



JESSE STEPHEN JUR

Assistant Professor

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A. PROFESSIONAL PREPARATION

The University of South Carolina	Chemical Engineering	B.S. (2001)
Johns Hopkins University	Chemical Engineering	M.S. (2003)
N.C. State University	Materials Science and Engr.	Ph.D. (2007)
N.C. State University	Materials Science and Engr.	Post-Doc (2007-08)

B. APPOINTMENTS

2011-Present **Assistant Professor** – Textile Engr., Chemistry & Science, NCSU, Raleigh, NC
2008-2010 **Res. Asst. Prof.** – Chem. and Biomol. Engr., NCSU, Raleigh, NC
2000-2002 **Process Development Engr.** – NeoPhotonics Corporation, Fremont, CA

Other appointments

2012-Present **Thrust Leader** – Advanced Self Powered Systems of Sensors and Technologies (ASSIST), NSF Nanosystems Engineering Research Center
2015-Present **US Representative** – International Electrotechnical Commission (IEC) Standards Committee for SMB SG 10:Wearable Smart Devices

C. RELEVANT LITERATURE

Please note the following:

- *Author order is from most significant to least, but with project director(s) last. Exceptions to this ordering are indicated by the designation ‘^’ when Jur was directly involved with the mentorship/direction of the research as a co-PI.*
- *The corresponding/presenting author(s) marked with an ‘*’.*
- *Conference proceedings/transactions for IEEE International Electron Devices Meeting and the Symposium on VLSI Technology are stringently peer reviewed and are more highly regarded in the microelectronics industry than journal publications, and thus have been included in Section III.A.1 instead of III.A.2 (when peer reviewed). It is also noted that these works represent a large research and/or processing effort of large industry-academia teams. Acceptance rates for these conferences are typically <30%. Articles are designated by a (#).*
- *Publication that was by invitation are indicated by: (Invited)*

Peer Reviewed Publications

44. V. Misra, A. Bozkurt, B. Calhoun, T. Jackson, J. S. Jur, J. Lach, B. Lee, J. Muth, O. Oralkan, M. Ozturk, S. Trolrier-McKinstry, D. Vashae, D. Wentzloff, and Y. Zhu “Flexible Technologies for Self-Powered Wearable Health and Environmental Sensing” *Proceedings of the IEEE* **103**(4) 665-681 (2015).
43. M. A. Yokus, and J. S. Jur “Printed Dry Electrodes for Body Surface Biopotential Recording” *IEEE Transactions on Biomedical Engineering*, Accepted, DOI:10.1109/TBME.2015.2462312.
42. Halil I. Akyildiz, Moataz Bellah M. Mousa, and Jesse S. Jur* “Atmospheric Pressure Synthesis of Photoluminescent Hybrid Materials by Sequential Organometallic Vapor Infiltration into Polyethylene terephthalate Fibers” *Journal of Applied Physics* (accepted, 2015).

41. Richard P. Padbury, Jonathan C. Halbur, Peter J. Krommenhoek, Joseph B. Tracy, Jesse S. Jur* "Thermal Stability of Gold Nanoparticles Embedded within Metal Oxide Frameworks Fabricated by Facile Vapor Phase Modifications onto Textiles" *Langmuir* (accepted, 2015).
40. Richard P. Padbury and Jesse S. Jur* "Systematic study of trimethyl aluminum infiltration in polyethylene terephthalate and its effect on the mechanical properties of polyethylene terephthalate fibers" *Journal of Vacuum Science & Technology A, Vacuum, Surfaces, and Films* **3** (1) 01A112 (2015).
39. Nasim Farahbakhsh, Peiman Shahbeigi, Ali S. Ayoub, Richard A. Venditti, and Jesse S. Jur* "Melt Extrusion of Polyethylene Nanocomposites Reinforced with Nanofibrillated Cellulose from Cotton and Wood Sources" *Journal of Applied Polymer Science* APP-2014-07-2674.R2 (2015).
38. Halil I Akyildiz, Michael Lo, Eric Dillon, Adam T. Roberts, Henry O. Everitt, Jesse S. Jur* "Formation of novel photoluminescent hybrid materials by sequential vapor infiltration into polyethylene terephthalate fibers" *Journal of Materials Research* **29** (23) 2817-2826 (2014).
37. Ying Li, Yujie J. Sun, Gunajie J. Xu, Yao Lu, Shu Zhang, Leigang G. Xue, Jesse S. Jur, and Xiangwu Zhang* "Tuning electrochemical performance of Si-based anodes for lithium-ion batteries by employing atomic layer deposition alumina coating" *Journal of Materials Chemistry A* **2**(29) 11417-11425 (2014).
36. Richard P. Padbury and Jesse S. Jur* "Temperature-dependent infiltration of polymers during sequential exposures to trimethylaluminum" *Langmuir* **30**(30) 9228-9238 (2014).
35. Nasim Farahbakhsh, Richard A. Venditti, and Jesse S. Jur* "Mechanical and thermal investigation of thermoplastic nanocomposite films fabricated using micro- and nano-sized fillers from recycled cotton T-shirts" *Cellulose* **21**(4) 2743-2755 (2014).
34. Richard P. Padbury and Jesse S. Jur* "Effect of polymer microstructure on the nucleation behavior of alumina via atomic layer deposition" *Journal of Physical Chemistry C* **118**(32) 18805-18813 (2014).
33. Kelly L Stano, Michael Carroll, Richard Padbury, Marian McCord, Jesse S. Jur^, and Philip D. Bradford* "Conformal atomic layer deposition of alumina on millimeter tall, vertically-aligned carbon nanotube arrays" *ACS Applied Materials & Interfaces* **6**(21) 19135-19143 (2014).
32. Richard P. Padbury and Jesse S. Jur* "Comparison of precursor infiltration into polymer thin films via atomic layer deposition and sequential vapor infiltration using in-situ quartz crystal microgravimetry." *Journal of Vacuum Science & Technology A, Vacuum, Surfaces, and Films* **32**(4) (2014).
31. Gregory N. Parsons*, Sarah E. Atanasov, Erinn C. Dandley, Christina K. Devine, Bo Gong, Jesse S. Jur, Kyoungmi Lee, Christopher J. Oldham, Qing Peng, Joseph C. Spagnola, and Philip S. Williams "Mechanisms and Reactions During Atomic Layer Deposition on Polymers" *Coordination Chemistry Reviews* **257** (23-24) 3323-3331 (2013).
30. (**Invited**) Yujie Sun, Richard P. Padbury, Halil I. Akyildiz, Matthew P. Goertz, Jeremy A. Palmer and Jesse S. Jur* "Influence of Subsurface Hybrid Material Growth on the Mechanical Properties of Atomic Layer Deposited Thin Films on Polymers" *Chemical Vapor Deposition* **19**(4-6) 134-141 (2013).
29. Jonathan C. Halbur, Richard P. Padbury, and Jesse S. Jur* "Induced Wetting of Polytetrafluoroethylene by Atomic-Layer Deposition for Application of Aqueous-based Nanoparticle Inks" *Materials Letters* **101** 25-28 (2013).
28. William J. Sweet III, Jesse S. Jur^, and Gregory N. Parsons* "Bi-layer Al₂O₃/ZnO atomic layer deposition for controllable conductive coatings on polypropylene nonwoven fiber mats" *Journal of Applied Physics* **113**(19) 194303 (2013)
27. (**Invited**) Jesse S. Jur* and Gregory N. Parsons "Nanoscale ceramic surface modification of textiles by atomic layer deposition" *American Ceramic Society Bulletin* **91**(6) 24-28 (2012).

26. Halil I. Akyildiz, Richard D. Padbury, Gregory N. Parsons, and Jesse S. Jur*, “Temperature and Exposure Dependence of Hybrid Organic-Inorganic Layer Formation by Sequential Vapor Infiltration into Polymer Fibers” *Langmuir* **28** (44) 15697-704 (2012).
25. Do Han Kim, Hyung-Jun Koo, Jesse S. Jur, Mariah Woodroof, Berç Kalanyan, Kyoungmi Lee, Christina K. Devine, and Gregory N. Parsons* “Stable Anatase TiO₂ Coating on Quartz Fibers by Atomic Layer Deposition for Photoactive Light-scattering in Dye-Sensitized Solar Cells” *Nanoscale* **4** 4731-4738 (2012).
24. Moataz Bellah M. Mousa, Christopher J. Oldham, Jesse S. Jur^ and Gregory N. Parsons,* “Effect of Temperature and Gas Velocity on Growth per Cycle during Al₂O₃ and ZnO ALD at Atmospheric Pressure” , *Journal of Vacuum Science and Technology A* **30** (1) 01A155 (2012).
23. Kyoungmi Lee, Jesse S. Jur^, Do Han Kim and Gregory N. Parsons*, “Mechanisms for hydrophilic/hydrophobic wetting transitions on cellulose cotton fibers coated using Al₂O₃ atomic layer deposition”, *Journal of Vacuum Science and Technology A* **30** (1) 01A163 (2012).
22. Christina K. Devine, Christopher J. Oldham, Jesse S. Jur^, Bo Gong, and Gregory N. Parsons* “Fiber Encapsulation for Improved Laboratory Handling and Uniform Nanocoating of Milligram Quantities of Carbon Nanotubes by Atomic Layer Deposition” *Langmuir* **27** (23) 14497-14507 (2011).
21. Bo Gong, Qing Peng, Jesse S. Jur^, Christina K. Devine, Kyoungmi Lee and Gregory N Parsons* “Sequential Vapor Infiltration of Metal Oxides into Sacrificial Polyester Fibers: Shape Replication and Controlled Porosity of Micro/Mesoporous Oxide Monoliths” *Chemistry of Materials* **23** (15) 3476-3485 (2011).
20. Christopher J. Oldham, Bo Gong, Joseph C. Spagnola, Jesse S. Jur, Kris J. Senecal, Thomas A. Godfrey and Gregory N. Parsons* “Encapsulation and Chemical Resistance of Electrospun Nylon Nanofibers Coated Using Integrated Atomic and Molecular Layer Deposition” *Journal of the Electrochemical Society* **158** (9) D549-D556 (2011).
19. Jesse S. Jur*, William J. Sweet III, Christopher J. Oldham and Gregory N. Parsons* “Atomic Layer Deposition of Conductive Coatings on Cotton, Paper, and Synthetic Fibers: Conductivity Analysis and Functional Chemical Sensing using ‘All-Fiber’ Capacitors”, *Advanced Functional Materials*, **21** (11) 1993-2002 (2011).
18. Jesse S. Jur*, Virginia D. Wheeler, Daniel J. Lichtenwalner, Jon-Paul Maria, and Mark A. L. Johnson “Epitaxial growth of lanthanide oxides La₂O₃ and Sc₂O₃ on GaN” *Applied Physics Letters* **98** (4) 042902 (2011).
17. Jesse S. Jur* and Gregory N. Parsons “Atomic Layer Deposition at Atmospheric Pressure in a Flow Tube Reactor” *ACS Applied Materials and Interfaces* **3** (2) 299-308 (2011).
16. Joseph C. Spagnola, Bo Gong, Sara A. Arvidson, Jesse S. Jur^, Saad Khan, and Gregory N. Parsons* “Surface and Sub-Surface Reactions during Low Temperature Aluminum Oxide Atomic Layer Deposition on Fiber-forming Polymers” *Journal of Materials Chemistry* **20**, 4213-4222 (2010).
15. Jesse S. Jur*, Joseph Spagnola, Kyoungmi Lee, Bo Gong, Qing Peng, and Gregory N. Parsons “Temperature-Dependent Sub-Surface Film Growth during Atomic Layer Deposition on Polypropylene and Cellulose Fibers” *Langmuir* **2010**, *11*, 8239-8244.
14. G. Kevin Hyde, Giovanna Scarel, Joseph C. Spagnola, Qing Peng, Kyoungmi Lee, Bo Gong, Kim G. Roberts, Kelly M. Roth, Christopher A. Hanson, Christina K. Devine, S. Michael Stewart, Daisuke Hojo, Jeong-Seok Na, Jesse S. Jur, and Gregory N. Parsons* “Atomic Layer Deposition and Abrupt Wetting Transitions on Nonwoven Polypropylene and Woven Cotton Fabrics” *Langmuir* **26** (4) 2550–2558 (2010).

