

Appendix D: SENIC 2017 Publications

Internal Journal Publications

- R. Abbaspour, D. K. Brown, and M. S. Bakir, "Fabrication and electrical characterization of sub-micron diameter through-silicon via for heterogeneous three-dimensional integrated circuits," *Journal of Micromechanics and Microengineering*, vol. 27, no. 2, pp. 025011-1-025011-8, Jan. 2017.
- J. Ahlfield, G. Huang, L. Liu, Y. Kaburagi, Y. Kim, P. A. Kohl, "Anion Conducting Ionomers for Fuel Cells and Electrolyzers," *Journal of the Electrochemical Society*, vol. 164, F1648-1653, 2017.
- J. Ahlfield, L. Liu, P. A. Kohl, "PEM/AEM Junctions for Bipolar Membrane Fuel Cells," *Journal of The Electrochemical Society*, vol. 64 (12), F1165-1171, 2017.
- E. Ahmad, M.R. Karim, S.B. Hafiz, C.L. Reynolds Jr., Y. Liu, S. Iyer, "A Two-Step Growth Pathway for High Sb Incorporation in GaAsSb Nanowires in the Telecommunication Wavelength Range," *Scientific Reports*, 7, 10111, 2017
- E. Ahmad, S.K. Ojha, P.K. Kasanaboina, C. L. Reynolds Jr., Y. Liu and S. Iyer, "Bandgap Tuning in GaAs_{1-x}Sb_x Axial Nanowires Grown by Ga-Assisted Molecular Beam Epitaxy", *Sem. Science & Tech*, 32, 035002, 2017.
- J. Ahn, Y.J. Sei, N.L. Jeon, and Y. Kim, "Probing the effect of bioinspired nanomaterials on angiogenic sprouting using a microengineered vascular system," *IEEE Transactions of Nanotechnology*, vol. PP, 2017. In press online.
- J. Ahn, D. Wang, Y. Ding, J. Zhang, D. Qin, "Site-Selective Carving and Co-Deposition: Transformation of Ag Nanocubes into Concave Nanocrystals Encased by Au-Ag Alloy Frames," *ACS Nano*, vol. 12, pp. 298-307, 2018. (published online Dec. 19, 2017)
- P.K. Alaboina, J.-S. Cho, M-J. Uddin, S-J. Cho, "Mechanically Prelithiated Silicon Nano Alloy as Highly Engineered Anode Material," *Electrochimica Acta*, 11, 107, 2017.
- P.K. Alaboina, M-J. Uddin, S-J. Cho, "Nanoprocess and Nanoscale Surface Functionalization on Cathode Materials for Advanced Lithium-Ion Batteries." *Nanoscale*, 9, 15736-15752, 2017.
- P.K. Alaboina, J-S Cho, M-J. Uddin, S-J. Cho, "Engineering and Optimization of Silicon-Iron-Manganese Nano Alloy Electrode for Enhanced Lithium-ion Battery," *Nano-Micro Letters*, 9, 41, 2017.
- Jaya Arya, Sebastien Henry, Haripriya Kalluri, Devin V. McAllister, Winston P. Pewin, Mark R. Prausnitz, "Tolerability, usability and acceptability of dissolving microneedle patch administration in human subjects," *Biomaterials*, vol. 128, pp. 1-7, 2017.
- G. Aubry, H. Lu, "Droplet array for screening acute behaviour response to chemicals in *Caenorhabditis elegans*," *Lab on a Chip*, vol. 17 (24), pp. 4303-4311, 2017.
- S. Bao, M. Vara, X. Yang, S. Zhou, L. Figueroa-Cosme, J. Park, M. Luo, Z. Xie, and Y. Xia, "Facile synthesis of Pd@Pt₃-4L core-shell octahedra with a clean surface and thus enhanced activity toward oxygen reduction," *ChemCatChem*, vol. 9, pp. 414-419, 2017. [Cover Image]
- D. Bekoe, L.J. Wang, B. Zhang, M. Scott, A. Shahbazi, "Aerobic treatment of swine manure to enhance microalgal culture and anaerobic digestion," *Journal of Environmental Science and Health, Part B*, 53(2): 145-151, 2017.
- M. Bellaredj, S. Mueller, A. Davis, M. Yasuhiko, P. A. Kohl, M. Swaminathan, "Fabrication, characterization and comparison of composite magnetic materials for high efficiency integrated voltage

- regulators with embedded magnetic core micro-inductors," *Journal of Physics D*, vol. 45, 455001, 2017.
- N.A. Boakye-Boaten, L. Kurkalova, S. Xiu, A. Shahbazi, "Techno-economic analysis for the biochemical conversion of *Miscanthus x giganteus* into bioethanol," *Biomass and Bioenergy*, 98, pp.85-94, 2017.
- M. G. Boebinger, M. Xu, X. Ma, H. Chen, R. R. Unocic, M. T. McDowell*, "Distinct Nanoscale Reaction Pathways in a Sulfide Material for Sodium and Lithium Batteries," *Journal of Materials Chemistry A*, vol. 5, pp. 11701-11709, 2017.
- A.M. Boston, L.S. Premadasa, S. Whitaker, G. Crawford, J. Pinder, O. Jegede, S. Harrison, R.H. Newman, E.M. Onger, "Correlations between biomarkers of kidney injury, adiponectin, and TGF- β 1 in African American men with diabetes," *The FASEB Journal*, 31, 716.12, 2017.
- S. J. Brewer, S. C. Williams, C. Cress, and N. Bassiri-Gharb, "Effects of Crystallization Interfaces on Irradiated Ferroelectric Thin Films," *Applied Physics Letters*, vol. 111, pp. 212905, 2017.
- S. J. Brewer, S. C. Williams, C. Z. Deng, A. B. Naden, S. M. Neumayer, B. J. Rodriguez, A. Kumar, and N. Bassiri-Gharb, "Functional and Structural Effects of Layer Periodicity in Chemical Solution-Deposited Pb(Zr,Ti)O₃ Thin Films," *Journal of the American Ceramic Society*, vol. 100(12), pp. 5561, 2017.
- E.M. Buckley, M.O. Platt, W.A. Lam, "Novel in vivo and in vitro techniques to image and model the cerebral vasculature in sickle cell disease," *Blood Cells Mol Dis.*, vol. 67, pp. 114-119, 2017. doi: 10.1016/j.bcmd.2017.08.008. Epub 2017 Aug 12.
- L. E. Burris, and K. E. Kurtis, "Influence of set retarding admixtures on calcium sulfoaluminate cement hydration and property development," *Cement and Concrete Research*, vol. 104, pp. 105-113, 2017.
- L. E. Burris, & K. E. Kurtis, "Performance of Alternative Binders in Sulfate Environments," *Special Publication*, vol. 317, pp. 1-18, 2017.
- J.A. Bylander, F. Conley, S. Mwiza, E.M. Onger, "Mepirin Metalloproteases Deficiency Associated with Higher Mortality rates and More Severe Diabetic Kidney Injury in Mice with STZ-induced type 1 diabetes," *Journal of Diabetes Research*, 9035038, 2017.
- Philip M Campbell, Jake K Smith, W Jud Ready, Eric M Vogel, "Material Constraints and Scaling of 2-D Vertical Heterostructure Interlayer Tunnel Field-Effect Transistors," *IEEE Transactions on Electron Devices*, vol. 64, pp. 2714-2720, 2017.
- Philip M Campbell, Christopher J Perini, Johannes Chiu, Atul Gupta, Hunter S Ray, Hang Chen, Kevin Wenzel, Eric Snyder, Brent K Wagner, Jud Ready, Eric M Vogel, "Plasma-assisted Synthesis of MoS₂," *2D Materials*, vol. 5, pp. 015005, 2017.
- X Cao, M. Zhang, J.R. Huang, T. Jiang, J.D. Zou, N. Wang*, Z.L. Wang*, "Inductor-Free Wireless Energy Delivery via Maxwell's Displacement Current from an Electrodeless Triboelectric Nanogenerator," *Advanced Materials*, 2017. DOI: 10.1002/ adma.201704077R27
- M.A. Carden, M.E. Fay, X. Lu, R.G. Mannino, Y. Sakurai, J.C. Ciciliano, C.E. Hansen, S. Chonat, C.H. Joiner, D.K. Wood, W.A. Lam, "Extracellular fluid tonicity impacts sickle red blood cell deformability and adhesion," *Blood*, vol. 130(24), pp. 2654-2663, 2017. doi: 10.1182/blood-2017-04-780635.
- M.A. Carden, M. Fay, Y. Sakurai, B. McFarland, S. Blanche, C. DiPrete, C.H. Joiner, T. Sulchek, W.A. Lam, "Normal saline is associated with increased sickle red cell stiffness and prolonged transit times in a microfluidic model of the capillary system," *Microcirculation*, vol. 24(5), 2017. doi: 10.1111/micc.12353, Jul. 2017.
- M.A. Carden, P. Patil, M.E. Ahmad, W.A. Lam, C.H. Joiner, C.R. Morris, "Variations in pediatric emergency medicine physician practices for intravenous fluid management in children with sickle cell

