeting Symposium on Oxides and Nitride Thin Films*.
- Lissenden, C.**, S. Arnold, and A. Saleeb, “Plastic coupling and stress relaxation during nonproportional axial-shear strain-controlled loading,” *J. Pressure Vessel Technology*, vol. 123, pp. 81-87, 2001.
- Lei, X. and **C.J. Lissenden**, “Finite element simulation of ausformed austempered ductile iron components,” *J. Manufacturing Science & Engineering*, vol. 123, pp. 420-425, 2001.
- Lissenden, C.J.** and R.P. McNitt, “Catastrophic failures, designed for failure, and adventures in mechanics one credit freshman mechanics seminars,” *Proceedings of the 2002 American Society for Engineering Education Annual Conference & Exposition*, ASEE.
- Li, J., and **J.L. Rose**, “Excitation and propagation of non-axisymmetric guided waves in a hollow cylinder,” *JASA*, vol. 109, no. 2, pp. 457-464, 2001.
- Liu, L., M.J. Avioli, and **J.L. Rose**, “Incident angle selection for the guided wave inspection of pipe defects,” *Insight*, vol. 43, no. 2, 2001.
- Rose, J.L.**, and X. Zhao, “Flexural mode tuning for pipe elbow inspection,” *Materials Evaluation*, vol. 59, no. 5, pp. 621-624, 2001.
- Li, J., and **J.L. Rose**, “Guided wave inspection of containment structures,” *Materials Evaluation*, vol. 59, no. 6, pp. 783-787, 2001.
- Rose, J.L.**, and X. Zhao, “Anomaly throughwall depth measurement potential with shear horizontal guided waves,” *Materials Evaluation*, vol. 59, no. 6, pp. 1234-1238, 2001.
- Rose, J.L.**, and **B.R. Tittmann**, “Recent ultrasonic guided wave inspection development efforts,” *Journal of Korean Society for Nondestructive Testing*, vol. 21, no. 4, pp. 371-382, 2001.

- Rose, J.L., R.M. German,** and **R.S. Engel**, "Process specification for powder metallurgy component fabrication to targeted features and quality: An inverse problem," *CD - NSF Design, Service & Manufacturing Grantees & Research Conference*, Tampa, FL, 2001.
- Hay, T., and **J.L. Rose**, "Portable PC-based ultrasonic guided wave inspection system," *NAVAIR NDT/I Working Group/Customer Feedback Conference*, New Orleans, LA, 2001.
- Rose, J.L.**, and T. Hay, "Portable PC based ultrasonic guided wave inspection of the H-60 helicopter," *TEAM HAWK Meeting*, USCG Clearwater Airbase, FL, 2001.
- Rose, J.L.**, and T. Hay, "Portable PC based ultrasonic guided wave inspection of the H-60 helicopter," *2001 Joint Corrosion Prevention and Control and Joint Reliability Centered Maintenance Working Groups*, USCG Clearwater Airbase, FL, 2001.
- Rose, J.L.**, J. Li, X. Zhao, and M. Quarry, "Ultrasonic guided wave flexural mode tuning for limited access pipe inspection," *Review of Progress in Quantitative Nondestructive Evaluations*, edited by D. O. Thompson and D. E. Chimenti, Plenum Press, vol. 20A, pp. 164-171, 2001.
- Rose, J.L.**, S.P. Pelts, and J. Li, "Defect characterization using guided waves," *Review of Progress in Quantitative Nondestructive Evaluations*, edited by D. O. Thompson and D. E. Chimenti, Plenum Press, vol. 20A, pp. 142-148, 2001.
- Rose, J.L.**, "Ultrasonic guided wave NDE product development potential," *NDIA Tech Trends 2001 - Event #195*, Atlantic City, NJ, 2001.
- Rose, J.L.**, "A vision of ultrasonic guided wave inspection potential," *Proceedings of the 7th Nondestructive Evaluation Topical Conference*, Sponsored by ASME-NDE Engineering Division, San Antonio, TX, pp. 1-5, 2001.