13. Vijay A. Sethuraman, Saahir Khan, Jesse S. Jur, Andrew T. Haug, and John W. Weidner* “Measuring oxygen, carbon monoxide and hydrogen sulfide diffusion coefficient and solubility in Nafion membranes” *Electrochimica Acta* **54** (27) 6850-6860 (2009).
12. James M. LeBeau, Jesse S. Jur, Daniel J. Lichtenwalner, H. Spalding Craft, Jon-Paul Maria, Angus I. Kingon, Dmitri O. Klenov, Joël Cagnon, and Susanne Stemmer* “High temperature stability of Hf-based gate dielectric stacks with rare-earth oxide layers for threshold voltage control” *Applied Physics Letters* **92** (11) 112912 (2008).
11. (#) P. Sivasubramani, T. S. Boscke, J. Huang, C. D. Young, P. D. Kirsch, S. A. Krishnan, M. A. Quevedo-Lopez, S. Govindarajan, B. S. Ju, H. R. Harris, D. J. Lichtenwalner, J. S. Jur, A. I. Kingon, J. Kim, B. E. Gnade, R. M. Wallace, G. Bersuker, B. H. Lee, and R. Jammy* “Dipole moment model explaining nFET V-t tuning utilizing La, Sc, Er, and Sr doped HfSiON dielectrics” *Digest of Technical Papers – 2007 Symposium on VLSI Technology* (2008).
10. P. D. Kirsch*, P. Sivasubramani, J. Huang, C. D. Young, M. A. Quevedo-Lopez, H. C. Wen, H. Alshareef, K. Choi, C. S. Park, K. Freeman, M. M. Hussain, G. Bersuker, H. R. Harris, P. Majhi, R. Choi, P. Lysaght, B. H. Lee, H. H. Tseng, R. Jammy, T. S. Boscke, Daniel J. Lichtenwalner, Jesse S. Jur, and Angus I. Kingon “Dipole model explaining high-k/metal gate field effect transistor threshold voltage tuning” *Applied Physics Letters* **92** (9) 092901 (2008).
9. Naoya Inoue, Daniel J. Lichtenwalner, Jesse S. Jur, and Angus I. Kingon* “Analysis of interface states in LaSi_xO_y metal-insulator-semiconductor structures”, *Japanese Journal of Applied Physics Part 1- Regular Papers Brief Communications & Review Papers* **46** (10A), 6480-6488 (2007).
8. (#) P. D. Kirsch, M. A. Quevedo-Lopez, S. A. Krishnan, C. Krug, H. AlShareef, C. S. Park, R. Harris, N. Moumen, A. Neugroschel, G. Bersuker, B. H. Lee, J. G. Wang, G. Pant, B. E. Gnade, M. J. Kim, R. M. Wallace, J. S. Jur, D. J. Lichtenwalner, A. I. Kingon, and R. Jammy* “Band edge n-MOSFETs with high-k/metal gate stacks scaled to EOT=0.9nm with excellent carrier mobility and high temperature stability” *Transactions of the 2006 IEEE International Electron Devices Meeting* (2007).
7. (#) P. Sivasubramani, P. D. Kirsch, J. Huang, C. Park, Y. N. Tan, D. C. Gilmer, C. Young, K. Freeman, M. M. Hussain, R. Harris, S. C. Song, D. Heh, R. Choi, P. Majhi, G. Bersuker, P. Lysaght, B. H. Lee, H. H. Tseng, J. S. Jur, D. J. Lichtenwalner, A. I. Kingon, and R. Jammy*, “Aggressively scaled high- κ gate dielectric with excellent performance and high temperature stability for 32nm and beyond” *Transactions of the 2006 IEEE International Electron Devices Meeting* (2007).
6. (#) H. R. Harris*, P. Kalra, P. Majhi, M. Hussain, D. Kelly, J. Oh, D. He, C. Smith, J. Barnett, P. D. Kirsch, G. Gebara, J. S. Jur, D. Lichtenwalner, A. Lubow, T. P. Ma, and G. Sung” Band-engineered low PMOS V-T with high-K/metal gates featured in a dual channel CMOS integration scheme” *Digest of Technical Papers – 2006 Symposium on VLSI Technology* (2007).
5. (#) H. N. Alshareef*, H. R. Harris, H. C. Wen, C. S. Park, C. Huffman, K. Choi, H. F. Luan, P. Majhi, B. H. Lee, R. Jammy, D. J. Lichtenwalner, J. S. Jur, and A.I. Kingon “Thermally Stable N-Metal Gate MOSFETs Using La-Incorporated HfSiO Dielectric” *Digest of Technical Papers – 2006 Symposium on VLSI Technology* (2007).
4. Jesse S. Jur, Daniel J. Lichtenwalner, Angus I. Kingon* “High temperature stability of lanthanum silicate dielectric on Si (001)” *Applied Physics Letters* **90** (10) 102908 (2007).
3. H. N. Alshareef*, M. Quevedo-Lopez, H. C. Wen, R. Harris, P. Kirsch, P. Majhi, B. H. Lee, R. Jammy, Daniel J. Lichtenwalner, Jesse S. Jur, and Angus I. Kingon “Work function engineering using lanthanum oxide interfacial layers” *Applied Physics Letters* **89** (23) 232103 (2006).
2. Daniel J. Lichtenwalner*, Jesse S. Jur, Rashmi Jha, Naoya Inoue, Bei Chen, Veena Misra, and Angus I. Kingon “High-temperature stability of lanthanum silicate gate dielectric MIS devices with Ta and TaN electrodes” *Journal of the Electrochemical Society* **153** (9) F210-F214 (2006).

1. Daniel J. Lichtenwalner*, Jesse S. Jur, Angus I. Kingon, Melody P. Agustin, Yan Yang, Susanne Stemmer, Lyudmila V. Goncharova, Torgny Gustafsson, and Eric Garfunkel “Lanthanum silicate gate dielectric stacks with subnanometer equivalent oxide thickness utilizing an interfacial silica consumption reaction” *Journal of Applied Physics* **98** (2) 024314 (2005).

Refereed Conference Proceedings: Published or Accepted

11. Rashi Grewal, Whitney Sweezy, Jesse S. Jur, Julie Willoughby* “Moisture Vapor Barrier Properties of Biopolymers for Packaging Materials” *Functional Materials from Renewable Sources: ACS Symposium Series*, F. Liebner, Ed. **1107**, 271-296 (2012).
10. C. J. Oldham, B. Gong, J. Spagnola, J. S. Jur, K. J. Senecal, T. A. Godfrey, and G. N. Parsons* “Atomic Layer Deposition on Polymers: Applications to Physical Encapsulation of Electrospun Nylon Nanofibers” *Electrochemical Society Transactions* **33** (2), 279 (2010).
9. H. Young Lee, D.J. Lichtenwalner, J. S. Jur, and A. I. Kingon* “Investigation of Conducting Oxide and Metal Electrode Work Functions on Lanthanum Silicate High-k Dielectric” *Electrochemical Society Transactions* **11** (4), 607 (2007).
8. J. S. Jur, G. D. Wheeler, M. T. Veety, D. J. Lichtenwalner, D. W. Barlage and M. A. L. Johnson* “Epitaxial Growth of High- κ Dielectrics for GaN MOSFETs” *Materials Research Society Symposium Proceedings* Vol. **1068** San Francisco, CA (2008).
7. C.Y. Kang, C. S. Park, D. Heh, C. Young, P. D. Kirsch, H. B. Park, R. Choi, G. Bersuker, J.-W. Yang, B. H. Lee, D. J. Lichtenwalner, J. S. Jur, A. I. Kingon, R. Jammy* “Performance and reliability characteristics of the band edge high-k/metal gate nMOSFETs with La-doped Hf-silicate gate dielectrics” *IEEE International Reliability Physics Symposium Proceedings*, 46th Annual pp. 663 (2008).
6. D. J. Lichtenwalner, J. S. Jur, N. Inoue, and A. I. Kingon* “Overview of Materials Processing and Properties of Lanthanum-Based High-k Dielectrics” *Electrochemical Society Transactions* **11** (4), 319 (2007).
5. J. S. Jur, D. J. Lichtenwalner, and A. I. Kingon* “Investigations of Work Function Shift in Lanthanum Silicate High-K Dielectric MIS Capacitors” *Electrochemical Society Transactions* **6** (1), 149 (2007).
4. J. S. Jur, D. J. Lichtenwalner, N. Inoue and A. I. Kingon* “Processing Impact on Electrical Properties of Lanthanum Silicate Thin Films” *Materials Research Society Symposium Proceedings* Vol. **917** San Francisco, CA, (2006).
3. D. J. Lichtenwalner, J. S. Jur, A. I. Kingon*, S. Novak, and V. Misra “Reliability and Stability Issues for Lanthanum Silicate as a High-K Dielectric” *Electrochemical Society Transactions* **3** (3), 245 (2006).
2. J. S. Jur, D. J. Lichtenwalner, and A. I. Kingon* “High-Temperature Processing Effects on Lanthanum Silicate Gate Dielectric MIS Devices” *Electrochemical Society Transactions* **1** (5), 227 (2006).
1. C. R. Horne*, P. de Mascarel, R. Blume, J. S. Jur, C. Cohen-Jonathan, M. Chapin, J. Posner, W. Cho Foo, C. Honeker, Q. Zhu, S. Chiruvolu, R. Mosso, and W. McGovern “High-Rate Deposition of Rare-Earth Doped Silicate Nanoparticles for Porous and Dense Optical Films” in *Rare-Earth Doping for Optoelectronic Applications*, edited by T. Gregorkiewicz, Y. Fujiwara, M. Lipson, and J. M. Zavada Vol. 866, pp. 33-38 (2005).