- disease and vaso-occlusive pain: A single institution experience," *Pediatr Blood Cancer*, vol. 65(1), 2017. doi: 10.1002/pbc.26742. Epub 2017 Aug 2.
- P. Chakraborti, H. Sharma, M. R. Pulugurtha, S. Gandhi, and R. R. Tummala, "Oxide composition studies of electrochemically grown tantalum oxide on sintered tantalum using XPS depth-profiling and correlation with leakage properties," *Journal of Materials Science: Materials in Electronics*, vol. 28, pp. 18773-18780, 2017.
- Dongchang Chen, Jeng-Han Wang, Tsung-Fu Chou, Bote Zhao, Mostafa A. El-Sayed, Meilin Liu, "Unraveling the nature of anomalously fast energy storage in T-Nb₂O₅," *J. Am. Chem. Soc.*, vol. 139(20), pp. 7071-7081, 2017. DOI: 10.1021/jacs.7b03141
- Xiangyu Chen#, Longfei Liu#, Yawei Feng, Longfei Wang, Zhenfeng Bian*, Hexing Li*, Zhong Lin Wang*, "Fluid Eddy Induced Piezo-Promoted Photodegradation of Organic Dye Pollutants in Wastewater on ZnO Nanorod Arrays/3D Ni Foam," *Materials Today*, vol. 20, pp. 501-506, 2017.
- Xiangyu Chen, Y. Wu, J. Shao, T. Jiang, A. Yu, L. Xu, Zhong Lin Wang, "On-Skin Triboelectric Nanogenerator and Self-Powered Sensor with Ultrathin Thickness and High Stretchability," *Small*, 1702929, 2017.
- Yu Chen, Yunfei Bu, Yanxiang Zhang, Ruiqiang Yan, Dong Ding, Bote Zhao, Seonyoung Yoo, Dai Dang, Renzong Hu, Chenghao Yang, and Meilin Liu, "A Highly Efficient and Robust Nanofiber Cathode for Solid Oxide Fuel Cells," *Advanced Energy Materials*, vol. 7, 1601890, 2017. DOI: 10.1002/aenm.201601890
- Y Chen, D Chen, D Ding, M Liu, "Robust and Active Mixed-Conducting Electrodes for Intermediate-Temperature Fuel Cells," *ECS Transactions*, vol. 80 (9), pp. 3-12, 2017.
- Yu Chen, Yan Chen, D. Ding, Y. Ding, Y. Choi, L. Zhang, S. Yoo, D. Chen, B. deGlee, H. Xu, Q. Lu, B. Zhao, G. Vardar, J. Wang, H. Bluhm, E. Crumlin, C. Yang, J. Liu, B. Yildiz, M. Liu, "A robust and active hybrid catalyst for facile oxygen reduction in solid oxide fuel cells," *Energy Environ. Sci.*, vol. 10, pp. 964-971, 2017.
- Yu Chen, S. Yoo, K. Pei, D. Chen, L. Zhang, B. deGlee, R. Murphy, B. Zhao, Y. Zhang, Yan Chen, and M. Liu, "An in-situ Formed, Dual-Phase Cathode with a Highly Active Catalyst Coating for Protonic Ceramic Fuel Cells," *Advanced Functional Materials*, 2017.
- Y.-S. Chen, S.J. Yoon, W. Frey, M. Dockery, and S.Y. Emelianov, "Photothermal Stimuli-Responsive Photoacoustic Nanoamplifier for Dynamic-Contrast Imaging," *Nature Communications*, vol. 8, p. 15782, 2017.
- J.-S. Cho, P.K. Alaboina, C-S. Kang, S-C. Kim, S-B. Son, S. Suh, J. Kim, S. Kwon, S-H. Lee, K-H. Oh S-J. Cho, "Ex-situ Investigation of Anisotropic Interconnection in Silicon-Titanium-Nickel Alloy Anode Material". *Journal of Electrochemical Society*, 64, 6, A968-A972, 2017.
- S-J. Cho, M-J. Uddin, P.K. Alaboina, S.S. Han, M.I. Nandasiri, Y.S. Choi, E.Hu, K-W. Nam, A.M. Schwarz, S.K. Nune, J-S. Cho, K.H. Oh, D. Choi. "Exploring Lithium Deficiency in Layered Oxide Cathode for Li-ion Battery." *Advanced Sustainable Systems*. 1, 7, 1700026, 2017.
- Y. Cho, D.A. Porto, H. Hwang, L.J. Grundy, W.R. Schafer, H. Lu, "Automated and controlled mechanical stimulation and functional imaging in vivo in *C. elegans*," *Lab on a Chip*, vol. 17 (15), pp. 2609-2618, 2017.
- Y. Cho, D.A. Porto, H. Hwang, L.J. Grundy, W.R. Schafer, H. Lu, "Automated and controlled mechanical stimulation and functional imaging in vivo in *C. elegans*," *Lab on a Chip*, vol. 17 (22), pp. 3935-3935, 2017.

- Y. Cho, D.A. Porto, H. Hwang, L.J. Grundy, W.R. Schafer, H. Lu, "High-Throughput Controlled Mechanical Stimulation and Functional Imaging In Vivo," *bioRxiv*, 107318, 2017.
- Y. Cho, C.L. Zhao, H. Lu, "Trends in high-throughput and functional neuroimaging in *Caenorhabditis elegans*," *Wiley Interdisciplinary Reviews: Systems Biology and Medicine*, vol. 9 (3), 2017.
- J. C. Ciciliano, R. Abbaspour, J. Woodall, C. Wu, M. S. Bakir, and W. A. Lam, "Probing blood cell mechanics of hematologic processes at the single micron level," *Lab Chip*, vol. 17, no. 22, pp. 3804–3816, Nov. 2017.
- G. C. Cordeiro, & K. E. Kurtis, "Effect of mechanical processing on sugar cane bagasse ash pozzolanicity," *Cement and Concrete Research*, vol. 97, pp. 41-49, 2017.
- A. Covell, Z. Zeng, T. Mabe, J. Wei, A. Adamson, D. LaJeunesse, "Alternative SiO₂ surface energies direct MDCK epithelial behavior," *ACS Biomater. Sci. Eng.* 3(12) 3307-3317, 2017.
- S. Crawford, S. Aravamudhan, "Environmental Impact and Speciation Analysis of Chemical Mechanical Planarization (CMP) Waste Following GaAs Polishing," *ECS Transactions*, 80(2), 171-179, 2017
- Y. Cui, X. Du, Z. Zhang, W. Liu, X. Liu, Y. Deng, W. Su, "Efficient Hybrid Solution Strategy to Fabricate Cu(In,Ga)(S,Se)₂ Solar Cells," *Journal of Alloys and Compounds*, vol. 696, pp. 884-890, 2017.
- Guozhang Dai, Haiyang Zou Xingfu Wang, Yuankai Zou, Peihong Wang, Yong Ding, Yan Zhang, Junliang Yang, and Zhong Lin Wang*, "Piezo-phototronic Effect Enhanced Responsivity of Photon Sensor Based on Composition-tunable Ternary CdSXSe_{1-X} Nanowires," *ACS Photonics*, vol. 4(10), pp. 2495–2503, 2017.
- S. Dai, B. Zhao, C. Qu, D. Chen, D. Dang, B. Song, B. deGlee, J. Fu, C. Hu, CP Wong, Meilin Liu, "Controlled synthesis of three-phase Ni_xSy/rGO nanoflake electrodes for hybrid supercapacitors with high-energy and power density," *Nano Energy*, vol. 33, pp. 522-531, 2017. <http://dx.doi.org/10.1016/j.nanoen.2017.01.056>
- J. Dallas, G. Pavlidis, B. Chatterjee, J. S. Lundh, M. Ji, J. Kim, T. Kao, T. Detchprohm, R. D. Dupuis, S.-C. Shen, S. Graham, and S. Choi, "Thermal characterization of GaN vertical p-i-n diodes," *Proceedings of the 16th InterSociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems, ITherm 2017*, pp. 328-333, July 25, 2017.
- D. Dang, B. Zhao, D. Chen, S. Y. Yoo, S. Lai, B. Doylea, S. Dai, Y. Chen, C. Qu, L. Zhang, S. Liao, M. Liu, "A durable polyvinyl butyral-CsH₂PO₄ composite electrolyte for solid acid fuel cells," *Journal of Power Sources*, 2017.
- L. A. Darunte, Y. Terada, C.M. Murdock, K. S. Walton, D. S. Sholl, M.J. Realf, and C. W. Jones, "Monolith-Supported Amine-Functionalized Mg₂(dobpdc) Adsorbents for CO₂ Capture." *ACS Applied Materials & Interfaces*, vol. 9 (20), pp. 17042–17050, 2017.
- D. Davidovic, H. Ying, J. Dark, B.R. Wier, N.E. Lourenco, L. Ge, A.P. Omprakash, M. Mourigal, and J.D. Cressler, "Tunneling, Current Gain, and Transconductance in Silicon-Germanium Heterojunction Bipolar Transistors Operating at mK Temperatures," *Physical Review Applied*, vol. 8, pp. 024015-1-024015-15, 2017.
- R. Dehghannasiri, A. A. Eftekhar, and A. Adibi, "Raman-like stimulated Brillouin scattering in phononic-crystal-assisted silicon-nitride waveguides," *Physical Review A*, vol. 96 (5), p.053836, 2017.
- R. Dehghannasiri, M. Soltani, A. Adibi, "Efficient finite-element formulation for analysis of whispering-gallery-mode optical resonators," *JOSA B*, vol. 34 (10), pp.2259-2265, 2017.
- K. Demir, A. Armutlulu, V. Sundaram, P. M. Raj, and R. R. Tummala, "Reliability of copper through-package vias in bare glass interposers," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, pp. 829-837, 2017.

- K. Demir, T. Ogawa, V. Sundaram, P. M. Raj, and R. R. Tummala, "Reliability of Through-Package-Vias From via-First Processing With Ultra-Thin Glass," *IEEE Transactions on Device and Materials Reliability*, vol. 17, pp. 683-691, 2017.
- T. Demir, L. Wei, N. Nitta, G. Yushin, P.J. Brown, I. Luzinov, "Toward a Long-Chain Perfluoroalkyl Replacement: Water and Oil Repellency of Polyethylene Terephthalate (PET) Films Modified with Perfluoropolyether-Based," *ACS applied materials & interfaces*, vol. 9 (28), pp. 24318-24330, 2017.
- T. Detchprohm, Y.-S. Liu, K. Mehta, S. Wang, H. Xie, T.-T. Kao, S.-C. Shen, P. D. Yoder, F. A. Ponce, and R. D. Dupuis, "Sub 250nm Deep-UV AlGaN/AlN Distributed Bragg Reflectors," *App. Phys. Lett.*, Vol. 110, No. 1, pp. 011105, 2017.
- G. Diana, D.S. Patel, E.V. Entchev, M. Zhan, H. Lu, Q.L. Ch'ng, "Genetic control of encoding strategy in a food-sensing neural circuit," *elife* 6, e24040, 2017.
- Y Ding, Y Chen, KC Pradel, M Liu, ZL Wang, "In-situ Transmission Electron Microscopy Study of Oxygen Vacancy Ordering and Dislocation Annihilation in Undoped and Sm-doped CeO₂ Ceramics During Redox Processes," *Microscopy and Microanalysis*, vol. 23 (S1), pp. 1626-1627.
- Kai Dong†, Jianan Deng†, Yunlong Zi†, Yi-cheng Wang, Cheng Xu, Haiyang Zou, Wenbo Ding, Yejing Dai, Bohong Gu, Baozhong Sun, Zhong Lin Wang*, "3D Orthogonal Woven Triboelectric Nanogenerator for Effective Mechanical Energy Harvesting and as Self-powered Active Motion Sensors," *Adv. Mater.*, vol. 29, 1702648, 2017.
- X. Du, W. Liu, Z. Zhang, A. Mulyadi, A. Brittain, J. Gong, Y. Deng, "Low Energy Catalytic Electrolysis for Simultaneously Hydrogen Evolution and Lignin Depolymerization," *ChemSusChem*, vol. 10, pp. 847-854, 2017.
- X. Du, Z. Zhang, W. Liu, Y. Deng, "Nanocellulose-based Conductive Materials and Their Emerging Applications in Energy Storage and Electronic Devices - A Review," *Nano Energy*, vol. 35, pp. 299-320, 2017.
- S. Dwarakanath, P. M. Raj, K. Demir, V. Smet, V. Sundaram, and R. Tummala, "Electrodeposited Copper-Graphite Composites for Low-CTE-Integrated Thermal Structures," *Journal of Microelectronics and Electronic Packaging*, vol. 14, pp. 56-62, 2017.
- T. El-Elimat, H.A. Raja, C.S. Day, H. McFeeters, R.L. McFeeters, N.H. Oberlies, "Alpha-Pyrone Derivatives, Tetra/Hexahydroxanthones, and Cyclodepsipeptides from Two Freshwater Fungi," *Bioorganic and Medicinal Chemistry*, 25, 795-804, 2017.
- M. Elias, J. Plotkin, A.L. Dellinger, T.E. Brady, L. Robertson, C.L. Kepley, "Bedside Serum Extraction Utilizing a Nano-Enhanced Coagulation Formula for Low Volume Analyte Detection," *American Association for Clinical Chemistry*, 274, 2017.
- K.S. Eom, J.T. Lee, M. Oschatz, F. Wu, S. Kaskel, G. Yushin, T.F. Fuller, "A stable lithiated silicon-chalcogen battery via synergetic chemical coupling between silicon and selenium," *Nature Communications*, vol. 8, pp. 13888, 2017.
- J. Eshun, L. Wang, E. Ansah, A. Shahbazi, K. Schimmel, V. Kabadi, S. Aravamudhan, "Characterization of the physicochemical and structural evolution of biomass particles during combined pyrolysis and CO₂ gasification," *Journal of the Energy Institute*, 11, 003, 2017.
- Yawei Feng, Lili Ling, Jinhui Nie, Kai Han, Xiangyu Chen*, Zhenfeng Bian*, Hexing Li*, Zhong Lin Wang*, "Self-Powered Electrostatic Filter with Enhanced Photocatalytic Degradation of Formaldehyde Based on Built-in Triboelectric Nanogenerators," *ACS Nano*, vol. 11, pp 12411-12418, 2017.