- Hongerholt, D.D., G. Williams, and **J.L. Rose**, "Ultrasonic in-flight wing ice detection," *Advances in Aviation Safety Conference and Exhibition*, Seattle, WA, 2001.
- Quarry, M.J., **J.L. Rose**, "Phase velocity spectrum analysis for a time delay comb transducer for guided wave mode excitation," D.O. Thompson, D.E. Chimenti, *Plenum Press*, vol. 20A, pp. 861-868, 2001.
- Shaw B.**, M. McCosby, A. Abdullah, and H. Pickering, "The localized corrosion of AlⁿXXX Alloys," *Journal of Metals*, no. 7, 2001.
- Shi A., **B. Shaw**, E. Sikora, J. Sikora, and X. Wei, "Localized Corrosion study of 6XXX Al Alloys via electrochemical noise techniques and electron microscopy, Corrosion and Corrosion Prevention of Low Density Metals, and Alloys," Shaw B., Buchheit R., Moran J., editors, *The Electrochemical Society*, Pennington, NJ, pp.388-400, 2001.
- Berti S., **B. Shaw**, and W. Shaw, "Corrosion evaluation of Al sacrificial coatings applied by various sprayed metal techniques," *Corrosion 2002*, NACE International, Denver, CO, paper 02160, 2002.
- Wei X.J., E. Sikora, and **B.A. Shaw**, "Corrosion behavior of Nanocrystalline Al-Mg-Based Alloys, Corrosion and Corrosion Protection," Sinclair J.D., Frankenthal R.P., Kalman E., Plieth W., editors, *The Electrochemical Society*, Pennington, NJ, pp 1091-1097, 2001.
- Ohno, M., C. Miyasaka, and **B.R. Tittmann**, "Pupil Function Splitting Method in Calculating Acoustic Microscopic Signals for Elastic Discontinuities," *Elsevier Science. Journal Wave Motion and Sound*, vol. 33, pp. 309-20, 2001.
- Ohno, M., **B.R. Tittmann**, A. Kokubo, and K. Takagi, "Incident-angle Dependence of the Phase Conjugate Reflectivity by Nonlinear Piezoelectric Interaction in PZT Ceramics," *Journal of Ultrasonics*, vol. 39, pp. 425-428, 2001.
- Sikora J., E. Sikora, and **B. Shaw**, "Model Based Prediction of the Size of a Pit on Experimental Aluminum Alloys Series 6XXX, Corrosion and Corrosion Prevention of Low Density Metals, and Alloys," Shaw B, Buchheit R., Moran J., editors, *The Electrochemical Society*, Pennington, NJ, pp. 220-228, 2001.
- Halter, R., and **B.R. Tittmann**, "Transient Thermal Deformation of Alumina (Al₂O₃) Substrate During Laser Drilling," *Nondestructive Evaluation of Materials and Composites V*, George Y. Baaklini, Eric S. Boltz, Steven M. Shepard, and Peter J. Shull, Editors, *Proceedings of SPIE*, vol. 4336, pp. 197-203, 2001.
- Joseph, K. and **B.R. Tittmann**, "Long Distance Leaky Surface Ultrasonic Waves," *Nondestructive Evaluation of Materials and Composites V*, George Y. Baaklini, Eric S. Boltz, Steven M. Shepard, and Peter J. Shull, Editors, *Proceedings of SPIE*, vol. 4336, pp. 187-196, 2001.
- Laczyniski, M., S. Jayaraman, R. Halter, and **B.R. Tittmann**, "Flank Crack Detection in Locomotive Wheels with NDE Techniques," *Nondestructive Evaluation of Materials and Composites V*, George Y. Baaklini, Eric S. Boltz, Steven M. Shepard, and Peter J. Shull, Editors, *Proceedings of SPIE*, vol. 4336, pp. 176-186, 2001.
- Miyasaka, C., **B.R. Tittmann**, and S.-I. Tanaka, "Characterization of Stress at a Ceramic/Metal Joint Interface by the V(z) Technique of Scanning Acoustic Microscopy," *Residual Stress Measurement and General Nondestructive Evaluation*, D. E. Bray, Editor, *Proceedings of ASME PVP*, Atlanta, GA, vol. 429, pp. 57-64, July 2001.