Not Refereed Conference Proceedings: Published or Accepted

4. J. S. Jur* “All-Fiber Electronics by Nanoscale Integration of Inorganics in Textiles” *Proceedings of the IMAPS Advanced Technology Workshop (ATW) and Tabletop Exhibition on 3D and Conformable Printed Electronic Packaging: Materials, Manufacturing & Applications*, El Paso TX, February 22nd-23rd, 2012.

3. J. S. Jur*, J. Spagnola, B. Gong, W. J. Sweet III, and G. N. Parsons “Vapour Phase Methods for Functional Nanoscale Inorganic Coatings on Textiles” *Proceedings of the 2nd International Conference on Smart Polymer Systems 2011*, iSmithers Rapra Conferences, Mainz Germany, May 25-26, 2011.
2. J. S. Jur, G. D. Wheeler, M. T. Veety, D. J. Lichtenwalner, D. W. Barlage, and M. A. L. Johnson*, "Epitaxial Growth of High-kappa Dielectrics for GaN MOSFETs", in *Advances in GaN, GaAs, SiC and Related Alloys on Silicon Substrates*, edited by T. Li, J. M. Redwing, M. Mastro, E. L. Piner, and A. Dadgar Vol. 1068, pp. 63-68 (2008).
1. J. S. Jur, D. J. Lichtenwalner, and A. I. Kingon* “Thermal and Compositional Study of La-based High-k Dielectric Gate Stacks” *Proceedings of the 2005 SRC Technology Conference, TECHON* (2005).

Invited or Contributed Research Presentations

Please note the following:

- *The presenting author is underlined.*

International

42. (*Invited*) J. S. Jur and V. Misra, “Advanced Radios and Energy Harvesters for TSensors”, 2014 Trillion Sensors Summit, Tokyo Japan, Dec. 8-9th 2014.
41. C. Marcott, M. K. Lo, E. Dillon, H. I. Akyildiz, J. S. Jur, A. T. Roberts, and H. O. Everitt, “Depth profiling of trimethylaluminum modified PET fibers with nanoscale infrared spectroscopy and imaging techniques, Fiber Society Meeting, Drexel University, Oct. 22nd-24th 2014.
40. J. S. Jur, H. I. Akyildiz, J. C. Halbur, and, “Process-Property Relationships of Synthetic Polymers Exposed to Organometallic Vapors”, 2014 AATCC International Conference, Asheville NC, April 1-3rd 2014.
39. J. S. Jur and J. Muth, “Opportunities for Wearable Physiological and Environmental Platforms” University Global Partnership Network Conference, Surrey UK, Feb. 26-28th 2014.
38. H. I. Akyildiz and J. S. Jur, “Organic-inorganic Hybrid Materials Formation into Polyesters during Sequential Vapor Infiltration”, AVS 13th International Conference on Atomic Layer Deposition, San Diego CA, July 28-31st 2013.
37. W. J. Sweet, C. J. Oldham, J. S. Jur, and G. N. Parsons, “Conductivity and Mechanical Properties of ALD Coated Nonwoven Fiber”, AVS 13th International Conference on Atomic Layer Deposition, San Diego CA, July 28-31st 2013.
36. J. C. Halbur, A. Madan, J. S. Jur, “Photoremediation of Toxic Heavy Metals by Nonwoven Fabrics Coated with Thin Films Deposited by Atomic Layer Deposition”, AVS 13th International Conference on Atomic Layer Deposition, San Diego CA, July 28-31st 2013.
35. C. Ambrose, N. Ocon, and J. S. Jur “Handheld Raman Spectroscopy Analysis of Art Pigments” The Fifth International Workshop on Image Processing for Art Investigations, Raleigh NC, July 19-20th 2013.
34. (*Invited*) J. S. Jur, “Towards Self Powered Nano-systems for Human Physiological and Environmental Monitoring” MedTex13 International Biomedical Textiles Conference, Raleigh NC, May 15th 2013
33. J. S. Jur and Michael Dickey, “Nonwoven Substrates for Wearable Healthcare-inspired Electronics” The 5th International R&D Project Proposals Brokerage Event in Textiles and Clothing, Bursa Turkey, April 4th - 5th 2013.
32. J. S. Jur, M. Yokus, B. Boudaoud, J. Muth, and V. Misra, “Advanced Self-Powered Systems of Integrated Sensors and Technologies”, 2013 International Consumer Electronics Show, Las Vegas NV, January 2013.

31. W. J. Sweet III, C. K. Devine, C. J. Oldham, G. N. Parsons, and J. S. Jur "Patterning of ALD Coatings on Textiles" AVS 12th International Conference on Atomic Layer Deposition, Dresden Germany, June 18th 2012
30. H. I. Akyildiz, Y. Sun, R. P. Padbury, and J. S. Jur, "Infiltration Dynamics of Reactive ALD Precursor Exposure to Polymers" AVS 12th International Conference on Atomic Layer Deposition, Dresden Germany, June 18th 2012
29. J. S. Jur "Nonwovens Research at NCSU" Seminar at the Kazan National Research Technological University – Kazan, Republic of Tatarsan, Russian Federation, May 31st, 2012.
28. J. S. Jur "Nanotechnology Research Efforts at N.C. State University" Seminar at the Kazan National Research Technological University – Kazan, Republic of Tatarsan, Russian Federation, May 28th, 2012.
27. J. S. Jur "Vapor Phase Methods for Inorganic Material Integration to Textiles" Seminar at the Kazan National Research Technological University – Kazan, Republic of Tatarsan, Russian Federation, May 28th, 2012.
26. J. S. Jur "Hybrid Inorganic-Organic Multi-Component Fibers" The 4th International R&D Project Proposals Brokerage Event in Textiles and Clothing, Bursa Turkey, February 2nd-4th 2012.
25. J. S. Jur "Conductive Textiles as Platforms for Inexpensive Sensors Systems" The 4th International R&D Project Proposals Brokerage Event in Textiles and Clothing, Bursa Turkey, February 2nd-4th 2012.
24. (*Invited*) J. S. Jur "All-Fiber Electronics by Nanoscale Integration of Inorganics in Textiles" IMAPS Advanced Technology Workshop (ATW) and Tabletop Exhibition on 3D and Conformable Printed Electronic Packaging: Materials, Manufacturing & Applications, February 22nd, 2012.
23. (*Invited*) J. S. Jur, W. J. Sweet III, and G. N. Parsons "Conductive Nanocoatings on Textiles" *Industrial Fabrics Association International Advanced Textiles Americas 2011*, Baltimore MD, October 25th, 2011.
22. (*Invited*) J. S. Jur, J. C. Halbur, B. Gong, C. J. Oldham, W. J. Sweet, III, K. Lee, J. C. Spangola, B. Pourdeyhimi, and G. N. Parsons "ALD for Textiles" 11th International Conference on Atomic Layer Deposition, Boston MA, June 29th, 2011.
21. J. S. Jur, M. B. Mousa, C. J. Oldham, G. N. Parsons "Temperature Window for Al₂O₃ and ZnO Growth by Atmospheric Pressure ALD" 11th International Conference on Atomic Layer Deposition, Boston MA, June 2011.
20. C. J. Oldham, W. J. Sweet, J. S. Jur, and G. N. Parsons "Tungsten ALD on Quartz and Nylon using WF₆ and Heavily Diluted Silane in Inert Gas" 11th International Conference on Atomic Layer Deposition, Boston MA, June 2011.
19. W. J. Sweet, C. J. Oldham, J. S. Jur, and G. N. Parsons "Conductive Coatings on Nonwoven Fiber Mats by Atomic Layer Deposition" 11th International Conference on Atomic Layer Deposition, Boston MA, June 2011.
18. K. Lee, J. S. Jur, and G.N. Parsons "Understanding Hydrophilic-to-Hydrophobic Wetting Transitions on Cellulose Cotton Fibers Coated by Atomic Layer Deposition" 11th International Conference on Atomic Layer Deposition, Boston MA, June 2011.
17. C.K. Devine, C.J. Oldham, J. S. Jur, and G.N. Parsons "Safe Handling and Uniform Nanocoating of Milligram Quantities of Carbon Nanotubes using Cotton and Polymer Fiber Mesh: Encapsulation during Atomic Layer Deposition in a Conventional Viscous Flow Reactor" 11th International Conference on Atomic Layer Deposition, Boston MA, June 2011.
16. (*Seminar*) J. S. Jur "Nanoscale Inorganic Modification of Polymer Fiber Templates" Max Plank Institute for Microphysics, Halle Germany, May 2011.