- E.H. Fini, S. Hosseinneshad, D. Oldham, Z. Mclaughlin, Z. Alavi, J. Harvey, "Bio-modification of rubberised asphalt binder to enhance its performance," *International Journal of Pavement Engineering*, 1-10, 2017.
- E.H. Fini, S. Hosseinneshad, D. Oldham, E. Chailleux, V. Gaudefroy, "Source dependency of rheological and surface characteristics of bio-modified asphalts," *Road Materials and Pavement Design*, 18(2), 408-424, 2017.
- Z.E. Fleetwood, N.E. Lourenco, A. Idefonso, J.H. Warner, M.T. Wachter, J. Hales, N.J.-H. Roche, A. Khachatrian, D. McMorro, S.P. Buchner, P. Paki, and J.D. Cressler, "Using TCAD Modeling to Compare Heavy-Ion and Laser-Induced Single Event Transients in SiGe HBTs," *IEEE Transactions on Nuclear Science*, vol. 64, pp. 398-405, 2017.
- S. Gandhi, S. Xiang, M. Kumar, H. Sharma, P. Chakraborti, P. M. Raj, *et al.*, "Dielectric–electrode interactions in glass and silicon-compatible thin-film (Ba, Sr) TiO₃ capacitors," *Journal of Materials Science: Materials in Electronics*, vol. 28, pp. 595-600, 2017.
- K.S. Garde, S. Aravamudhan, "Role of Nanoelectrodes and Electrical Stimulation to Modulate Cellular Functions," *Tissue Engineering Part A*, Vol. 23, S114-S114. 2017
- K. Garde, S. Aravamudhan, "Penetrating Nanoelectrodes for Stimulation of Cell," *ECS Transactions*, 77(11), 1701-1709, 2017
- S. Gbewonyo, A.W. Carpenter, C.B. Gause, N.R. Mucha, L. Zhang, "Low thermal conductivity carbon fibrous composite nanomaterial enabled by multi-scale porous structure," *Materials & Design*, 134, 218-225, 2017.
- M. Ghadimi, V. Blums, B. G. Norton, P. M. Fisher, S. C. Connell, J. M. Amini, C. Volin, H. Hayden, C. S. Pai, D. Kielbinski, M. Lobino, E.W. Streed, "Scalable ion-photon quantum interface based on integrated diffractive mirrors," *npj Quantum Information*, Vol. 3, Article number: 4, 2017.
- H. Ghazizadeh, S. Aravamudhan. "A review of two-dimensional in vitro cell stretch platforms," *Journal of Mechanics in Medicine and Biology*, 17(8), 1730003, 2017
- H. Ghazizadeh, J. Plotkin, Y. Patel, and S. Aravamudhan. "The Role of Complex Mechanical Stimuli on Differentiation of 3T3/L1 Fibroblastic Preadipocytes and the Lipid Accumulation," *Tissue Engineering Part A*, 23, S101-S101. 2017.
- H. Ghazizadeh, D.R. LaJeunesse, S. Aravamudhan, "Behavior of Fibroblastic Cells under the Influence of Variable Biaxial Cyclic Stress Regimes," *Tissue Engineering Part A*, 23, S125-S125, 2017.
- C. Gianfagna, H. Yu, M. Swaminathan, R. Pulugurtha, R. Tummala, and G. Antonini, "Machine-Learning Approach for Design of Nanomagnetic-Based Antennas," *Journal of Electronic Materials*, vol. 46, pp. 4963-4975, 2017.
- K. D. Gilroy, J. Puibasset, M. Vara, and Y. Xia, "On the thermodynamics and experimental control of twinning in metal nanocrystals," *Angewandte Chemie International Edition* 2017, vol. 56, pp. 8647-8651, 2017.
- K. D. Gilroy, A. Elnabawy, T.-H. Yang, L. Roling, J. Howe, M. Mavrikakis, and Y. Xia, "Thermal stability of metal nanocrystals: An investigation of the surface and bulk reconstructions of Pd concave icosahedra," *Nano Letters*, vol. 17, pp. 3655-3661, 2017.
- Yogesh Goyal, Thomas J. Levario, Henry H. Mattingly, Susan Holmes, Stanislav Y. Shvartsman, Hang Lu, "Parallel imaging of Drosophila embryos for quantitative analysis of genetic perturbations of the Ras pathway," *Disease Models & Mechanisms*, vol. 10, pp. 923-929, 2017.
- J.L. Graves, M. Thomas, J.A. Ewunkem, "Antimicrobial Nanomaterials: Why Evolution Matters" *Nanomaterials*, 7, 283, 2017.

- J. D. Greenlee, A. Nath, T. J. Anderson, B. N. Feigelson, D. A. Koehler, K. D. Hobart, R. D. Dupuis, T. Detchprohm, S.-C. Shen, and F. J. Kub, "NbN Capping Layer for Enhanced Thermal Processing of Group III-Nitride Semiconductor Devices," *ECS J. Sol. State. Sci. and Technol.*, Vol. 6, No. 2, pp. Q3067-Q3070, 2017.
- Guang Qin Gu§, Chang Bao Han§, Jing Jing Tian, Cun Xin Lu, Chuan He, Tao Jiang, Zhou Li, and Zhong Lin Wang*, "Antibacterial Composite Film-Based Triboelectric Nanogenerator for Harvesting Walking Energy," *ACS Appl. Mater. & Interface*, vol. 9, pp. 11882–11888, 2017.
- C. Gupta, E. Nadelman, N. R. Washburn, & K. E. Kurtis, "Lignopolymer Superplasticizers for Low-CO₂ Cements," *ACS Sustainable Chemistry & Engineering*, vol. 5(5), pp. 4041-4049, 2017.
- S. Gupta, O.N. Pierron, "A MEMS nanomechanical tensile technique for measuring true activation volume and effective stress in nanocrystalline ultrathin microbeams," *Journal of Microelectromechanical Systems*, vol. 26 (5), pp. 1082-1092, 2017.
- S. K. G. Hanasoge, M. S. Ballard, P. J. Hesketh, A. Alexeev, "Asymmetric motion of magnetically actuated artificial cilia," *Lab on a Chip*, vol. 17, pp. 3138-3145, 2017.
- C.E. Hansen, W.A. Lam, "Clinical Implications of Single-Cell Microfluidic Devices for Hematological Disorders," *Anal Chem*, vol. 89(22), pp. 11881-11892, 2017. doi: 10.1021/acs.analchem.7b01013. Epub 2017 Oct 5.
- C.E. Hansen, D.R. Myers, W.H. Baldwin, Y. Sakurai, S.L. Meeks, L.A. Lyon, W.A. Lam, "Platelet-Microcapsule Hybrids Leverage Contractile Force for Targeted Delivery of Hemostatic Agents," *ACS Nano*, vol. 11(6), pp -5579-5589, 2017. doi: 10.1021/acsnano.7b00929. Epub 2017 Jun 5.
- S. Hassanpour-Tamrin, H. Taheri, M. Hasani-Sadrabadi, S. H. Shams Mousavi, E. Dashtimoghadam, M. Tondar, A. Adibi, A. Moshaverinia, A. Sanati Nezhad, and K. I. Jacob, "Nanoscale Optoregulation of neural stem cell differentiation by intracellular alteration of redox balance," *Advanced Functional Materials*, vol. 27 (38), 2017.
- Z. D. Hood, S. P. Adhikari, Y. Li, A. K. Naskar, L. Figueroa-Cosme, Y. Xia, M. Chi, M. W. Wright, A. Lachgar, and P. Paranthaman, "Novel acid catalysts from waste-tire-derived carbon: Application in waste-to-biofuel conversion," *ChemistrySelect*, vol. 2, pp. 4975-4982, 2017. [Cover Image]
- C.T. Hopkins-Harrington, E.M. Onger, S. H. Harrison, Modeling how Prognosis Levels of Kidney Disease in Diabetic African American Males Relate to Factors of Fresh Food Availability and Frequency of Communication," *The FASEB Journal*, 31, 961.20, 2017.
- W. Hu, S. Guo, J. Gaul, M. G. Boebinger, M. T. McDowell, M. A. Filler, "Reversible Tuning of the Surface Plasmon Resonance of Indium Tin Oxide Nanocrystals by Gas-Phase Oxidation and Reduction" *The Journal of Physical Chemistry C*, vol. 121, pp. 15970-15976, 2017.
- W. Hu, S. Guo, J. Gaul, M. G. Boebinger, M. T. McDowell, and M. A. Filler, "Reversible Tuning of the Surface Plasmon Resonance of Indium Tin Oxide Nanocrystals by Gas-Phase Oxidation and Reduction," *The Journal of Physical Chemistry C*, vol. 121 (29), pp. 15970-15976, 2017. (10.1021/acs.jpcc.7b02733)
- H. Huang, A. Ruditskiy, S.-I. Choi, L. Zhang, J. Liu, Z. Ye, and Y. Xia, "One-pot synthesis of penta-twinned Pd nanowires and their enhanced electrocatalytic properties," *ACS Applied Materials & Interfaces*, vol. 9, pp. 31203-31212, 2017.
- T. B. Huang, B. Chou, J. Tong, T. Ogawa, V. Sundaram, and R. R. Tummala, "Via-First Process to Enable Copper Metallization of Glass Interposers with High-Aspect-Ratio, Fine-Pitch Through-Package-Vias," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, pp. 544-551, 2017.