- Miyasaka, C., R. Halter, **B. R., Tittmann**, and N. Nicholas, "High-Power Acoustic Insult to Cells as Studied by Acoustic Microscopy," *IEEE Ultrasonics Symposium*, Atlanta, GA, October 2001.
- Urquidi-Macdonald M.**, D.D. Macdonald, O. Pensado, and J. Flores, "The electrochemical behavior of lithium in alkaline aqueous electrolytes," *Electrochimica*

- Acta*, vol. 47, pp. 833-840, 2001.
- Gao L., D.D. Macdonald, **M. Urquidi-Macdonald**, D. Olmeijer, and H.R. Allcock, "Charge cycling and characterization of a polyphosphazene solid polymer electrolyte - manganese (IV) oxide intercalation cathode interface," *The Electrochemical Acta*, 2001.
- Urquidi-Macdonald M.**, H. Castaneda, and A. Cannon, "Lithium fuel cells: I. Lithium/poly (organophosphazene) membrane anodes in KOH and seawater," *Electrochimica Acta*, 2001.
- Vinoy, K.J., K.A. Jose, **V.K. Varadan** and **V.V. Varadan**, "Hilbert curve fractal antenna: a small resonant antenna for VHF/UHF applications," *Microwave and Optical Technology Letters*, vol. 29, no. 4, pp. 215-219, 2001.
- Varadan, V.K., V.V. Varadan** and H. Subramanian, "Fabrication, characterization and testing of wireless MEMS-IDT based microaccelerometers," *Sensors and Actuators A*, vol. 90, pp. 7-19, 2001.
- Zhang, J.M., W. Chang, **V.K. Varadan** and **V.V. Varadan**, "Passive underwater acoustic damping using shunted piezoelectric coatings," *Journal of Smart Materials and Structures*, vol. 10, pp. 414-420, 2001.
- Jose, K.A., **V.K. Varadan** and **V.V. Varadan**, "Wideband and noncontact characterization of complex permittivity of liquids," *Microwave and Optical Technology Letters*, vol. 30, no. 2, pp. 75-79, 2001.
- Wang, Q., S.T. Quek and **V.K. Varadan**, "Love waves in piezoelectric coupled solid media," *Journal of Smart Materials and Structures*, vol. 10, pp. 380-388, 2001.
- Thomas, R., **V.K. Varadan**, S. Komarneni and D.C. Dube, "Diffuse phase transitions, electrical conduction and low temperature dielectric properties of sol-gel derived ferroelectric barium titanate thin films," *Journal of Applied Physics*, vol. 90, pp. 1480-1488, 2001.
- Neo, C.P. and **V.K. Varadan**, "Design and development of electromagnetic absorbers with carbon fiber composites and matching dielectric layers," *Journal of Smart Materials and Structures*, vol. 10, pp. 1107-1110, 2001.
- Xie, J., P.K. Sharma, **V.V. Varadan**, **V.K. Varadan**, B.K. Pradhan and S. Eser, "Thermal, Raman and surface area studies of microcoiled carbon fiber synthesized by CVD microwave system," *Materials Chemistry and Physics*, pp. 1-8, 2001.
- Vinoy, K.J. and **V.K. Varadan**, "Design of reconfigurable fractal antennas and RF-MEMS for space-based systems," *Journal of Smart Materials and Structures*, vol. 10, pp. 853-858, 2001.
- Ji, T.S., K.J. Vinoy and **V.K. Varadan**, "Distributed MEMS phase shifters by microstereolithography on silicon substrate for microwave and millimeter wave applications," *Journal of Smart Materials and Structures*, vol. 10, pp. 920-926, 2001.
- Sharma, P.K., Z. Ounaies, **V.V. Varadan** and **V.K. Varadan**, "Dielectric and piezoelectric properties of microwave sintered PZT," *Journal of Smart Materials and Structures*, vol. 10, pp. 878-883, 2001.