15. J. S. Jur, J. Spagnola, B. Gong, W. J. Sweet III, and G. N. Parsons “Vapour Phase Methods for Functional Nanoscale Inorganic Coatings on Textiles” Smart Polymer Systems, Mainz Germany, May 2011.
14. J. S. Jur “Nanoscale Metal Oxide Coatings for Surface Modification of Textile Fibres” Techtexil Symposium, Frankfurt Germany, May 2011.
13. (Invited) J. S. Jur, W. J. Sweet III, J. C. Spagnola, B. Gong, C. J. Oldham, G. N. Parsons, P. J. Krommenhoek, J. B. Tracy, “Inclusion of inorganic materials with fiber materials” *Industrial Fabrics Association International* Advanced Textiles Americas 2010, Orlando FL, October, 2010.
12. (Invited) C. J. Oldham, G. K. Hyde, Q. Peng, J. C. Spagnola, B. Gong, G. Scarel, K. Lee, D. H. Kim, C. Hanson, C. K. Devine, J. S. Jur, and G. N. Parsons “Innovative Nanoscale Coatings for Textiles” *Industrial Fabrics Association International* Advanced Textiles Americas 2010, Orlando FL, October, 2010.
11. (Invited) G. N. Parsons and J. S. Jur “ALD at Atmospheric Pressure in a Flow-Tube Reactor” Baltic ALD/German ALD Conference, Hamburg, Germany, September 16th, 2010.
10. (Invited) G. N. Parsons, Q. Peng, J. C. Spagnola, G. Scarel, G. K. Hyde, B. Gong, C. Devine, K. Lee, J. S. Jur, K. Roberts, and J. S. Na “Modification of Fibers and Nonwoven Fiber Mats using Atomic Layer Deposition” 10th International Conference on Atomic Layer Deposition, Seoul South Korea, July 2010.
9. J. S. Jur and G. N. Parsons “ALD at Atmospheric Pressure in a Gas Flow Tube: Process Results Between 1 and 760 Torr”, 10th International Conference on Atomic Layer Deposition, Seoul South Korea, June 2010.
8. J. C. Spagnola, B. Gong, J. S. Jur, and G. N. Parsons “Surface and Sub-Surface Reactions During Aluminum Oxide ALD on Fiber Forming-Polymers” 10th International Conference on Atomic Layer Deposition, Seoul South Korea, June 2010.
7. C. J. Oldham, B. Gong, J. C. Spagnola, J. S. Jur, K.J. Senecal, T. A. Godfrey, and G. N. Parsons “Molecular Layer Deposition for Chemical Encapsulation and Passivation of Electrospun Nylon Nanofibers” 10th International Conference on Atomic Layer Deposition, Seoul South Korea, June 2010.
6. P. Sivasubramani, P. D. Kirsch, J. Huang, C. Park, Y. N. Tan, D. C. Gilmer, C. Young, K. Freeman, M. M. Hussain, R. Harris, S. C. Song, D. Heh, R. Choi, P. Majhi, G. Bersuker, P. Lysaght, B. H. Lee, H. H. Tseng, J. S. Jur, D. J. Lichtenwalner, A. I. Kingon, and R. Jammy, “Aggressively scaled high-k gate dielectric with excellent performance and high temperature stability for 32nm and beyond” IEEE International Electron Devices Meeting, Washington D.C. December 2007.
5. C. Y. Kang, P. Kirsch, D. Heh, C. Young, G. Bersuker, B. H. Lee, P. Sivasubramani, S. C. Song, R. Choi, R. Jammy, D. Lichtenwalner, J. S. Jur, and A. I. Kingon “nMOSFET Reliability Improvement attributed to the Interfacial Dipole formed by La Incorporation in HfO₂” International Conference on Solid State Devices and Materials, Tokyo Japan. September 2007. *Symposium Best Paper Award*
4. P. Sivasubramani, T. S. Boscke, J. Huang, C. D. Young, P. D. Kirsch, S. A. Krishnan, M. A. Quevedo-Lopez, S. Govindarajan, B. S. Ju, H. R. Harris, D. J. Lichtenwalner, J. S. Jur, A. I. Kingon, J. Kim, B. E. Gnade, R. M. Wallace, G. Bersuker, B. H. Lee, and R. Jammy “Dipole moment model explaining nFET V-t tuning utilizing La, Sc, Er, and Sr doped HfSiON dielectrics” 2007 Symposium on VLSI Technology, Kyoto Japan, June 2007.
3. P. D. Kirsch, M. A. Quevedo-Lopez, S. A. Krishnan, C. Krug, H. AlShareef, C. S. Park, R. Harris, N. Moumen, A. Neugroschel, G. Bersuker, B. H. Lee, J. G. Wang, G. Pant, B. E. Gnade, M. J. Kim, R. M. Wallace, J. S. Jur, D. J. Lichtenwalner, A. I. Kingon, and R. Jammy “Band edge n-MOSFETs with high-k/metal gate stacks scaled to EOT=0.9nm with excellent carrier mobility and high temperature stability” IEEE International Electron Devices Meeting, San Francisco CA. December 2006.

2. H. N. Alshareef, H. R. Harris, H. C. Wen, C. S. Park, C. Huffman, K. Choi, H. F. Luan, P. Majhi, B. H. Lee, R. Jammy, D. J. Lichtenwalner, J. S. Jur, and A.I. Kingon “Thermally Stable N-Metal Gate MOSFETs Using La-Incorporated HfSiO Dielectric” 2006 Symposium on VLSI Technology, Honolulu HI, June 2006.
1. H. R. Harris, P. Kalra, P. Majhi, M. Hussain, D. Kelly, J. Oh, D. He, C. Smith, J. Barnett, P. D. Kirsch, G. Gebara, J. S. Jur, D. Lichtenwalner, A. Lubow, T. P. Ma, and G. Sung “Band-engineered low PMOS V-T with high-K/metal gates featured in a dual channel CMOS integration scheme” 2006 Symposium on VLSI Technology, Honolulu HI, June 2006.

National

76. N. Farahbakhsh, R. A. Venditti, and J. S. Jur, “Transparent Films of Cellulose Nanocrystals Derived from Waste Cotton T-shirts” AVS 61st International Symposium, Baltimore MD, Nov. 2014.
75. H. I. Akyildiz, J. C. Halbur, A. T. Roberts, and H. O. Everitt and J. S. Jur, “Patterned Photoreduction of Metal Atoms on Polymeric Substrates for Flexible Electronic Applications” AVS 61st International Symposium, Baltimore MD, Nov. 2014.
74. R. P. Padbury and J. S. Jur, “Influence of Polymer Microstructure and Process Temperature on the Formation of Tailored ALD Coatings on Polymers” AVS 61st International Symposium, Baltimore MD, Nov. 2014.
73. K. Stano, J. S. Jur, and P. Bradford, “Atomic Layer Deposition of Metal Oxides on Ultra-High Aspect Ratio, Vertically Aligned Carbon Nanotube Arrays” AVS 61st International Symposium, Baltimore MD, Nov. 2014.
72. J. S. Jur and R. E. Gorga, “NCSU and Flocking”, American Flock Association Annual Meeting, Raleigh NC, Oct. 27-28th 2014.
71. H. I. Akyildiz, A. T. Roberts, H. O. Everitt, and J. S. Jur “Optical Tuning of Poly(ethylene terephthalate) Fibers by Organometallic Vapor Infiltration” 248th ACS National Meeting & Exposition, San Francisco CA, Aug 10-14th 2014.
70. (*Invited*) J. S. Jur, “Process for Textile Applications in Photoluminescence and Electronics” Intelligent Textiles Symposium at TechTextil, Atlanta GA, May 14th 2014.
69. B. Pourdeyhimi and J. S. Jur, “Printing conductive inks on Nonwovens for generating sensors and antennas” Intelligent Textiles Symposium at TechTextil, Atlanta GA, May 14th 2014.
68. (*Invited*) J. S. Jur and M. Yokus “On-Body Energy Harvesting for Enabling Flexible Electronic Sensory Systems” 225th Electrochemical Society Meeting, Orlando FL, May 12th, 2014
67. H. I. Akyildiz, Y. Sun, and J. S. Jur, “Nucleation and Passivation of Al₂O₃ and TiO₂ Thin Films Formed by Atomic Layer Deposition on Polymeric Substrates”, American Ceramic Society conference on Electronic Materials and Applications, Orlando FL, Jan. 2014.
66. J. S. Jur, “Self-powered Integrated Systems for Health and Environmental Monitoring” Energy Harvesting and Storage USA, Santa Clara CA, Nov. 2013.
65. J. C. Halbur, A. Madan, and J. S. Jur, “Metal Ion Photoreduction on ALD Thin Films” AVS 60th International Symposium and Exhibition, Long Beach CA, Oct. 2013
64. R. Padbury and J. S. Jur, Mechanical Property Modification of Fiber Forming Polymers by Sequential Organometallic Exposures”, AVS 60th International Symposium and Exhibition, Long Beach CA, Oct. 2013
63. M. Yokus, N. Weiner, K. Barnes, and J. S. Jur, “Flexible Textile Dry Electrodes for Long Term ECG Monitoring” 29th Southern Biomedical Engineering Conference (SBEC2013), Miami FL, May 3-4, 2013

62. J. C. Halbur and J. S. Jur “Hybrid Organic/Inorganic Processes for Nonwovens” IDEA® 2013 International Engineered Fabrics Conference & Expo, Miami FL, April 22-25th 2013.
61. R. Padbury, B. Pourdeyhimi, and J. S. Jur, “Vapor Surface Modification of Nonwovens” IDEA® 2013 International Engineered Fabrics Conference & Expo, Miami FL, April 22-25th 2013.
60. N. Farahbakhsh and J. S. Jur, “Melt Processing of Cotton in Synthetic Polymers” IDEA® 2013 International Engineered Fabrics Conference & Expo, Miami FL, April 22-25th 2013.
59. J. C. Halbur and J. S. Jur “Hybrid Organic/Inorganic Processes for Nonwovens” 2013 International Conference of the American Association of Textile Chemists and Colorists, Greenville SC, April 9-11th 2013.
58. (*Invited*) J. S. Jur and J. C. Halbur “Nano-enabled Textiles for Photoreduction Catalysis and Metal Ion Filtration” Techtextil North America 2013, March 19th, 2013.
57. J. S. Jur, “Polymer Dielectrics Enabled by Atomic Layer Deposited Inorganic Surface Modifications” Center for Dielectrics and Piezoelectrics I/UCRC Planning Workshop, Raleigh NC, November 2012.
56. J. S. Jur, “Towards Self Powered Nano-systems for Human Physiological and Environmental Monitoring” Energy Harvesting & Storage and Wireless Sensor Networks 2012, Washington D.C., November 2012.
55. J. S. Jur, P. J. Krommenhoek, B. Hiney, J. C. Halbur, H. O. Everitt, J. B. Tracy and G. N. Parsons “Characteristics of Nanomaterials Embedded in Atomic Layer Deposition Thin Films” AVS 59th International Symposium, Tampa FL, October 2012.
54. H. Akyildiz, M. Yokus, R. P. Padbury, and J. S. Jur “Organic-Inorganic Hybrid Structure Formation via Sequential Vapor Infiltration” AVS 59th International Symposium, Tampa FL, October 2012.
53. Y. Sun, M. P. Goertz, J. A. Palmer, R. P. Padbury, and J. S. Jur “Nanoindentation and Flexure Related Effects Due to Reactive Subsurface Growth of Atomic Layer Deposition Aluminum Oxide on Polyamide-6” AVS 59th International Symposium, Tampa FL, October 2012.
52. R. P. Padbury and J. S. Jur “Investigation of Precursor Infiltration and ALD Growth on Polymers and Effect on Fiber Mechanical Properties” AVS 59th International Symposium, Tampa FL, October 2012.
51. J. C. Halbur and J. S. Jur, “Uniform Adsorption of Ligand Free Ag Nanoparticles onto TiO₂ Thin Films Deposited by Atomic Layer Deposition” AVS 59th International Symposium, Tampa FL, October 2012.
50. (*Invited*) J. S. Jur “Inorganic Nanotechnology in Textiles” AATCC/STRC Conference on Sustainability, Innovation & Opportunity in the Textile Industry – Myrtle Beach SC, May 22nd, 2012.
49. M. A. Yokus, H. I. Akyildiz, and J.S. Jur, "Modifying Dielectric Properties of Polymeric Materials via Sequential Vapor Infiltration", Center for Dielectric Studies Spring Meeting, Raleigh NC, May 15th 2012.
48. J. C. Halbur, P. J. Krommenhoek, H. O. Everitt, J. B. Tracy, and J. S. Jur “Enabling of Nanoparticle Application and Function on the Surface of Fibrous Textiles by Atomic Layer Deposition” 243rd American Chemical Society National Meeting, San Diego CA, March 2012.
47. (*Invited*) J. S. Jur “Integration of inorganics on textiles – a new platform for “all-fiber” based sensing”; Electronic Materials and Application Conference of the American Ceramic Society, Orlando FL January 19th, 2012.
46. D. Kim, H. J. Koo, M. Woodroof, J. S. Jur, B. Kayanyan, K. Lee, C. K. Devine, G. N. Parsons “Functionalized Quartz Fibers by Atomic Layer Deposition for Dye-Sensitized Solar Cells” AVS 58th International Symposium, Nashville TN, October 2011.