- W. Huang, J. Ahlfield, P. A. Kohl, X. Zhang, "Heat Treated Tethered Iron Phthalocyanine Carbon Nanotube-based Catalysts for Oxygen Reduction Reaction in Hybrid Fuel Cells," *Electrochimica Acta*, vol. 257, pp. 224-232, 2017.
- W. Huang, J. Ahlfield, X. Zhang, P. A. Kohl, "Platinum Supported on Functionalized Carbon Nanotubes for Oxygen Reduction Reaction in Alkaline Media," *Journal of The Electrochemical Society*, vol. 164 (4), F217-F223, 2017.
- Y. Hui, M. de la Mata, J. A. Arbiol, and M. A. Filler, "Low-Temperature Growth of Axial Si/Ge Nanowire Heterostructures Enabled by Trisilane," *Chemistry of Materials*, vol. 29 (8), pp. 3397-3402, 2017. (10.1021/acs.chemmater.6b03952)
- A.M. Hung, M. Mousavi, F. Pahlavan, E.H. Fini, "Intermolecular Interactions of Isolated Bio-Oil Compounds and Their Effect on Bitumen Interfaces," *ACS Sustainable Chemistry & Engineering*, 5(9), 7920-7931, 2017.
- A.M. Hung, A. Goodwin, E.H. Fini, "Effects of water exposure on bitumen surface microstructure," *Construction and Building Materials*, 135, 682-688, 2017.
- A. Ildefonso, N.E. Lourenco, Z.E. Fleetwood, M.T. Wachter, A.S. Cardoso, N.J.-H. Roche, A. Khachatryan, D. McMorro, S.P. Buchner, J.H. Warner, P. Paki, M. Kaynak, B. Tillack, D. Knoll, and J.D. Cressler, "Single-Event Transient Response of Comparator Pre-amplifiers in a Complementary SiGe Technology," *IEEE Transactions on Nuclear Science*, vol. 64, pp. 89-96, 2017.
- A. Ildefonso, I. Song, G.N. Tzintzarov, Z.E. Fleetwood, N.E. Lourenco, M.T. Wachter, and J.D. Cressler, "Modeling Single-Event Transient Propagation in a SiGe BiCMOS Direct-Conversion Receiver," *IEEE Transactions on Nuclear Science*, vol. 64, pp. 2079-2088, 2017.
- Muhymin Islam, Hannah Brink*, Syndey Blanche*, Caleb DiPrete*, Tom Bongiorno, Nicholas Stone, Anna Liu, Anisha Philip, Gonghao Wang, Wilbur Lam, Alexander Alexeev, Edmund K Waller, Todd Sulchek, "Microfluidic Sorting of Cells by Viability Based on Differences in Cell Stiffness," *Scientific Reports*, vol. 7, 2017.
- E.L. Jackson-Holmes, T.C. McDevitt, H. Lu, "A microfluidic trap array for longitudinal monitoring and multi-modal phenotypic analysis of individual stem cell aggregates," *Lab on a Chip*, vol. 17 (21), pp. 3634-3642, 2017.
- Y. Jeong, D. E. Serrano, and F. Ayazi, "Low-Pressure Wafer-Level-Packaged Capacitive Accelerometers With High Dynamic Range and Wide Bandwidth Using Nano-Gap Sloped Electrode Design", *IEEE/ASME Journal of Microelectromechanical Systems*, vol. 26, no. 6, pp. 1335 – 1344, Dec. 2017.
- Dedong Jia, Xin Yu, Shu Wang, Hua Tan, Hong Liu,* Zhong Lin Wang,* Linlin Li*, "High-Performance Wearable Supercapacitors Fabricated with Surface Activated Continuous Filament Graphite Fibers," *J. Power Sources*, vol. 358, pp. 13-21, 2017.
- J. Jia, C. Fuentes-Hernandez, C.Y. Wang, Y. Park, and B. Kippelen, "Stable organic thin-film transistors," *Science Advances* 4, eaao1705, Jan. 2017. Doi: 10.1126/sciadv.aao1705
- Chunyan Jiang, Chunhua Du, Xin Huang, Mengmeng Liu, Zhenfu Zhao, Linxuan Li, Xiong Pu, Junyi Zhai*, Weiguo Hu,* and Zhong Lin Wang*, "Piezotronic Effect tuned AlGaIn/GaN High Electron Mobility Transistor," *Nanotechnology*, vol. 28, 455203, 2017.
- Chunyan Jiang±, Liang Jing±, Xin Huang, Mengmeng Liu, Chunhua Du, Ting Liu, Xiong Pu, Weiguo Hu*, and Zhong Lin Wang*, "Enhanced Solar Cell Conversion Efficiency of InGaIn/GaN MQWs by Piezo-Phototronic Effect," *ACS Nano*, vol. 11, pp 9405–9412, 2017.
- J. Jiang, P. A. Kohl, "Fabrication of Precision Integrated Capacitors," *Thin Solid Films*, vol. 634, pp. 15-23, 2017.

- J. Jiang, O. Phillips, L. Keller, P. A. Kohl, "Grafted Epoxide Functionalized Polypropylene Carbonate Porogen for Low Dielectric Constant Epoxy Films," *ECS Journal of Solid State Science and Technology*, vol. 6 (9), N163-N170, 2017.
- Y. Jiao, Y. Liu, G. Zhu, J.T. Hungerford, S. Bhattacharyya, R.P. Lively, D.S. Sholl, and K.S. Walton. "Heat-Treatment of Defective UiO-66 from Modulated Synthesis: Adsorption and Stability Studies." *The Journal of Physical Chemistry C*, vol. 121(42), pp. 23471-23479, 2017.
- P. K. Jo, M. Zia, J. L. Gonzalez, H. Oh, and M. S. Bakir, "Design, fabrication, and characterization of dense compressible microinterconnects," *IEEE Trans. on Components, Packaging and Manufacturing Technology*, vol. 7, no. 7, pp. 1003-1010, May. 2017.
- Lucas R. Johnstone*, Ismael J Gomez*, Haisheng Lin, Oluwatimilehin O. Fadiran, Vincent W. Chen, J. Carson Meredith, and Joseph W. Perry, "Ag and Ag@SiO₂ Nanoparticle Decorated Ragweed Pollen: An Adhesive, Broadband Near-IR SERS Micro-Particle Sensor," *ACS Adv. Mater. Interface*, 2017. DOI: 10.1021/acsami.6b15664
- G. Jung, C. Tekes, A. Pirouz, F.L. Degertekin, and M. Ghovanloo, "Supply-Doubled Pulse-Shaping High Voltage Pulser for CMUT Arrays," *IEEE Transactions on Biomedical Circuits and Systems: II*, DOI: 10.1109/TCSII.2017.2691676, 2017.
- Ji-Hwan Kang, Shin-Hyun Kim, Alberto Fernandez-Nieves and Elsa Reichmanis, "Amplified Photon Upconversion by Photonic Shell of Cholesteric Liquid Crystals," *Journal of the American Chemical Society*, vol. 139, pp. 5708-5711, 2017. DOI: 10.1021/jacs.7b01981.
- Ji-Hwan Kang, Sang Seok Lee, Josefa Guerrero, Alberto Fernandez-Nieves, Shin-Hyun Kim, and Elsa Reichmanis, "Ultrathin Double-Shell Capsules for High Performance Photon Upconversion," *Advanced Materials*, vol. 29, pp. 1606830, 2017. <http://dx.doi.org/10.1002/adma.201606830>.
- L. Kang, S. P. Rodrigues, M. Taghinejad, S. Lan, K.-T. Lee, Y. Liu, D. H. Werner, A. M. Urbas, and W. Cai, "Preserving spin states upon reflection: Linear and nonlinear responses of a chiral meta-mirror," *Nano Letters*, Vol. 17, No. 11, pp. 7102-7109, 2017.
- D. Khudhair, H. A. Hamedani, J. Gaburro, S. Shafei, S. Nahavandi, H. Garmestani, et al., "Enhancement of electro-chemical properties of TiO₂ nanotubes for biological interfacing," *Materials Science & Engineering C-Materials for Biological Applications*, vol. 77, pp. 111-120, Aug 2017.
- H. K. Kim, A. S. Hyla, P. Winget, H. Li, C. M. Wyss, A. J. Jordan, F. A. Larrain, J. P. Sadighi, C. Fuentes-Hernandez, B. Kippelen, J.-L. Brédas, S. Barlow, S. R. Marder, "Reduction of the Work Function of Gold by N-Heterocyclic Carbenes," *Chem. Mater.*, vol. 29, pp. 3403-3411, 2017. (doi: 10.1021/acs.chemmater.6b04213)
- K. Kim, S. Graham, O.N. Pierron, "Note: A single specimen channel crack growth technique applied to brittle thin films on polymer substrates," *Review of Scientific Instruments*, vol. 88, 036102, 2017.
- M. Kim, H. Alrowais, C. Kim, P. Yeon, M. Ghovanloo, O. Brand, "All-soft, battery-free, and wireless chemical sensing platform based on liquid metal for liquid- and gas-phase VOC detection," *Lab on a Chip*, vol. 17, pp. 2323-2329, 2017.
- M. Kim, H. Alrowais, S. Pavlidis, O. Brand, "Size-scalable and high-density liquid-metal-based soft electronic passive components and circuits using soft lithography," *Advanced Functional Materials*, vol. 27, no. 3, pp. 1604466 (11 pp.), 2017.
- Y. Kim, J. Cho, K. Cho, J. Park, S. Kim, D.-H. Kim, et al., "Glass-Interposer Electromagnetic Bandgap Structure With Defected Ground Plane for Broadband Suppression of Power/Ground Noise Coupling," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, pp. 1493-1505, 2017.