- Du, K., **V.V. Varadan** and **V.K. Varadan**, "Estimation of reflection coefficients for an open-ended coaxial waveguide radiating into a chiral half-space," *Journal of Electromagnetic Waves and Applications*, vol. 15, pp. 643-663, 2001.
- Yoon, H., Y. Sha, P.K. Sharma, K.J. Vinoy, **V.K. Varadan** and **V.V. Varadan**, "Performance improvement of RF MEMS capacitive switches with high dielectric constant materials," *SPIE Smart Electronics and MEMS*, vol. 4334, pp. 38-45, 2001.
- Suh, W.D., K.A. Jose, P.B. Xavier, **V.K. Varadan** and **V.V. Varadan**, "Design, simulation and testing of IDT-based MEMS gyroscope," *SPIE Smart Electronics and MEMS*, vol. 4334, pp. 95-106, 2001.
- Varadan, V.K.**, W.D. Suh, K.A. Jose and **V.V. Varadan**, "Hybrid MEMS-IDT based accelerometer and gyroscope in a single chip," *SPIE Smart Electronics and MEMS*, vol. 4334, pp. 119-128, 2001.
- Vinoy, K.J., P.K. Sharma, K.A. Jose, **V.K. Varadan** and **V.V. Varadan**, "Micromachined systems for RF and microwave antenna applications," *SPIE Smart Electronics and MEMS*, vol. 4334, pp. 156-163, 2001.
- Vinoy, K.J., K.A. Jose, **V.K. Varadan** and **V.V. Varadan**, "Optimized multilayer wideband absorbers with graded fractal FSS," *SPIE Smart Electronics and MEMS*, vol. 4334, pp. 176-183, 2001.
- Vinoy, K.J., K.A. Jose, **V.K. Varadan** and **V.V. Varadan**, "Small resonant fractal antennas," *SPIE Smart Electronics and MEMS*, vol. 4334, pp. 199-206, 2001.
- Suh, W.D., K.A. Jose, **V.K. Varadan** and **V.V. Varadan**, "Design, simulation and testing of wireless temperature sensor," *SPIE Smart Electronics and MEMS*, vol. 4334, pp. 252-262, 2001.
- Varadan, V.K.** and **V.V. Varadan**, "Micro stereo lithography for 3D MEMS," *SPIE Smart Electronics and MEMS*, vol. 4334, pp. 280-290, 2001.
- Sha, Y., **V.K. Varadan**, **V.V. Varadan**, S. Li, W. Guo, Y. Zhang, "New type of silicon photoelectronic negative resistance devices," *SPIE Smart Electronics and MEMS*, vol. 4334, pp. 382-389, 2001.
- Varadan, V.K.** and **V.V. Varadan**, "Micro stereo lithography for 3D MEMS devices," *Proceedings of the International MEMS Workshop*, Singapore, 2001.
- Varadan, V.K., J. Xie, P.K. Sharma and **V.V. Varadan**, "Design and development of microchannel system for compact power generation with hydrogen stored carbon nanotubes and MEMS sensors and actuators," *Proceedings of the International MEMS Workshop*, Singapore, 2001.

- Varadan, V.K. and V.V. Varadan**, "Wireless hybrid MEMS-IDT based accelerometer and gyroscope in a single chip," *Proceedings of the International MEMS Workshop*, Singapore, 2001.
- Varadan, V.K.**, "MEMS and NEMS based microsystem technologies and their applications," *Proceedings of the US Army Aviation and Missiles Command Workshop on Microsystem Technologies*, Huntsville, Alabama, 2001.
- Varadan, V.K.**, "Microsensors, MEMS and NEMS for complex adaptive smart structures and systems," *Proceedings of the Japan Society of Mechanical Engineers*, Japan, 2001.
- Varadan, V.K.**, "MEMS and NEMS based complex adaptive smart devices and systems," *SPIE Complex* and **V.K. Varadan**, "Estimation of Reflection Coefficients for Co-axial Waveguide Radiating into a Chiral Half-Space," *J. Electromagnetic Waves & Applications*, vol. 15, pp. 649-663, 2001.