45. C. K. Devine, C.J. Oldham, J. S. Jur, G. N. Parsons “Effect of Atomic Layer Deposition on the Mechanical Properties of Synthetic Nonwoven and Electrospun Polymer Fibers” AVS 58th International Symposium, Nashville TN, October 2011.
44. W. J. Sweet III, J. S. Jur, and G. N. Parsons “Conductive Coatings on Nonwoven Fiber Mats by Atomic Layer Deposition” AVS 58th International Symposium, Nashville TN, October 2011.
43. J. S. Jur, W. J. Sweet III, C. J. Oldham and G. N. Parsons “Analysis and Application of Hybrid Electronic Structures Formed by Nanoscale Conductive Coatings on Textiles” AVS 58th International Symposium, Nashville TN, October 2011.
42. (*Invited*) J. S. Jur “Inorganic Modification of Textiles and Opportunities for “All-Fiber” Devices” NSF I/UCRC Center for Dielectric Studies Review, State College PA, October 24th, 2011.
41. (*Invited*) J. S. Jur “Integration of inorganics on textiles – a new platform for “all-fiber” based sensing” Defense Threat and Research Agency Chem/Bio Materials Strategy Working Group, Alexandria VA, September 14th, 2011.
40. W. J. Sweet III, C. Devine, C. J. Oldham, G. N. Parsons and J. S. Jur “Electronic Nonwovens by Atomic Layer Deposition” 2011 Nanofibers for the 3rd Millennium Conference, Raleigh NC, August 2011.
39. J. S. Jur, H. I. Akyildiz, M. Bellah Mahmoud, C. J. Oldham, and G. N. Parsons “Hybrid Surface Modification of Nonwovens” 2011 Nanofibers for the 3rd Millennium Conference, Raleigh NC, August 2011.
38. (*Invited*) G. N. Parsons and J. S. Jur “ALD at Atmospheric Pressure in a Flow-Tube Reactor” The Minerals, Metals & Materials Society Annual Symposium, San Diego CA, March 1, 2011
37. (*Invited*) J. S. Jur “Vapor Phase Deposition Methods for the Nanoscale Inorganic Modification of Polymer Fiber Templates”, Center for Integrated Nanotechnology at Sandia National Laboratory, Albuquerque NM, February 22nd 2011.
36. G. N. Parsons and J. S. Jur “Continuous Atmospheric Layer Deposition Process for Controlled Nanoscale Thin Film Coatings” NSF CMMI Research and Innovation Conference, Atlanta GA, January 2011.
35. J. S. Jur, W. J. Sweet III, P. J. Krommenhoek, J. B. Tracy, and G. N. Parsons “Nanoparticle Penetration into Nonwoven Fiber Mats” 2010 TAPPI NET Division Innovative Nonwovens Conference, Raleigh NC, November 2010
34. G. Parsons, B. Gong, J. Spagnola, J. S. Jur, and C. J. Oldham “Chemical Reactions During Vapor Phase Modification of Nonwoven Fiber Surfaces”, 2010 TAPPI NET Division Innovative Nonwovens Conference, Raleigh NC, November 2010
33. C. J. Oldham, B. Gong, J. S. Jur, K. J. Senecal, T. A. Godfrey, G. N. Parsons “Chemical Encapsulation of Electrospun Nylon Nanofibers” 2010 TAPPI NET Division Innovative Nonwovens Conference, Raleigh NC, November 2010
32. J. S. Jur, J. C. Spagnola, W. J. Sweet III, B. Gong, and G. N. Parsons “Inorganic/Organic Interface Structure on ALD Modified Polymer Fibers” AVS 57th International Symposium, Albuquerque NM, October 2010.
31. C. J. Oldham, B Gong, J. C. Spagnola, K. Senecal, T. Godfrey, J. S. Jur, and G. N. Parsons “Combined Atomic Layer Deposition and Molecular Layer Deposition for Encapsulation of Electrospun Nylon Nanofibers” AVS 57th International Symposium, Albuquerque NM, October 2010.
30. G. N. Parsons, B. Gong, J. S. Jur, C. J. Oldham, and K. Lee “In Situ Infrared Transmission Analysis of Atomic Layer Deposition Reactions on Polymer Films and Fibers” AVS 57th International Symposium, Albuquerque NM, October 2010.

29. C. Devine, J. S. Jur, C. J. Oldham, J. Bonner, and G. N. Parsons, "Nucleation and Ultra-Thin Film Formation during ALD on Multiwall Carbon Nanotubes" AVS 57th International Symposium, Albuquerque NM, October 2010.
28. (*Invited*) G. N. Parsons and J. S. Jur "Atomic Layer Deposition on Polymers" 218th Meeting of the Electrochemical Society, Las Vegas NV October 2010.
27. G. N. Parsons, J. Spagnola, B. Gong, J. S. Jur, and G. K. Hyde "Reactions during Atomic Layer Deposition on Polymer Films and Fibers" 218th Meeting of the Electrochemical Society, Las Vegas NV October 2010.
26. J. S. Jur and G. N. Parsons "Surface Reactions for High Throughput Inorganic Coatings on Fibers" 2010 Nanofibers for the 3rd Millennium Conference, Raleigh NC, August 2010.
25. D. H. Kim, J. S. Jur and G. N. Parsons "TiO₂ Coated Quartz Fibers and Application to Dye Sensitized Solar Cells" Nanofibers for the 3rd Millennium Conference, Raleigh NC, August 2010.
24. W. J Sweet III, J. S. Jur, C. Oldham and G. N. Parsons "Conductive Coatings on Fibers" Nanofibers for the 3rd Millennium Conference, Raleigh NC, August 2010.
23. B. Gong, Q. Peng, J. S. Jur, C. Devine, K. Lee and G. N. Parsons "Micro- and meso-porous inorganic fibers by gas phase infiltration of polyester nonwovens" Nanofibers for the 3rd Millennium Conference, Raleigh NC, August 2010.
22. C. J. Oldham, J. S. Jur, and G. N. Parsons "Thin Film Coatings for Chemical Encapsulation of Electrospun Nylon Nanofibers" Nanofibers for the 3rd Millennium Conference, Raleigh NC, August 2010
21. J. S. Jur, J. S. Na, G. N. Parsons, "Electrically Conductive Fiber Media by Atomic Layer Deposition of Tungsten" AVS 56th International Symposium, San Jose CA, November 2009.
20. J. Carlisle, H. Zeng¹, H. Kim², J. A. Rogers², E. Menard³, S. Dooley⁴, J. S. Jur⁵, M. Johnson⁵ and E. Piner⁶ "Thermal Management in GaN HEMTs via Heterogeneous Integration Using Micro-transfer Printing with Advanced Thin Film Diamond Thermal Materials" Materials Research Society Meeting, Boston MA, November 2009.
19. J. S. Jur, H. S. Craft, J. M. LeBeau, J. Cagnon, D. O. Klenov, D. J. Lichtenwalner, S. Stemmer, A. I. Kingon and J.-P. Maria "RE₂O₃ (RE = La, Dy, Ho, and Yb) Incorporation and Stability Within an MOS Device Structure Designed For Threshold Voltage Control" Materials Research Society Meeting, San Francisco CA, March 2008.
18. J. S. Jur, V. D. Wheeler, M. P. Mogensen, M. T. Veety, D. J. Lichtenwalner, D. W. Barlage, M. A. L. Johnson "Integration of High Dielectric Constant Epitaxial Oxide for GaN-based MOS Devices Materials Research Society Meeting, Boston MA, December 2008.
17. J. S. Jur, V. D. Wheeler, M. P. Mogensen, M. T. Veety, D. J. Lichtenwalner, D. W. Barlage, M. A. L. Johnson "High Dielectric Constant Epitaxial Oxide Integration for GaN-based MOS Devices" Materials Research Society Meeting, Boston MA, December 2008.
16. J. S. Jur, V. D. Wheeler, M. T. Veety, D. J. Lichtenwalner, D. W. Barlage, M. A. L. Johnson "Epitaxial Rare Earth Oxide Growth on GaN for Enhancement-mode MOSFETs" International Conference on Compound Semiconductor Manufacturing Technology, Chicago IL, April 2008.
15. C. Y. Kang, C. S. Park, D. Heh, C. Young, P. Kirsch, H. B. Park, R. Choi, G. Bersuker, J.-W. Yang, B. H. Lee, D. J. Lichtenwalner, J. S. Jur, A. I. Kingon, and R. Jammy "Performance and Reliability Characteristics of the Band Edge High-k/Metal Gate nMOSFETs with La-doped Hf-Silicate Gate Dielectrics" IEEE 46th Annual International Reliability Physics Symposium, Phoenix AZ, April 2008.