- Y. Kim, J. Cho, J. J. Kim, K. Cho, S. Kim, S. Sitaraman, *et al.*, "Glass interposer electromagnetic bandgap structure for efficient suppression of power/ground noise coupling," *IEEE Transactions on Electromagnetic Compatibility*, vol. 59, pp. 940-951, 2017.
- Y. Kim*, M. Kathaperumal, Y. Park*, M. Pan and J.W. Perry, "High-Energy-Density Hybrid Sol-gel Dielectric Film with Polymeric Charge Blocking Layer," *J. Mater. Chem. A*, 2017.
- B. S. Klosterhoff, K. G. Ong, L. Krishnan, K. M. Hetzendorfer, Y-H. Chang, M.G. Allen, R.E. Guldborg, and N.J. Willett, "Wireless implantable sensor for non-invasive, longitudinal quantification of axial strain across rodent long bone defects," *Journal of Biomechanical Engineering*, vol. 139(11), 2017.
- A.S. Kniss-James, C.A. Rivet, L. Chingozha, H. Lu, M.L. Kemp, "Single-cell resolution of intracellular T cell Ca²⁺ dynamics in response to frequency-based H₂O₂ stimulation," *Integrative Biology*, vol. 9 (3), pp. 238-247, 2017.
- Y. Ko, M. Kwon, W. K. Bae, B. Lee, S. W. Lee*, J. Cho*, "Flexible Supercapacitor Electrodes Based on Real Metal-like Cellulose Papers," *Nature Communications*, vol. 8, 2017.
- V. A. Kolesov, C. Fuentes-Hernandez, W.-F. Chou, N. Aizawa, F. A. Larrain, M. Wang, A. Perrotta, S. Choi, S. Graham, G. C. Bazan, T.-Q. Nguyen, S. R. Marder, B. Kippelen, "Solution-Based Electrical Doping of Semiconducting Polymer Films over a Limited Depth," *Nat. Mater.*, vol. 16, pp. 474-480, 2017.
- S. Kommandur, S. Yee "An empirical model to predict temperature-dependent thermal conductivity of amorphous polymers," *Journal of Polymer Science*, vol. 55 (15), pp. 1160–1170, 2017.
- N. P. Kondekar, M. G. Boebinger, E. V. Woods, M. T. McDowell*, "In Situ Investigation of Transformations at Crystallographically Oriented MoS₂ Interfaces," *ACS Applied Materials & Interfaces*, vol. 9, pp. 32394-32404, 2017.
- W. J. Koros, C. Zhang, "Materials for Next-Generation Molecularly Selective Synthetic Membranes," *Nat Mater*, vol. 16, pp. 289-297, 2017.
- Y. H. Kwon, C. Kiang, E. Benjamin, P. Crawford, R. Bhave, S. Nair, "Krypton-Xenon Separation Properties of SAPO-34 Zeolite Materials and Membranes", *AIChE Journal*, vol. 63, pp. 761-769, 2017.
- S. Lan, S. P. Rodrigues, M. Taghinejad, and W. Cai*, "Dark plasmonic modes in diatomic gratings for plasmoelectronics," *Laser & Photonics Reviews*, Vol. 11, No. 2, pp. 1600312, 2017.
- A. W. Lang, J. F. Ponder Jr., A. M. Österholm, N. J. Kennard, R. H. Bulloch, J. R. Reynolds, "Flexible, aqueous-electrolyte supercapacitors based on water-processable dioxothiophene polymer / carbon nanotube textile electrodes," *J. Mater. Chem. A.*, pp. 23887, 2017.
- W.R. Lanning, S.S. Javaid, C.L. Muhlstein, "Reconciling fracture toughness parameter contradictions in thin ductile metal sheets," *Fatigue and Fracture of Engineering Materials and Structures*, vol. 40, pp. 1809-1824, 2017. DOI:10.1111/ffe.12600, 2017.
- S. M. Lauinger, B. D. Piercy, W. Li, Q. Yin, D. L. Collins-Wildman, E. N. Glass, M. D. Losego, D. Wang, Y. V. Geletii, and C. L. Hill, "Stabilization of polyoxometalate water oxidation catalysts on hematite by atomic layer deposition," *ACS Appl. Mater. Interfaces*, vol. 9, pp. 35048, 2017.
- B. Lee, T. Liu, K. Eom, S. K. Kim, H. Chang, L. Xie, S. Chen, H. D. Jang, and S. W. Lee, "Submicron Silicon Encapsulated with Graphene and Carbon as a Scalable Anode for Lithium-Ion Batteries," *Carbon*, vol. 119, pp. 438-445, 2017.
- B. Y. Lee, and K. E. Kurtis, "Effect of pore structure on salt crystallization damage of cement-based materials: Consideration of w/b and nanoparticle use," *Cement and Concrete Research*, vol. 98, pp. 61-70, 2017.

- C.-T. Lee, X. Yang, M. Vara, K. D. Gilroy, and Y. Xia, "Water-based synthesis of sub-10 nm Pt octahedra and their performance towards the oxygen reduction reaction," *ChemNanoMat*, vol. 3, pp. 879-884, 2017.
- J.H. Lee and M.L. Shofner, "Tensegrity-inspired polymer nanocomposites," *Polymer*, vol. 111, pp. 9-19, 2017
- D. Lei, J. Benson, A. Magasinski, G. Berdichevsky, G. Yushin, "Transformation of bulk alloys to oxide nanowires," *Science*, vol. 355 (6322), pp. 267-271, 2017.
- M. Leyte-Lugo, E.R. Britton, D.H. Foil, A.R. Brown, D.A. Todd, J. Rivera-Chávez, N.H. Oberlies, N.B. Cech, "Secondary Metabolites from the Leaves of the Medicinal Plant Goldenseal (*Hydrastis Canadensis*)," *Phytochemistry Letters* 20, 54-60, 2017.
- Anyin Li, Yunlong Zi, Hengyu Guo, Zhong Lin Wang, and Facundo M. Fernández, "Triboelectric nanogenerators for sensitive nano-coulomb molecular mass spectrometry," *Nat. Nanotechnol.*, vol. 12, pp. 481-487, 2017.
- Congju Li†, Yingying Yin, Bin Wang, Tao Zhou, Jianjun Luo, Wei Tang, Jiaona Wang, Ran Cao, Zuqing Yuan, Nianwu Li, Xinyu Du, Chunru Wang†, Shuyu Zhao, Yuebo Liu, & Zhong Lin Wang†, "Self-powered electrospinning system driven by triboelectric nanogenerator," *ACS Nano*, vol. 11, pp. 10439–10445, 2017.
- H. Li, C. Zhu, J. Xue, Q. Ke, and Y. Xia, "Enhancing the mechanical properties of electrospun nanofiber mats through controllable welding at the cross points," *Macromolecular Rapid Communications*, vol. 38, pp. 1600723, 2017.
- V. Li, C. Dunn, Z. Zhang, H. J. Qi, Y. Deng, "Direct Ink Write (DIW) 3D Printed Cellulose Nanocrystal Aerogel Structures," *Scientific Reports*, vol. 7, Article Number 8018, 2017.
- X. Li, S. Wang, H. Liu, F. A. Ponce, T. Detchprohm, and R. D. Dupuis, "100-nm Thick Single-Phase Wurtzite BAlN Films with Boron Content Over 10%," *Phys. Stat. Sol. (B)*, Vol. 254, No. 8, p. 1600699, 2017.
- Yifeng Li, Jing Chen, Yun Zheng, Bo Yu, Yan Chen, Meilin Liu, "Controlling cation segregation in perovskite-based electrodes for high electro-catalytic activity and durability," *Chemical Society Review*, 2017.
- J. Lim, C. Tekes, F. Levent Degertekin, and M. Ghovanloo, "Towards a reduced-wire interface for CMUT-based intravascular ultrasound imaging systems," *IEEE Trans. on Biomed. Circuits and Systems*, vol. 11, no. 2, pp. 400-410, Apr. 2017.
- A. Limia, J. Ha, P. Kottke, A. Gunawan, A. G. Fedorov, S. W. Lee, and S. K. Yee, "A Dual Stage Sodium Thermal Electrochemical Converter (Na-TEC)," *Journal of Power Sources*, vol. 371, pp. 217-224, 2017.
- C. H. Lin *et al.*, "Large-Scale Robust Quantum Dot Microdisk Lasers with Controlled High Quality Cavity Modes," *Adv. Opt. Mater.*, vol. 5, 2017.
- H. Liu, Y. Zhang, E. H. Steenbergen, S. Liu, Z. Lin, Y.-H. Zhang, J. Kim, M.-H. Ji, T. Detchprohm, R. D. Dupuis, J. K. Kim, S. D. Hawkins, and J. F. Klem, "Raman Scattering Study of Lattice Vibrations in the Type-II Superlattice InAs/InAs_{1-x}Sb_x," *Phys. Rev. Applied*, Vol. 8, 034028-1-13, 2017.
- M Liu, Y Chen, S Yoo, B Rainwater, L Zhang, B Dolye, "Toward a New Generation of Intermediate-Temperature Fuel Cells," *ECS Transactions*, vol. 78 (1), pp. 1821-1829, 2017.
- Mengmeng Liu, Xiong Pu*, Chunyan Jiang, Ting Liu, Xin Huang, Libo Chen, Chunhua Du, Jiangman Sun, Weiguo Hu*, Zhong Lin Wang*, "Large-area all-textile pressure sensors for monitoring human motions and physiological signals," *Adv. Mater.*, vol. 29, 1703700, 2017.

- R. Liu, W. Waheed, N. Wang, O. Civelekoglu, M. Boya, Chia-Heng Chu and A. F. Sarioglu, "Design and modeling of electrode networks for code-division multiplexed resistive pulse sensing in microfluidic devices," *Lab on a Chip*, vol. 17, pp. 2650-2666, 2017.
- T. Liu, K. C. Kim, B. Lee, Z. Chen, S. Noda, S. S. Jang, and S. W. Lee, "Self-Polymerized Dopamine as an Organic Cathode for Li- and Na-Ion Batteries," *Energy & Environmental Science*, vol. 10, pp. 205-215, 2017.
- N.E. Lourenco, Z.E. Fleetwood, A. Idefonso, M.T. Wachter, N.J.-H. Roche, A. Khachatryan, D. McMorro, S.P. Buchner, J.H. Warner, H. Itsuji, D. Kobayashi, K. Hirose, P. Paki, and J.D. Cressler, "The Impact of Technology Scaling on the Single-Event Transient Response of SiGe HBTs," *IEEE Transactions on Nuclear Science*, vol. 64, pp. 406-414, 2017.
- M. Luo, M. Zhou, R. Rosa da Silva, J. Tao, L. Figueroa-Cosme, H.-C. Peng, Z. He, and Y. Xia, "Pentatwinned Cu nanowires with ultrathin diameters below 20 nm and their use as templates for the synthesis of Au-based nanotubes," *ChemNanoMat*, vol. 3, pp. 190-195, 2017.
- R. Ma, V. V. Tsukruk, "Seriography-Guided Reduction of Graphene Oxide Biopapers for Wearable Sensory Electronics," *Adv. Funct. Mater.*, vol. 27, 2017.
- S. T. Malak *et al.*, "High-Resolution Quantum Dot Photopatterning via Interference Lithography Assisted Microstamping," *J. Phys. Chem. C*, vol. 121, pp. 13370–13380, 2017.
- R.G. Mannino, A.N. Santiago-Miranda, P. Pradhan, Y. Qiu, J.C. Mejias, S.S. Neelapu, K. Roy, W.A. Lam, "3D microvascular model recapitulates the diffuse large B-cell lymphoma tumor microenvironment in vitro," *Lab Chip*, vol. 17(3), pp. 407-414, 2017. doi: 10.1039/c6lc01204c, Jan. 31, 2017.
- S. McCann, G. T. Ostrowicki, A. Tran, T. Huang, T. Bernhard, R. R. Tummala, and S. K. Sitaraman, "Determination of Strain Energy Release Rate through Sequential Crack Extension," *Journal of Electronic Packaging, Transactions of ASME*, Vol. 139, No. 4, pp. 041003 – 041011, Dec. 2017.
- S. McCann, Y. Sato, T. Ogawa, R. R. Tummala, and S. K. Sitaraman, "Use of Birefringence to Determine Redistribution Layer Stresses to Create Design Guidelines to Prevent Glass Cracking," *IEEE Transactions on Device and Materials Reliability*, vol. 17, pp. 585-592, 2017.
- S. McCann, V. Smet, V. Sundaram, R. R. Tummala, and S. K. Sitaraman, "Experimental and Theoretical Assessment of Thin Glass Substrate for Low Warpage," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, pp. 178-185, 2017.
- K. Mehta, T. Detchprohm, Y. J. Park, Y.-S. Liu, O. Moreno, S. Wang, H. Xie, S.-C. Shen, F. A. Ponce, R. D. Dupuis, and P. D. Yoder, "High Reflectivity Hybrid AlGaIn/Silver Distributed Bragg Reflectors for use in the UV-Visible Spectrum," *IEEE J. Quant. Electron.* Vol. 53, No. 6, pp. 1-8, 2017.
- J. Min, M. Kim, T. Sun, P. M. Raj, and R. Tummala, "RF inductors with sputtered nanomagnetic films on glass substrates," *Journal of Materials Science: Materials in Electronics*, vol. 28, pp. 15184-15194, 2017.
- Krysten Minnici, Yo Han Kwon, Matthew Huie, Mark V. de Simon, Bingjie Zhang, David C. Bock, Jiajun Wang, Jun Wang, Kenneth J. Takeuchi, Esther S. Takeuchi, Amy C. Marschilok, Elsa Reichmanis, "High Capacity Li-ion Battery Anodes: Impact of Crystallite Size, Surface Chemistry and PEG-Coating," *Electrochimica Acta*, vol. 260, pp. 235-245, 2017. DOI: 10.1016/j.electacta.2017.12.010.
- S. A. Mirbozorgi, P. Yeon, and M. Ghovanloo, "Robust wireless power transmission to mm-sized free-floating distributed implants," *IEEE Trans. on Biomed. Circuits and Systems*, vol. 11, no. 3, pp. 692-702, June 2017.