- Vinoy, K.J., K.A. Jose, **V.K. Varadan**, and **V.V. Varadan**, "Hilbert Curve Fractal Antenna: A small resonant Antenna for UHF/VHF Applications," *IEEE Microwaves and Optics Letters*, vol. 29, pp. 215-219, 2001.
- Jose, K.A., **V.K. Varadan**, and **V.V. Varadan**, "Wideband and Noncontact Characterization of the Complex Permittivity of Liquids," *IEEE Microwaves and Optics Letters*, vol. 30, pp. 75-79, 2001.
- Adaptive Structures*, vol. 4512, pp. 25-45, 2001.
- Varadan, V.K.**, "Wireless MEMS-IDT based Microsensors for Military applications," *Proceedings of the Third Health Monitoring Conference*, Stanford University, 2001.
- Varadan, V.K.**, "Synthesis and functionalization of highly purified carbon nanotubes by microwave CVD and their applications in structural composites, thin films, MEMS and electronic devices," *Workshop on Carbon Nanotubes*, NASA Langley, 2001.
- Varadan, V.K.**, K. A. Jose and **V.V. Varadan**, "Design and development of passive MEMS-IDT sensors for continuous monitoring of tire pressure," *SPIE Smart Electronics and MEMS II*, vol. 4236, pp. 280-290, 2001.
- Varadan, V.K.**, **V.V. Varadan** and H. Subramanian, "Fabrication, Characterization and Testing of Wireless MEMS-IDT based Microaccelerometers," *Sensors and Actuators A*, vol. 90, pp. 7-19, 2001.
- Zhang, J.M., W. Chang, **V.K. Varadan** and **V.V. Varadan**, "Passive Underwater Acoustic Damping using Shunted Piezoelectric Coatings," *J. Smart Structures and Materials*, vol. 10, pp. 414-420, 2001.
- Sharma, P.K., Z. Ounaies, **V.V. Varadan** and **V.K. Varadan**, "Dielectric and Piezoelectric Properties of Microwave Sintered PZT," *J. Smart Structures and Materials*, vol. 10, pp. 878-883, 2001.
- Jose, K.A., H. Yoon, K.J. Vinoy, P. Sharma, **V.K. Varadan** and **V.V. Varadan**, "Low voltage capacitors for RF MEMS filters and antenna applications," *IEEE Antennas and Propagation Society*, AP-S International Symposium (Digest), vol.3, pp. 670-673, 2001.
- Vinoy, K.J., K.A. Jose and **V.K. Varadan** and **V.V. Varadan**, "Resonant frequency of Hilbert curve fractal antennas," *IEEE Antennas and Propagation Society*, AP-S International Symposium (Digest), vol.3, pp. 648-651, 2001.
- Gopinathan, S.V., **V.V. Varadan** and **V.K. Varadan**, "Rayleigh-Ritz formulation for active control of acoustics in cabin enclosures," *SPIE Smart Structures and Materials; Modeling, Signal Processing and Control*, vol. 4326, pp. 58-67, 2001.
- Varadan, V.K. and V.V. Varadan**, "Wireless surface acoustic wave and MEMS based microsensors," *SPIE MEMS Design, Fabrication, Characterization and Packaging*, Edinburgh, vol. 4407, pp. 256-266, 2001.
- Varadan, V.K. and V.V. Varadan**, "Micro stereo lithography for fabrication of 3D polymeric and ceramic MEMS," *SPIE MEMS Design, Fabrication, Characterization and Packaging*, Edinburgh, vol. 4407, pp. 147-157, 2001.
- Varadan, V.K.**, "MEMS- and NEMS- based complex adaptive smart devices and systems," *SPIE Workshop on Complex Adaptive Structures*, vol. 4512, pp. 25-45, June 4-6, 2001.
- Du, K., **V.V. Varadan**

*Denotes Graduate Students

2001FacultyPublications.doc