14. J. S. Jur, V. D. Wheeler, M. T. Veety, D. J. Lichtenwalner, D. W. Barlage, M. A. L. Johnson “Epitaxial Growth of High-κ Dielectrics for GaN MOSFETs” Materials Research Society Meeting, San Francisco CA, April 2008.
13. H. Y. Lee, D. J. Lichtenwalner, J. S. Jur, and A. I. Kingon “Investigation of Conducting Oxide and Metal Electrode Work Functions on Lanthanum Silicate High-κ Dielectric” 212th Meeting of the Electrochemical Society, Washington D.C., October 2007.
12. (*Invited*) D. J. Lichtenwalner, J. S. Jur, N. Inoue, and A. I. Kingon, “Overview of Materials Processing and Properties of Lanthanum-Based High-K Dielectrics” 212th Meeting of the Electrochemical Society, Washington D.C., October 2007.
11. J. S. Jur, D. J. Lichtenwalner, and A. I. Kingon “Investigations of Work Function Shift in Lanthanum Silicate High-κ Dielectric MIS Capacitors” 211th Meeting of the Electrochemical Society, Chicago IL, May 2007.
10. D. J. Lichtenwalner, J. S. Jur, and A. I. Kingon, “Reliability and Stability Issues for Lanthanum Silicate as a High-κ Dielectric” 210th Meeting of the Electrochemical Society, Cancun Mexico, October 2006. *Symposium Best Paper Award*
9. J. S. Jur, D. J. Lichtenwalner, N. Inouea and A. I. Kingon “Processing Impact on Electrical Properties of Lanthanum Silicate Thin Films” Materials Research Society Meeting, San Francisco CA, March 2006.
8. D. J. Lichtenwalner, J. S. Jur, N. Inoue, and A. I. Kingon, “High-Temperature Processing Effects on Lanthanum Silicate Gate Dielectric MIS Devices” 208th Meeting of the Electrochemical Society Los Angeles CA, October 2005.
7. J. S. Jur, D. J. Lichtenwalner, and A. I. Kingon “Effect Thermal and Compositional Study of La-based High-κ Dielectric Gate Stacks” TechCon 2005: Semiconductor Research Corporation Technical Conference, Portland OR, November 2005.
6. C. R. Horne, P. de Mascarel, R. Blume, J. S. Jur, C. Cohen-Jonathan, M. Chapin, J. Posner, W. C. Foo, C. Honeker, Q. Zhu, S. Chiruvolu, R. Mosso, and W. McGovern “High-Rate Deposition of Rare-Earth Doped Silicate Nanoparticles for Porous and Dense Optical Films” Materials Research Society Meeting, San Francisco CA, March 2005.
4. J. S. Jur, A. T. Haug, and J. W. Weidner, “Oxygen Diffusion Coefficient and Solubility in a Proton Exchange Membrane” 2001 American Institute of Chemical Engineers Annual Student Conference, Reno NV, November 2001. *Undergraduate Student Award – Best Poster*
3. J.W. Beeman, E. E. Haller, R. J. McDonald, E. B. Norman, A. R. Smith, and J. S. Jur, “Production of NTD Ge Thermistors for CUORICINO” American Physical Society Meeting, Long Beach CA April 2000.
2. J. S. Jur, R. J. McDonald, E. B. Norman, A. R. Smith, E. E. Haller and J. W. Beeman, “Production of Neutron Transmutation Doped Ge Thermistors for CUORICINO” 1999 American Institute of Chemical Engineers Annual Student Conference, Dallas TX, November 1999. *Undergraduate Student Award – Best Poster*
1. J. S. Jur, R. J. McDonald, E. B. Norman, A. R. Smith, E. E. Haller and J. W. Beeman “Production of Neutron Transmutation Doped Ge Thermistors for CUORICINO” Division of Nuclear Physics of the *American Physical Society, Asilomar CA*, October 1999.

Regional/Local

84. H. Shahariar, B. Pourdeyhimi, and J. S. Jur, “Conductive Materials Integration on Nonwovens” 2014 NWI Industrial Advisory Board Meeting, Raleigh NC, Nov. 2014.

83. (*Public Seminar*) J. S. Jur "Introduction to One Health", Wake NC State Early STEM High School, Raleigh NC, Nov. 7th 2014.
82. (*Public Seminar*) J. S. Jur and T. Snyder, "New Technology Applications in Textiles" Seminar at the NC state Engineering Entrepreneurs Pop-up Series, Nov. 6th 2014.
81. (Seminar) J. S. Jur, "New Textiles - Platforms for Sensing and Energy Harvesting" Seminar at the Department of Chemical Engineering, University of South Carolina, Sept. 26th 2014.
80. (*Public Seminar*) J. S. Jur, "What can your clothing do for you?" IDEASpark @ Sparkcon 2014, Raleigh NC, Sept. 11th 2014.
79. K. C. Jarrett, R. Hodges, and J. S. Jur, "Optimizing the Effectiveness of Thermoelectric Generators for On-Body Applications" 13th Annual NC State Summer Undergraduate Research Symposium, July 30th 2014
78. H. I. Akyildiz and J. S. Jur, "ALD for Flexible Electronics: Reactive Behavior of Organometallic Vapors on Polymers", Center for Dielectrics and Piezoelectrics, University Park PA, May 17th 2014.
77. N. Farahbakhsh, R. A. Venditti, and J. S. Jur, "Application of Nano-Sized Biofiller from Waste Cotton T-shirts in Thermoplastic Polymer Films" NC State Graduate Student Research Symposium, Raleigh NC, Mar. 26th 2014.
76. C. Ambrose, H. Akyildiz and J. S. Jur "Surface Energy and its Effects on Photoreduction as Seen Through Contact Angle" 23rd Annual Spring NC State Summer Undergraduate Research Symposium, April 14th 2014.
75. K. E. Barnes, M. Yokus, and J. S. Jur "Screen Printing using Conductive Inks on Flexible Substrates" 23rd Annual Spring NC State Summer Undergraduate Research Symposium, April 14th 2014. *Best Poster Awardee*
74. A. Madan, M. Yokus, and J. S. Jur "On-Body Energy Harvesting Characterization of COTS Thermoelectric Energy Harvesters" 23rd Annual Spring NC State Summer Undergraduate Research Symposium, April 14th 2014.
73. G. Wright, M. Yokus and J. S. Jur "Flexible PDMS Antenna Platforms for Wearable Applications" 23rd Annual Spring NC State Summer Undergraduate Research Symposium, April 14th 2014.
72. J. S. Jur, "ALD Coatings to Aid Humidity Hermeticity on Flexible Substrates" Center for Dielectrics and Piezoelectrics Meeting, Raleigh NC November 8th 2013.
71. N. Farahbakhsh, R. Vendetti, and J. S. Jur "Cotton-derived Fillers as Reinforcing Agents in Polyethylene Films" NC American Chemical Society (ACS) 127th Sectional Conference, Raleigh NC, November 2nd 2013.
70. H. I. Akyildiz, J. C. Halbur, K. L. Stano, and J. S. Jur "Formation of Novel Organic-Inorganic Hybrid Materials by Sequential Vapor Infiltration" NC American Chemical Society (ACS) 127th Sectional Conference, Raleigh NC, November 2nd 2013.
69. M. Yokus, T. Latif, and J. S. Jur "Electrochemical Impedance Analysis of Skin-Electrode Interface of Printed Electrodes" NC American Chemical Society (ACS) 127th Sectional Conference, Raleigh NC, November 2nd 2013.
68. N. Farahbakhsh, R. Vendetti, and J. S. Jur "Cotton-derived Fillers as Reinforcing Agents in Polyethylene Films" Southeastern Regional Meeting of the American Chemical Society, Atlanta GA, November 2013.
67. J. C. Halbur and J. S. Jur "Hybrid Organic/Inorganic Processes for Nonwovens" Materials Research North Carolina Symposium of the AVS/MRS/ASM, Raleigh NC, November 2013. *Best Presentation*

66. R. Padbury and J. S. Jur, "Multifunctional Sustainable Nonwovens" Materials Research North Carolina Symposium of the AVS/MRS/ASM, Raleigh NC, November 2013. *Best Presentation*
65. J. C. Halbur and J. S. Jur "11-133NC Hybrid Organic/Inorganic Processes for Nonwovens" NCRC Industrial Advisory Board Meeting, Raleigh NC, November 2013. *Graduate Student Award – Best Presentation*
64. R. Padbury, P. Hauser, G. N. Parsons, B. Pourdeyhimi, and J. S. Jur, "11-134 Multifunctional Sustainable Nonwovens" NCRC Industrial Advisory Board Meeting, Raleigh NC, November 2013.
63. J. S. Jur and J. Muth "How Nanotechnology will Enable Body-powered, Wearable Electronics for Continuous Health Monitoring" PCB Carolina, Raleigh NC, October 23rd, 2013.
62. N. Farahbakhsh, R. Vendetti, J. S. Jur "Cotton-derived Fillers as Reinforcing Agents in Polyethylene Films" 2013 NCSU College of Textiles Composites Symposium, Raleigh NC, August 15-16th 2013.
61. S. Alfred and J. S. Jur, "Wearable Electronics System Integration for Hydration Monitoring" 12th Annual NC State Summer Undergraduate Research Symposium, July 31st 2013
60. M. Hontz, M. D. Losego and J. S. Jur, "Development of an apparatus and method for the testing of the electrical properties of novel thermoelectric textiles" 12th Annual NC State Summer Undergraduate Research Symposium, July 31st 2013
59. (*Public Seminar*) J. S. Jur, "What is Nanotechnology?" Textile Engineering, Chemistry and Science 'Polymer Camp', July 25th 2013.
58. (*Seminar*) J. S. Jur, "Nanotechnology (and Textiles)...and my quest to use as many elements as possible!" Engineering the Grid, FREEDM, ASSIST Summer Programs, June 26th 2013.
57. (*Public Seminar*) J. S. Jur "Nanotechnology Concepts", Wakefield High School (Denise Krebs), Raleigh NC, May 15th 2013.
56. J. C. Halbur and J. S. Jur "11-133NC Hybrid Organic/Inorganic Processes for Nonwovens" NCRC Industrial Advisory Board Meeting, Raleigh NC, May 2013. *Graduate Student Award – Best Presentation*
55. R. Padbury, P. Hauser, G. N. Parsons, B. Pourdeyhimi, and J. S. Jur, "11-134 Multifunctional Sustainable Nonwovens" NCRC Industrial Advisory Board Meeting, Raleigh NC, May 2013. *Graduate Student Award – Best Presentation*
54. W. J. Sweet III, J. S. Jur, B. Maze, B. Pourdeyhimi, and G. N. Parsons "09–118 Fabrication and Modeling of Conductive Nonwovens" NCRC Industrial Advisory Board Meeting, Raleigh NC, May 2013.
53. J. S. Jur, "Towards Self Powered Nano-systems for Human Physiological and Environmental Monitoring" 2013 Engineering a World Class Rehabilitation Center Symposium at the UNC-NCSU Rehabilitation Engineering Center, RTP NC, April 19th 2013
52. (*Seminar*) J. S. Jur "Inorganic Modifications to Textiles" Seminar at the Department of Chemistry, North Carolina Central University, March 4th 2013.
51. J. C. Halbur and J. S. Jur "11-133NC Hybrid Organic/Inorganic Processes for Nonwovens" NCRC Industrial Advisory Board Meeting, Raleigh NC, November 2012. *Graduate Student Award – Best Presentation*
50. R. Padbury, P. Hauser, G. N. Parsons, B. Pourdeyhimi, and J. S. Jur, "11-134 Multifunctional Sustainable Nonwovens" NCRC Industrial Advisory Board Meeting, Raleigh NC, November 2012.
49. W. J. Sweet III, J. S. Jur, B. Maze, B. Pourdeyhimi, and G. N. Parsons "09–118 Fabrication and Modeling of Conductive Nonwovens" NCRC Industrial Advisory Board Meeting, Raleigh NC, November 2012.