- M.J. Mistilis, J.C. Joyce, E.S. Esser, I. Skountzou, R.W. Compans, A.S. Bommarius, M.R. Prausnitz, "Long-term stability of influenza vaccine in a dissolving microneedle patch," *Drug Delivery and Translational Research*, vol. 7, pp. 195-205, 2017.
- A. Mulyadi, Z. Zhang, M. Dutzer, W. Liu, Y. Deng, "Facile Approach for Synthesis of Doped Carbon Electrocatalyst from Cellulose Nanofibrils toward High Performance Metal-Free Oxygen Reduction and Hydrogen Evolution," *Nano Energy*, vol. 32, pp. 336-346, 2017.
- D.R. Myers, Y. Qiu, M.E. Fay, M. Tennenbaum, D. Chester, J. Cuadrado, Y. Sakurai, J. Baek, R. Tran, J. Ciciliano, B. Ahn, R. Mannino, S. Bunting, C. Bennett, M. Briones, A. Fernandez-Nieves, A.C. Brown, T. Sulchek, W.A. Lam, Michael L Smith, "Single-platelet nanomechanics measured by high-throughput cytometry," *Nature Materials*, 2017.
- D.R. Myers, Y. Qiu, M.E. Fay, M. Tennenbaum, D. Chester, J. Cuadrado, Y. Sakurai, J. Baek, R. Tran, J.C. Ciciliano, B. Ahn, R.G. Mannino, S.T. Bunting, C. Bennett, M. Briones, A. Fernandez-Nieves, M.L. Smith, A.C. Brown, T. Sulchek, W.A. Lam, "Single-platelet nanomechanics measured by high-throughput cytometry," *Nat Mater*, vol.16(2), pp. 230-235, 2017. doi: 10.1038/nmat4772. Epub 2016 Oct 10.
- D.R. Myers, A. Weiss, M.R. Rollins, W.A. Lam, "Towards remote assessment and screening of acute abdominal pain using only a smartphone with native accelerometers," *Sci Rep*, vol. 7(1), pp. 12750, 2017. doi: 10.1038/s41598-017-13076-x.
- M. N. Nasr, E. C. Green, P. A. Kottke, H. Zhang, T. E. Sarvey, Y. Joshi, M. Bakir, and A. Fedorov, "Flow Regimes and Convective Heat Transfer of Refrigerant Flow Boiling in Ultra-Small Clearance Microgaps," *Int. J. Heat Mass Transf.*, vol. 108, pp. 1702-1713, 2017.
- M. N. Nasr, E. C. Green, P. A. Kottke, H. Zhang, T. E. Sarvey, Y. Joshi, M. Bakir and A. Fedorov, "Hotspot Thermal Management With Flow Boiling of Refrigerant in Ultra-small Microgaps," *ASME J. Electronic Packaging*, vol. 139, pp. 011006 (8 pages), 2017.
- M. Nelms, W. Hodo, A. Rajendaran, R.V. Mohan, "Shock Wave Propagation in Cementitious Materials at Micro/Meso Scales," *American Institute of Physics*, 1793, 2017.
- A.N. Ofori-Boadu, A. Kelley, F. Aryeetey, E.H. Fini, P. Akangah, "The Influence of Swine-Waste Biochar on the Early-Age Characteristics of Cement Paste," *International Journal of Engineering Research and Applications*, 7(6), 1-7, 2017.
- H. Oh, G. May, and M. Bakir, "Heterogeneous integrated microsystems with non-traditional through-silicon via technologies," *IEEE Trans. on Components, Packaging and Manufacturing Technology*, vol. 7, no. 4, pp. 502-510, Mar. 2017.
- A.P. Omprakash, H. Dao, U.S. Raghunathan, H. Ying, J.A. Babcock, R. Mukhopadhyay, and J.D. Cressler, "An Investigation of High Temperature (to 300C) Safe-Operating-Area in a High-Voltage Complementary SiGe on SOI Technology," *IEEE Transactions on Electron Devices*, vol. 64, pp. 3748-3755, 2017.
- A.P. Omprakash, Z.E. Fleetwood, U. Raghunathan, A.S Cardoso, J. Babcock, R. Mukhopadhyay, E. Zhang, and J.D. Cressler, "An Investigation of Total Ionizing Dose Effects on a High voltage (48V) Complimentary SiGe on SOI Technology," *IEEE Transactions on Nuclear Science*, vol. 64, pp. 277-284, 2017.
- M. Oschatz, S. Boukhalifa, W. Nickel, J.P. Hofmann, C. Fischer, G. Yushin, "Carbide-derived carbon aerogels with tunable pore structure as versatile electrode material in high power supercapacitors," *Carbon*, vol. 113, pp. 283-291, 2017.

- Han Ouyang[‡], Jingjing Tian[‡], Guanglong Sun[‡], Yang Zou, Zhuo Liu, Hu Li, Luming Zhao, Bojing Shi, Yubo Fan, Yifan Fan*, Zhong Lin Wang*, Zhou Li*, “Self-powered Pulse Sensor for Antidiastole of Cardiovascular Disease,” *Adv. Mater.*, vol. 29, 1703456, 2017.
- J. A. M. Paddison, M. Daum, Z. L. Dun, G. Ehlers, Y. Liu, M. B. Stone, H. D. Zhou, and M. Mourigal, “Continuous excitations of the triangular-lattice quantum spin liquid YbMgGaO₄,” *Nature Physics*, vol. 13, pp. 117-122, 2017.
- I. Padilla-Espinosa, W. Hodo, J. Rivas-Murillo, A. Rajendaran, R.V. Mohan, “Constitutive Stiffness Characteristics of Cement Paste as a Multiphase Composite System - A Molecular Dynamics Based Model,” *Journal of Engineering Materials and Technology*, 139, 2017
- N.D. Paguigan, M.H. Al-Huniti, H.A. Raja, A. Czarnecki, J.E. Burdette, M. Gonzalez-Medina, J.L. Medina-Franco, S.J. Polyak, C.J. Pearce, M.P. Croatt, N.H. Oberlies, “Chemoselective Fluorination and Chemoinformatic Analysis of Griseofulvin: Natural Vs Fluorinated Fungal Metabolites,” *Bioorganic and Medicinal Chemistry*, 25, 5238-5246, 2017.
- Z. P. Pan, D. S. Shih, H. Garmestani, A. D. Rollett, and S. Y. Liang, "MTS model based force prediction for machining of Ti-6Al-4V," *Journal of Advanced Mechanical Design Systems and Manufacturing*, vol. 11, 2017.
- Z. P. Pan, D. S. Shih, A. Tabei, H. Garmestani, and S. Y. Liang, "Modeling of Ti-6Al-4V machining force considering material microstructure evolution," *International Journal of Advanced Manufacturing Technology*, vol. 91, pp. 2673-2680, Jul 2017.
- Yao Kun Pang[†], Li Bo Chen[†], Jian Jun Luo, Zhi Wei Yang, Chi Zhang*, Zhong Lin Wang*, “Tribotronic Transistor Sensor for Enhanced Hydrogen Detection,” *Nano Research*, vol. 10, pp. 3857–3864, 2017.
- J. Park, M. K. Aziz, S. Li, T. Chi, S. I. Grijalva, J. Sung, H. Cho, and H. Wang, “1024-Pixel CMOS Multi-Modality Joint Cellular Sensor/Stimulator Array for Real-Time Holistic Cellular Characterization and Cell-Based Drug Screening,” *IEEE Trans. Biomed. Circuits Syst.*, vol. 12, no. 1, pp. 80-94, Nov. 2017.
- J. Park, C. Perini, T. Liu, J. Hankinson, E. M. Vogel, M. Navaei, S. W. Lee, and I. Stern, “Interfacial Li-Ion Storage between Graphene Layers,” *ECS Transactions*, vol. 77, pp. 19-25, 2017.
- Jinho Park, Christopher Perini, Tianyuan Liu, John Hankinson, Eric M Vogel, Milad Navaei, Seung Woo Lee, Ilan Stern, “Interfacial Li-Ion Storage between Graphene Layers,” *ECS Transactions*, vol. 77, pp. 19-25, 2017.
- J. H. Park, T. Liu, K. C. Kim, S. W. Lee, and S. S. Jang, “Systematic Molecular Design of Ketone Derivatives of Aromatic Molecules for Lithium-Ion Batteries: First-Principles Density Functional Theory Modeling,” *ChemSusChem*, vol. 10, pp. 1586-1591, 2017.
- D.S. Patel, G. Diana, E.V. Entchev, M. Zhan, H. Lu, Q.L. Ch'ng, “Quantification of Information Encoded by Gene Expression Levels During Lifespan Modulation Under Broad-range Dietary Restriction in *C. elegans*,” *Journal of visualized experiments: JoVE*, (126), 2017.
- S. Pavlidis, B. Bayraktaroglu, K. Leedy, W. Henderson, E. Vogel, O. Brand, “ALD TiO_x as a top-gate dielectric and passivation layer for InGaZnO₁₁₅ ISFETs,” *Semiconductor Science and Technology*, vol. 32, no. 11, pp. 114004, 2017 (appeared in Special Issue on the Best Early Career Research Published in SST 2017).
- S. Pavlidis, B. Bayraktaroglu, K. Leedy, W. Henderson, Eric Vogel, O. Brand, “ALD TiO_x as a top-gate dielectric and passivation layer for InGaZnO ISFETs,” *Semiconductor Science and Technology*, vol. 32, pp. 114004, 2017.