48. H. Akyildiz and J. S. Jur “Investigation of Hybrid Film Formation Mechanism via Sequential Vapor Infiltration” Southeastern Regional Meeting of the American Chemical Society, Raleigh NC, November 2012.
47. J. Halbur, M. B. Jenkins, J. Jones, R. Padbury, J. S. Jur “Novel Multi-Use Sensors Produced By Atomic Layer Deposition on Fibrous Media” Southeastern Regional Meeting of the American Chemical Society, Raleigh NC, November 2012.
46. N. Farahbakhsh and J. S. Jur “Incorporation of Graphene Nanoplatelets to Polydimethylsiloxane” Southeastern Regional Meeting of the American Chemical Society, Raleigh NC, November 2012.
45. R. Padbury, H. A. Akyildiz, and J. S. Jur “Quartz Crystal Microgravimetry Analysis of Organometallic Precursor Exposure to Polymers” Southeastern Regional Meeting of the American Chemical Society, Raleigh NC, November 2012.
44. C. Ambrose, N. Ocon, R. Padbury, N. Farahbakhsh, and J. S. Jur “Handheld Raman Spectroscopy Analysis of Art Pigments” Southeastern Regional Meeting of the American Chemical Society, Raleigh NC, November 2012.
43. H. Akyildiz and J. S. Jur “Investigation of Hybrid Film Formation Mechanism via Sequential Vapor Infiltration” NC American Chemical Society (ACS) 126th Sectional Conference, Raleigh NC, November 2012.
42. J. Halbur, M. B. Jenkins, J. Jones, R. Padbury, J. S. Jur “Novel Multi-Use Sensors Produced By Atomic Layer Deposition on Fibrous Media” NC American Chemical Society (ACS) 126th Sectional Conference, Raleigh NC, November 2012.
41. N. Farahbakhsh and J. S. Jur “Incorporation of Graphene Nanoplatelets to Polydimethylsiloxane” NC American Chemical Society (ACS) 126th Sectional Conference, Raleigh NC, November 2012. *Graduate Student Award – 3rd Place*
40. R. Padbury, H. A. Akyildiz, and J. S. Jur “Quartz Crystal Microgravimetry Analysis of Organometallic Precursor Exposure to Polymers” NC American Chemical Society (ACS) 126th Sectional Conference, Raleigh NC, November 2012.
39. C. Ambrose, N. Ocon, R. Padbury, N. Farahbakhsh, and J. S. Jur “Handheld Raman Spectroscopy Analysis of Art Pigments” NC American Chemical Society (ACS) 126th Sectional Conference, Raleigh NC, November 2012. *High School Student Award – 1st Place*
38. (*Seminar*) Jesse S. Jur and Michael Cobbm “Social and Ethical Dimensions to Nanotechnologies”, 2012 Ethics & Leadership Conference at the North Carolina School for Science and Math, October 1st, 2012.
37. M. Jenkins, J. C. Halbur and J. S. Jur, "A Novel pH Sensor Produced Via Atomic Layer Deposition on Textiles" 11th Annual NC State Summer Undergraduate Research Symposium, August 1st 2012
36. J. C. Jones, J. C. Halbur, and J.S. Jur, "Optimizing the Conductivity of Textiles via Atomic Layer Deposition for Pressure Sensitivity" 11th Annual NC State Summer Undergraduate Research Symposium, August 1st 2012
35. (*Public Seminar*) J. S. Jur “Nanotechnology”, Glenaire Continuing Care Retirement Community, Cary NC, June 13th 2012.
34. (*Public Seminar*) J. S. Jur “Nanotechnology Concepts”, Wakefield High School (Denise Krebs), Raleigh NC, May 15th 2012.
33. J. C. Halbur and J. S. Jur “11-133NC Hybrid Organic/Inorganic Processes for Nonwovens” NCRC Industrial Advisory Board Meeting, Raleigh NC, May 15th 2012.
32. R. Padbury, P. Hauser, G. N. Parsons, B.Pourdeyhimi, and J. S. Jur, “11-134 Multifunctional Sustainable Nonwovens” NCRC Industrial Advisory Board Meeting, Raleigh NC, May 15th 2012.

31. W. J. Sweet III, J. S. Jur, B. Maze, B. Pourdeyhimi, and G. N. Parsons “09–118 Fabrication and Modeling of Conductive Nonwovens” NCRC Industrial Advisory Board Meeting, Raleigh NC, May 15th 2012.
30. (*Seminar*) J. S. Jur “Nanomaterials Integration for Textile Electronics” Joint School of Nanoscience and Nanoengineering at North Carolina A&T State University and the University of North Carolina – Greensboro, April 27th, 2012.
29. (*Public Seminar*) J. S. Jur “Nanotechnology”, Triangle Philosophy Meetup Group, Raleigh NC, March 19th, 2012.
28. Y. Sun and J. S. Jur “Flexible Behavior of Atomic Layer Deposited Al₂O₃ on Polymers” Materials Research North Carolina Symposium of the AVS/MRS/ASM, Research Triangle Park NC, November 2011.
27. H. I. Akyildiz, M. B. M. Mousa, G. N. Parsons, and J. S. Jur “Nucleation and Growth Mechanism of Al₂O₃ Thin Films Formed by Atomic Layer Deposition and Sequential Vapor Infiltration” Materials Research North Carolina Symposium of the AVS/MRS/ASM, Research Triangle Park NC, November 2011.
26. M. B. M. Mousa, C. J. Oldham, J. S. Jur and G. N. Parsons “Effect of Flow dynamics on Atomic Layer Deposition of Al₂O₃ and ZnO at Atmospheric Pressure” Materials Research North Carolina Symposium of the AVS/MRS/ASM, Research Triangle Park NC, November 2011. - *Graduate Student Award – 1st Place Oral Presentation*.
25. J. C. Halbur and J. S. Jur “11-133NC Hybrid Organic/Inorganic Processes for Nonwovens” NCRC Industrial Advisory Board Meeting, Raleigh NC, November 2011.
24. J. S. Jur, R. Padbury, P. Hauser, G. N. Parsons, and B. Pourdeyhimi “11-134 Multifunctional Sustainable Nonwovens” NCRC Industrial Advisory Board Meeting, Raleigh NC, November 2011.
23. W. J. Sweet III, J. S. Jur, B. Maze, B. Pourdeyhimi, and G. N. Parsons “09–118 Fabrication and Modeling of Conductive Nonwovens” NCRC Industrial Advisory Board Meeting, Raleigh NC, November 2011.
22. (*Public Seminar*) J. S. Jur “Nanotechnology: You Can’t Touch This”, North Carolina Museum of Natural Sciences Science Café, Raleigh NC, November 15th, 2011.
21. J. C. Halbur and J. S. Jur “Hybrid Organic/Inorganic Processes for Nonwovens” NC American Chemical Society (ACS) 125th Sectional Conference, Raleigh NC, September 2011. *Graduate Student Award – Honorable Mention*
20. H. I. Akyildiz, M. B. Moasa, G. N. Parsons, and J. S. Jur “Understanding Atomic Layer Deposition Mechanisms on Polymers and Textiles” NC American Chemical Society (ACS) 125th Sectional Conference, Raleigh NC, September 2011.
19. Y. Sun, H. I. Akyildiz, J. A. Palmer, J. Huang, M. Goertz, and J. S. Jur “Flexible Behavior of Atomic Layer Deposited Al₂O₃ on Polymers” NC American Chemical Society (ACS) 125th Sectional Conference, Raleigh NC, September 2011.
18. (*Invited*) J. S. Jur “Smart E-Textiles”, Workshop on Advanced Self-Sustaining Integrated Sensor Technologies for Health and Environment, N. C. State University, Raleigh NC, July 7th, 2011.
17. (*Invited*) “Coatings, Composites, and Commercial Potential” Presentation & Panel Discussion Moderator at the North Carolina Nanotechnology Commercialization Conference, Charlotte NC, May 30th, 2011.
16. (*Public Seminar*) “Nanotechnology (and Textiles)”, Wakefield High School (Denise Krebs), Raleigh NC, May 16th 2011.

15. J. S. Jur and J. C. Halbur “11-133NC Hybrid Organic/Inorganic Processes for Nonwovens” NCRC Industrial Advisory Board Meeting, Raleigh NC, May 2011.
14. W. J. Sweet III, J. S. Jur, B. Maze, B. Pourdeyhimi, and G. N. Parsons “09–118 Fabrication and Modeling of Conductive Nonwovens” NCRC Industrial Advisory Board Meeting, Raleigh NC, May 2011. *Graduate Student Award – Best Presentation*
13. (*Seminar*) J. S. Jur “The future of textiles may not be what you think!” NCSU Chapter of the Materials Research Society, Raleigh NC March 30th, 2011.
12. (*Seminar*) J. S. Jur “Inorganic Modification of Textiles” College of Textiles Seminar Series, N. C. State University Raleigh NC, January 2011.
11. W. J. Sweet III, J. S. Jur, B. Maze, B. Pourdeyhimi, and G. N. Parsons “09–118 Fabrication and Modeling of Conductive Nonwovens” NCRC Industrial Advisory Board Meeting, Raleigh NC, November 2010.
10. W. J. Sweet III, J. S. Jur, B. Maze, B. Pourdeyhimi, and G. N. Parsons “09–118 Fabrication and Modeling of Conductive Nonwovens” 2010 NCRC Industrial Advisory Board Meeting, Raleigh NC, May 2010.
9. (*Invited*) “Nanotechnology: Yesterday vs. Today vs. Tomorrow” Presentation & Panel Discussion Moderator at the North Carolina Nanotechnology Commercialization Conference, Greensboro NC, March 31st, 2010.
8. J. S. Jur, G. N. Parsons, M. Dickey, O. Velev, C. Gorman, V. Misra “Nanotechnology Energy Laboratory” NC State Nanotechnology Integration Forum, Raleigh NC, March 2010.
7. J. S. Jur, B. Kalanyan, M. Dickey, and G. N. Parsons, “Nanostructured Materials for Renewable Energy” 2010 Conference of the Solar Energy Research Center, Chapel Hill NC, January 2010.
6. J. S. Jur, B. Kalanyan, M. Dickey, C. Gorman, V. Misra, O. Velev, and G. N. Parsons “Nanostructured Materials for Renewable Energy” 2010 Solar Fuels and Energy Storage: The Unmet Needs Conference, UNC Chapel Hill, January 2010.
5. G. N. Parsons, W. J. Sweet III, J. S. Jur, B. Maze, and B. Pourdeyhimi “09–118 Fabrication and Modeling of Conductive Nonwovens” 2009 NCRC Industrial Advisory Board Meeting, Raleigh NC, November 11, 2009.
4. J. S. Jur and G. N. Parsons “Nanotechnology at NC State: Thinking Small to Look into the Future....”NCSU - Agilent Technology Sharing Meeting, Raleigh NC, July 2009.
3. J. S. Jur, D. J. Lichtenwalner, and A. I. Kingon “Electrical Properties of La-based High Dielectric Constant Gate Stack after High Temperature Annealing” Materials Research North Carolina Symposium of the AVS/MRS/ASM, Research Triangle Park NC, November 2006.
2. J. S. Jur, D. J. Lichtenwalner, and A. I. Kingon “MIS Gate Stack Design Based on a Lanthanum Silicate High-k Dielectric” Materials Research North Carolina Symposium of the AVS/MRS/ASM, Research Triangle Park NC, Nov 2005. *Graduate Student Award – Best Poster*
1. J. S. Jur, D. J. Lichtenwalner, and A. I. Kingon “Effect of High Temperature processing on La-based high-K gate stacks” Materials Research North Carolina Symposium of the AVS/MRS/ASM, Research Triangle Park NC, November 2004.