- Nils Persson, Ping-Hsun Chu, Michael McBride, Martha Grover, Elsa Reichmanis, "Nucleation, Growth, and Alignment of Poly(3-hexylthiophene) Nanofibers for High-Performance OFETs," *Accounts of Chemical Research*, vol. 50, pp. 932-942, 2017.
- B. D. Piercy, C. Z. Leng, M. D. Losego, "Variation in the density, optical polarizabilities, and crystallinity of TiO₂ thin films deposited via atomic layer deposition from 38 to 150 °C using the titanium tetrachloride-water reaction," *Journal of Vacuum Science & Technology A: Vacuum, Surfaces, and Films*, vol. 35, 2017.
- J.D. Plotkin, M.G. Elias, A.L. Dellinger, C.L. Kepley, "NF- κ B inhibitors that prevent foam cell formation and atherosclerotic plaque accumulation," *Nanomedicine: Nanotechnology, Biology and Medicine*, 13(6), pp.2037-2048, 2017.
- S. Poudel, M.N. Fiddler, D. Smith, K.M. Flurchick, S. Bililign, "Optical Properties of Biomass Burning Aerosols: Comparison of Experimental Measurements and T-Matrix Calculations," *Atmosphere*, 8(11), 228, 2017.
- L. Premadasa, A.M. Boston, R. Sedighi, G.E. Crawford, J.Pinder, O.E. Jegede, S.Harrison, R.H. Newman, E.M. Onger, "Biomarkers of kidney injury and indicators of renal inflammation in African American men with diabetes and diabetic nephropathy," *The FASEB Journal*, 31, 716.10, 2017.
- X. Pu, W. Hu*, Z. L. Wang*, "Toward wearable self-charging power systems: the integration of energy storage and harvesting devices," *Small*, 2017.
- Wulin Qiu, Lu Liu, William J. Koros, "Effect of block versus random copolyimide structure on hollow fiber membrane spinnability," *Journal of Membrane Science*, vol. 529, pp. 150-158, 2017.
- Y. Qiu, S. Tong, L. Zhang, Y. Sakurai, D.R. Myers, L. Hong, W.A. Lam, G. Bao, "Magnetic forces enable controlled drug delivery by disrupting endothelial cell-cell junctions," *Nat Commun.*, vol. 8, pp. 15594, 2017. doi: 10.1038/ncomms15594, Jun. 8, 2017.
- Chong Qu, Bote Zhao, Yang Jiao, Dongchang Chen, Shuge Dai, Ben M. deGlee, Yu Chen, Krista S. Walton, Ruqiang Zou, Meilin Liu, "Functionalized Bimetallic Hydroxides Derived from Metal-Organic Frameworks for High Performance Hybrid Supercapacitor with Exceptional Cycling Stability," *ACS Energy Letters*, vol. 2 (6), pp. 1263-1269, 2017.
- M. Rafati, L.J. Wang, D.C. Dayton, K. Schimmel, V. Kabadi, A. Shahbazi, "Techno-economic analysis of production of Fisher-Tropsch liquids via biomass gasification: the effects of Fischer-Tropsch catalysts and natural gas co-feeding," *Energy Conversion and Management*, 133: 153-166, 2017.
- S. Raghavan, and S. K. Sitaraman, "Shear Test on Hard-Coated Flip-Chip Bumps to Measure Back-End-of-the-line Stack Reliability," *Engineering Fracture Mechanics*, Vol. 178, pp. 1-13, 2017.
- U.S. Raghunathan, H. Ying, B.R. Wier, A.P. Omprakash, P.S. Chakraborty, T.G. Bantu, H. Yasuda, P. Menz, and J.D. Cressler, "Physical Differences in Hot Carrier Degradation of Oxide Interfaces in Complementary (NPN + PNP) SiGe HBTs," *IEEE Transactions on Electron Devices*, vol. 64, pp. 37-44, 2017.
- P. M. Raj, H. Sharma, S. Sitaraman, D. Mishra, and R. Tummala, "System Scaling with Nanostructured Power and RF Components," *Proceedings of the IEEE*, vol. 105, pp. 2330-2346, 2017.
- Rahul Rao, Ahmad E Islam, Philip M Campbell, Eric M Vogel, Benji Maruyama, "In situ thermal oxidation kinetics in few layer MoS₂," *2D Materials*, vol. 4, pp. 025058, 2017.
- M. Rashidi, A. Paul, J. Y. Kim, L. J. Jacobs, & K. E. Kurtis, "Insights into delayed ettringite formation damage through acoustic nonlinearity," *Cement and Concrete Research*, vol. 95, pp. 1-8, 2017.

- K.L. Rhinehardt, S.A. Vance, R.V Mohan, M. Sandros, G. Srinivas, 2017, "Molecular Modeling and SPRi Investigations of Interleukin 6 (IL6) Protein and DNA Aptamers." *Journal of Biomolecular Structure & Dynamics*, 1, 14, 2017.
- M. Riazat, M. Tafazoli, M. Baniassadi, M. Safdari, G. Faraji, and H. Garmestani, "Investigation of the property hull for solid oxide fuel cell microstructures," *Computational Materials Science*, vol. 127, pp. 1-7, Feb 2017.
- Bailey Risteen, Alyssa Blake, Michael A. McBride, Cornelia Rosu, Jung Ok Park, Mohan Srinivasarao, Paul S. Russo, Elsa Reichmanis, "Enhanced Alignment of Water-Soluble Polythiophene Using Cellulose Nanocrystals as a Liquid Crystal Template," *Biomacromolecules*, vol. 18, pp. 1556-1562, 2017. <http://dx.doi.org/10.1021/acs.biomac.7b00121>.
- J. Rivas-Murillo, A. Mohamed, W. Hodo, R.V. Mohan, A. Rajendran, R. Valisetty, "A Molecular Dynamics Investigation of Hydrostatic Compression Characteristics of Mineral Jennite," *Cement and Concrete Research*, 99, 62–69, 2017.
- J. Rivera-Chavez, H.A. Raja, T.N. Graf, J.E. Burdette, C.J. Pearce, N.H. Oberlies, "Biosynthesis of Fluorinated Peptaibols Using a Site-Directed Building Block Incorporation Approach," *Journal of Natural Products*, 80, 1883-1892, 2017.
- J. Rivera-Chávez, H.A. Raja, T.N. Graf, J.M. Gallagher, P. Metri, D. Xue, c.J. Pearce, N.H. Oberlies, "Preamethicin F50 and Related Peptaibols from *Trichoderma Arundinaceum*: Validation of Their Authenticity Via in Situ Chemical Analysis," *RSC Advances*, 7, 45733-45741, 2017
- S. P. Rodrigues, S. Lan, L. Kang, Y. Cui, P. W. Panuski, S. Wang, A. M. Urbas, and W. Cai*, "Intensity-dependent modulation of optically active signals in a chiral metamaterial," *Nature Communications*, Vol. 8, pp. 14602, 2017.
- A. Rohatgi, B. Rounsaville, Y.-W.Ok, A. M. Tam, F. Zimbardi, A. D. Upadhyaya, Y. Tao, K. Madani, A. Richter, J. Benick, and M. Hermle, "Fabrication and Modeling of High-Efficiency Front Junction N-type Silicon Solar Cells with Tunnel Oxide Passivating Back Contact," *IEEE Journal of Photovoltaics*, vol. 7(5), pp. 1236-1243, 2017.
- N.G. Roupahel, M. Paine, R. Mosley, H. Sebastein, D.V. McAllister, H. Kalluri, W. Pewin, P.M. Frew, T. Yu, N.J. Thornburg, S. Kabbani, L. Lai, E.V. Vassilieva, I. Skountzou, R.W. Compans, M.J. Mulligan, M.R. Prausnitz, "The safety, immunogenicity, and acceptability of inactivated influenza vaccine delivered by microneedle patch (TIV-MNP 2015): a randomised, partly blinded, placebo-controlled, phase 1 trial," *The Lancet*, vol. 390, pp. 649-658, 2017.
- A. Ruditskiy, M. Vara, H. Huang, and Y. Xia, "Oxidative etching of Pd decahedral nanocrystals with a penta-twinned structure and its impact on their growth behavior," *Chemistry of Materials*, vol. 29, pp. 5394-5400, 2017.
- M. Rungta, G. B. Wenz, C. Zhang, L. Xu, W. Qiu, J. S. Adams, W. J. Koros, "Carbon Molecular Sieve Structure Development and Membrane Performance Relationships," *Carbon*, vol. 115, pp. 237-248, 2017.
- T. E. Sarvey, Y. Hu, C. E. Green, P.A. Kottke, D. C. Woodrum, Y. Joshi, A. G. Fedorov, S. K. Sitaraman, M. S. Bakir, "Integrated Circuit Cooling Using Heterogeneous Micropin-Fin Arrays for Nonuniform Power Maps," *IEEE Transactions on Components, Packaging, and Manufacturing Technology*, vol. 7, pp. 1465-1475, 2017.
- T. E. Sarvey, Y. Hu, C. E. Green, P. A. Kottke, D. C. Woodrum, Y. K. Joshi, A. G. Fedorov, S. K. Sitaraman, and M. S. Bakir, "Integrated circuit cooling using heterogeneous micropin-fin arrays for nonuniform power maps," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, no. 10, pp. 1617 - 1624, Oct. 2017.