Patents Issued

9. “Methods and apparatus for atmospheric pressure atomic layer deposition”
G. N. Parsons, C. J. Oldham, J. S. Jur, M. B. Mousa
WO2013142344-A1

8. "Method for forming optical fiber preforms
C. Horne; J. S. Jur; R. Mosso; E. Euvrard; X. Bi
US Patent 7905114 (2011)
7. "Optical Materials and Optical Devices"
C. Horne; P. de Mascarel; C. Honeker; B. Chaloner-Gill; H.Lopez; S. Bi; R. Mosso; B. McGovern; J. Gardner; S. Kumar; J. Gilliam; V.Pham; E. Euvrard; S. Chiruvolu; J. S. Jur
US Patent 7776406 (2010)
6. "Optical Materials and Optical Devices"
C. Horne; P. de Mascarel; C. Honeker; B. Chaloner-Gill; H.Lopez; S. Bi; R. Mosso; B. McGovern; J. Gardner; S. Kumar; J. Gilliam; V.Pham; E. Euvrard; S. Chiruvolu; J. S. Jur
US Patent 7306845 (2007)
5. "Process for Cleaning a Workpiece Using Supercritical Carbon Dioxide"
J. S. Jur, K. McCullough, W. Moreau, J. P. Simons, C. Taft
US Patent 6953042 (2005)
4. "Apparatus and Process for Supercritical Carbon Dioxide Phase Processing"
J. S. Jur, K. McCullough, W. Moreau, J. P. Simons, C. Taft
US Patent 6892741 (2005)
3. "Optical Materials and Optical Devices"
C. Horne; P. de Mascarel; C. Honeker; B. Chaloner-Gill; H.Lopez; S. Bi; R. Mosso; B. McGovern; J. Gardner; S. Kumar; J. Gilliam; V.Pham; E. Euvrard; S. Chiruvolu; J. S. Jur
US Patent 6849334 (2005); WO 03/016961
2. "Optical Fiber Preforms"
C. Horne, J. S. Jur, R. Mosso, E. Euvrard, X. Bi
US Patent 6723435 (2005)
1. "Process for Cleaning a Workpiece Using Supercritical Carbon Dioxide"
J. S. Jur, K. McCullough, W. Moreau, J. P. Simons, C. Taft
US Patent 6558475 (2003)

Provisional Patents Filed

1. "Flexible Thermoelectric Devices, Methods or Preparation Thereof, and Methods of Recovering Waste Heat Therewith"
J. S. Jur and M. D. Losego
Application No. 61/984,373; (April 25, 2014)
2. "Methods and Apparatus for Atmospheric Pressure Atomic Layer Deposition"
G. N. Parsons, C. J. Oldham, J. S. Jur, M. B. Mousa
U.S. Provisional Patent Application No 61/613,326 (March 20th, 2012)

Interviews

- "Good Fences Make Good Neighbors"
onEarth, November 2014
<http://www.onearth.org/earthwire/good-fences-make-good-neighbors>
- "Smart Fabrics at NC State University"
UNC-TV North Carolina Now, October 2014
<http://video.unctv.org/video/2365357042/n> (@ 8 min mark)
- "Red-Collar Research"
NC State News, October 2014
<https://news.ncsu.edu/2014/10/elephant-collar/>

- “2014-15 TE / TT Senior Design Students Come Together While Giving Back”
TECS Website, October 2014
<http://www.tx.ncsu.edu/tecs/news/2014-rice-bag-challenge.cfm>
- “Weaving Innovation: Technical Textile Applications in Healthcare”
IEEE Pulse, September 2014
<http://pulse.embs.org/september-2014/weaving-innovation-technical-textile-applications-healthcare/>
- “ARO-sponsored Bite Sleeve Project Wins Best Overall Project at NC State Competition”
Army Research Office Website, May 2014
<http://www.arl.army.mil/www/default.cfm/default.cfm?article=2480>
- “Science Meets the Arts for a NEXT Research Group Project with the NC Museum of Art”
TECS Website, September 2013
<http://www.tx.ncsu.edu/tecs/news/next-museum-of-art-collaboration.cfm>
- “Inaugural ASSIST RET / YS Summer Program, Led by Dr. Jur, Focuses on Wearable Electronics”
TECS Website, September 2013
<http://www.tx.ncsu.edu/tecs/news/assist-ret-ys-2013.cfm>
- “High School Students in Summer Textile Exploration Program (STEP) Take on the Multidisciplinary Textile Engineering (TE) Field by Exploring Nonwovens”
TECS Website, August 2013
<http://www.tx.ncsu.edu/tecs/news/tecs-step-2013.cfm>
- “While the Sun Shines”
AATCC Review, May/June 2012
- “NCSU creates clothing with UV protection”
WRAL TV News, August 2011
<http://www.wral.com/lifestyles/healthteam/story/10010336/>
- “Fabrics that don’t fade”
Technician, August 2011
- “Incredibly Smart Textiles”
Specialty Fabrics Review, October 2011
- “Conductive Fibers Weave Flexible Electronics”
Chemical Engineering Progress, August 2011
- “FOCUS: Nanotech textiles developed for electronic devices”
Future Materials Magazine, July/August 2011
- “Towards electronic textiles - putting conductive coatings on fibers”
Spotlight Articles by Nanowerk.com, June 2011
<http://www.nanowerk.com/spotlight/spotid=21685.php>
- “Cover Story: Electronic Textiles – a New Fashion of “Smart” Clothing?”
MaterialsView.com, June 2011
http://www.materialsviews.com/details/news/1077269/Cover_Story_Electronic_Textiles_a_New_Fashion_of_Smart_Clothing.html
- “Conductive nanocoatings for textiles could lead to thin, flexible electronics”
Gizmag.com, June 2011
<http://www.gizmag.com/conductive-nanocoatings-applied-to-textiles/18861/>
- “Scientists turn A4 paper into tablet computing”
Techeye.net, June 2011

<http://www.techeve.net/science/scientists-turn-a4-paper-into-tablet-computing>

- Researchers Study Nanocoatings on Textile Surfaces
AzoNano.com, June 2011
<http://www.azonano.com/news.aspx?newsID=22638>
- “Research Examines How To Apply Conductive Nanocoatings To Textiles”
NC State University Newsroom, June 2011
<http://news.ncsu.edu/uncategorized/cbjurnanocoatings/>

Guest Articles

- “Powering Up Textiles” Textile World, July/August 2014 (w/ R. Hodges)
http://www.textileworld.com/Issues/2014/July_August/Nonwovens-Technical_Textiles/Powering_Up_Textiles
- “Nanoscale ceramic surface modification of textiles by atomic layer deposition” American Ceramic Bulletin, August 2012, *feature cover article*.
http://ceramics.org/wp-content/uploads/2012/07/bulletin_aug12.pdf
- “Small, Smaller, Smallest, Nano” ED&T Corporation’s ‘Stress Point’ Journal
www.edtengineers.com/UserFiles/Magazines/Pdfs/94.pdf

Invited Public Lectures, Presentations, & Demonstrations

- “Introduction to One Health” Presentation to the Wake NC State Early STEM High School, Raleigh NC, Nov. 2014.
- “What can your clothing do for you?” IDEASpark @ Sparkcon 2014, Raleigh NC, Sept. 2014.
- “Nanotechnology Concepts”, Presentation to the AP Chemistry Class at Wakefield High School (Denise Krebs), Raleigh NC, May 2013.
- “Nonwovens for Future Filtration” Summer Textile Exploration Program – (with Dr. Julie Willoughby), 2 week long high school day camps hosted by the College of Textiles at NCSU, July 9-14 and 16-21, 2012.
- “Nano in Nature” K-12 STEM demonstration (with Paige Presler-Jur – RTI International and Elysa Corin – College of Education) for ACS Chemistry Week , NC Museum of Natural Sciences, October 2012.
- “Social and Ethical Dimensions to Nanotechnologies”, Presentation and Discussion (with Michael Cobb) at the 2012 Ethics & Leadership Conference at the North Carolina School for Science and Math, October 2012.
- “Nanotechnology”, Presentation and Q&A for the Education Program at the Glenaire continuing care retirement community, Cary NC, June 13th 2012.
- “Nanotechnology Concepts”, Presentation to the AP Chemistry Class at Wakefield High School (Denise Krebs), Raleigh NC, May 15th 2012.
- “Nanotechnology”, Presentation and Q&A at Porter’s City Tavern, sponsored by the Triangle Philosophy Meetup Group, Raleigh NC, March 19th, 2012.
- “Nanotechnology: You Can’t Touch This”, Presentation and Q&A at the Science Café, sponsored by the North Carolina Museum of Natural Sciences, Raleigh NC, November 15th, 2011.
- “Nanotechnology (and Textiles)”, Presentation to the AP Chemistry Class at Wakefield High School (Denise Krebs), Raleigh NC, May 16th 2011.
- “Coatings, Composites, and Commercial Potential” North Carolina Nanotechnology Commercialization Conference, Charlotte NC, May 30th, 2011.
- “Nanotechnology: Yesterday vs. Today vs. Tomorrow” North Carolina Nanotechnology Commercialization Conference, Greensboro NC, March 31st, 2010.