- T. E. Sarvey, Y. Zhang, C. Cheung, R. Gutala, A. Rahman, A. Dasu, and M. S. Bakir, "Monolithic integration of a micropin-fin heat sink in a 28 nm FPGA," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, no. 9, pp. 1465 - 1475, Sep. 2017.
- B. M. Sawyer, Y. Suzuki, R. Furuya, C. Nair, T.-C. Huang, V. Smet, *et al.*, "Design and demonstration of a 2.5-D glass interposer BGA package for high bandwidth and low cost," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, pp. 552-562, 2017.
- A. Schinder, J. Rimoli, M. L. R. Walker, "Investigation of Plasma Material Erosion Under Mechanical Stress," *Journal of Propulsion and Power*, vol. 33, pp. 433-447, March-April 2017.
- J. Schwartz, A. Engler, O. Phillips, J. Lee, P. A. Kohl, "Determination of Ceiling Temperature and Thermodynamic Properties of Low Ceiling Temperature Polyaldehydes," *Journal of Polymer Science A*, vol. 55 (7), pp. 1166-1172, 2017.
- J. Schwartz, O. Phillips, A. Engler, A. Sutfied, J. Lee, P. A. Kohl, "Stable, High Molecular Weight Poly(phthalaldehyde)," *Journal of Polymer Science A*, vol. 55, pp. 1166-1172, 2017.
- Y.J. Sei, S.I. Ahn, T. Virtue, T. Kim, and Y. Kim, "Detection of frequency-dependent endothelial response to oscillatory shear stress using a microfluidic transcellular monitor," *Scientific Reports*, vol. 7, pp. 10019, 2017.
- P.K. Sekhar, Z. Moore, S. Aravamudhan, A. Khosla, "A new low-temperature electrochemical hydrocarbon and NO_x sensor," *Sensors*, 17(12), 2759, 2017
- H. R. Seyf, L. Yates, T. Bougher, S. Graham, B. A. Cola, T. Detchprohm, M.-H. Ji, J. Kim, R. Dupuis, and W. Lv, "Rethinking Phonons: The Issue of Disorder," *npj Computational Materials*, Vol. 49, No. 49, 2017.
- M. Sharma, P. Deshmukh, P. Kasanaboina, C. Lewis Reynolds Jr., Y. Liu, S. Iyer, "Growth of Defect-Free GaAsSbN Axial Nanowires via Self-Catalyzed Molecular Beam Epitaxy", *Sem. Sci. and Tech.* 32, 125003 , 2017.
- M. Sharma, M.R. Karim, P. Kasanaboina, J. Li, S. Iyer, "Pitch-Induced Bandgap Tuning in Self-Catalyzed Growth of Patterned GaAsSb Axial and GaAs/GaAsSb Core-Shell Nanowires using MBE" *Crystal Growth & Design*, 17, 307, 2017
- R. Sharma, L. Zhang, and S. Aravamudhan. "Nerve Growth Factor incorporated Coaxial Electrospun Cellulose Acetate/Polyvinylpyrrolidone (CA-PVP-CA) Nanofibers for Neural Cell Differentiation," *Tissue Engineering Part A*, 23, S106-S107. 2017.
- V.P. Sica, E.R. Rees, H. A. Raja, J. Rivera-Chávez, J.E. Burdette, C.J. Pearce, N.H. Oberlies, "In Situ Mass Spectrometry Monitoring of Fungal Cultures Led to the Identification of Four Peptaibols with a Rare Threonine Residue," *Phytochemistry*, 143, 45-53, 2017.
- B. Singh, G. Menezes, S. McCann, V. Jayaram, U. Ray, V. Sundaram, *et al.*, "Board-level thermal cycling and drop-test reliability of large, ultrathin glass BGA packages for smart mobile applications," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, pp. 726-733, 2017.
- S. Sitaraman, V. Sukumaran, M. R. Pulugurtha, Z. Wu, Y. Suzuki, Y. Kim, *et al.*, "Miniaturized Bandpass Filters as Ultrathin 3-D IPDs and Embedded Thinfilms in 3-D Glass Modules," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, pp. 1410-1418, 2017.
- M. J. Smith *et al.*, "Robust, Uniform, and Highly Emissive Quantum Dot-Polymer Films and Patterns Using Thiol-Ene Chemistry," *ACS Appl. Mater. Interfaces*, vol. 9, pp. 17435-17448, 2017.
- B. Song, J. Zhao, M. Wang, J. Mullavey, Y. Zhu, Z. Geng, D. Chen, Y. Ding, K. Moon, M. Liu, C. P. Wong, "Systematic study on structural and electronic properties of diamine/triamine functionalized graphene networks for supercapacitor application," *Nano Energy*, vol. 31, pp. 183-193, 2017.

- I. Song, M.-K. Cho, M.A. Oakley, A. Ildefonso, I. Ju, S.P. Buchner, D. McMorrow, P. Paki, and J.D. Cressler, "The Application of Inverse-Mode SiGe HBTs in RF Receivers for Mitigation of Single-Event Transients," *IEEE Transactions on Nuclear Science*, vol. 64, pp. 1142-1150, 2017.
- I. Song, N.E. Lourenco, S. Jung, M.-K. Cho, N.J.-H. Roche, A. Khachatryan, D. McMorrow, S.P. Buchner, J.H. Warner, P. Paki, and J.D. Cressler, "The Use of Inverse-Mode SiGe HBTs as Active Gain Stages in Low-Noise Amplifiers for the Mitigation of Single-Event Transients," *IEEE Transactions on Nuclear Science*, vol. 64, pp. 359-366, 2017.
- A. K. Sood, J. W. Zeller, Y. R. Puri, R. D. Dupuis, T. Detchprohm, M.-H. Ji, S.-C. Shen, S. Babu, N. K. Dhar, and P. Wijewarnasuriya, "Development of High Gain GaN/AlGaN Avalanche Photodiode Arrays for UV Detection and Imaging Application," *International Journal of Engineering Research and Technology*, Vol. 10, Number 2, pp. 129-150, 2017.
- F. Sun, We. Liu, Y. Deng, "Underwater Superoleophobicity Cellulose Nanofibril Aerogel through Regioselective Sulfonation for Oil/Water Separation", *Chemical Engineering Journal*, vol. 330, pp. 774-782, 2017.
- Haibin Sun, Ben H. Rainwater, Xunhui Xiong, Yu Chen, Tao Wei, Qiaobao Zhang, Zanzhong Yang, Chengxin Li, Meilin Liu, "Interfacial effects on electrical conductivity in ultrafine-grained Sm 0.2 Ce 0.8 O 2- d electrolytes fabricated by a two-step sintering process," *International Journal of Hydrogen Energy*, 2017.
- H. Sun, F. Wu, T. M. Altahtamouni, N. Alfara, K.-H. Li, T. Detchprohm, R. D. Dupuis, and X. Li, "Structural Properties, Crystal Quality, and Growth Modes of MOCVD-Grown AlN with TMAI Pretreatment of Sapphire Substrate," *J. Phys. D: Appl. Phys.*, Vol. 50, pp. 395101J1-7, 2017.
- H. Sun, F. Wu, Y.-J. Park, T. M. Al Tahtamouni, K.-H. Li, N. Alfaraj, T. Detchprohm, R. D. Dupuis, and X. Li, "Influence of TMAI Preflow on AlN Epitaxy on Sapphire," *Appl. Phys. Lett.*, Vol. 110, No. 19, 2017.
- T. Sun, H. Sharma, P. M. Raj, F. Yoshihiro, S. Hachiya, K. Takemura, *et al.*, "Substrate Embedded Thin-Film Inductors With Magnetic Cores for Integrated Voltage Regulators," *IEEE Transactions on Magnetics*, vol. 53, pp. 1-9, 2017.
- X. Sun, Y. Yang, Z. Zhang, D. Qin, "Mechanistic Roles of Hydroxide in Controlling the Deposition of Gold on Colloidal Silver Nanocrystals," *Chem. Mater.*, vol. 29, pp. 4014-4021, 2017.
- X. Sun, X. Yang, Y. Zhang, Y. Ding, D. Su, D. Qin, "Pt-Ag Cubic Nanocages With Wall Thickness Less Than 2 nm and Their Enhanced Catalytic Activity Toward Oxygen Reduction," *Nanoscale*, vol. 9, pp. 15107-15114, 2017.
- S. Surappa, S. Satir and F.L. Degertekin, "A Capacitive Ultrasonic Transducer Based on Parametric Resonance," *Appl. Phys. Lett.*, vol. 111(4), pp. 043503, July 2017.
- Y. Suzuki, H. Habib, F. Wei, V. Sundaram, and R. R. Tummala, "Embedded Trench RDL at 2-5 μm Width and Space by Excimer Laser and Surface Planer for 20-40 μm Pitch Interposers," *IEEE Transactions on Components, Packaging, and Manufacturing Technology*, vol. 7, pp. 838-845, June 2017.
- Y. Suzuki, E. Snyder, C. Ji, S. Walther, A. Gupta, C. Gottschalk, V. Sundaram and R. R. Tummala, "Microvia Formation in 5- μm -Thick Dry-Film Dielectric by Ozone Etch Processes," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, Accepted 2017.
- A. Tabei, F. H. Abed, G. Z. Voyiadjis, and H. Garmestani, "Constitutive modeling of Ti-6Al-4V at a wide range of temperatures and strain rates," *European Journal of Mechanics a-Solids*, vol. 63, pp. 128-135, May-June 2017.

- A. Tabei, J. Startt, R. T. Hoffman, E. Yavari, C. Deo, and H. Garmestani, "Microstructural Evolution in Hot and Cold-Rolled Ti-Nb Alloy," *Journal of Materials Engineering and Performance*, vol. 26, pp. 61-68, Jan 2017.
- H. Taghinejad, S. H. Shams-Mousavi, Y. Gong, M. Taghinejad, A. A Eftekhar, P. Ajayan, A. Adibi, "Lattice plasmon induced large enhancement of excitonic emission in monolayer metal dichalcogenides," *Plasmonics*, vol. 12 (6), pp.1-7, 2017.
- M. Tajkarimi, K. Rhinehardt, M. Thomas, J.A. Ewunkem, A. Campbell, S. Boyd, D. Turner, S.H. Harrison, J.L. Graves, "Selection for ionic-confers silver nanoparticle resistance in *Escherichia coli*," *JSM Nanotechnol. Nanomed*, 5, 1047, 2017
- M. L. Tanes, J. Xue, and Y. Xia, "A general strategy for generating gradients of bioactive proteins on electrospun nanofiber mats by masking with bovine serum albumin," *Journal of Materials Chemistry B*, vol. 5, pp. 5580-5587, 2017.
- Y. Tao, K. Madani, E. Cho, B. Rounsaville, V. Upadhyaya, and A. Rohatgi, "High-efficiency selective boron emitter formed by wet chemical etch-back for n-type screen-printed Si solar cells," *Applied Physics Letters*, vol. 110, pp. 021101, 2017.
- B. Tasadduq, B. McFarland*, M. Islam, A. Alexeev, A.F. Sarioglu, T. Sulchek, "Continuous sorting of cells based on differential P selectin glycoprotein ligand expression using molecular adhesion," *Analytical Chemistry*, vol. 89, pp. 11545-11551, 2017.
- B. Tasadduq, W. Lam, A. Alexeev, A.F. Sarioglu, T. Sulchek, "Enhancing size based size separation through vertical focus microfluidics using secondary flow in a ridged microchannel," *Scientific Reports*, vol. 7, 17375, 2017.
- S. Tol, F.L. Degertekin and A. Erturk, "Phononic crystal Luneburg lens for omnidirectional elastic wave focusing and energy harvesting," *Appl. Phys. Lett.*, April 2017.
- S. Tol, F.L. Degertekin and A. Erturk, "Structurally-Embedded Reflectors and Mirrors for Elastic Wave Focusing and Harvesting," *Journal of Applied Physics*, vol. 122, pp. 164503, 2017.
- M.J. Toth, T. Kim, and Y. Kim, "Robust manufacturing of lipid-polymer nanoparticles through feedback control of parallelized swirling microvortices," *Lab on a Chip*, vol. 17, pp. 2805-2813, 2017.
- R. Tran, D.R. Myers, G. Denning, J.E. Shields, A.M. Lytle, H. Alrowais, Y. Qiu, Y. Sakurai, W.C. Li, O. Brand, J.M. Le Doux, H.T. Spencer, C.B. Doering, W.A. Lam, "Microfluidic Transduction Harnesses Mass Transport Principles to Enhance Gene Transfer Efficiency," *Mol Ther.*, vol. 25(10), pp. 2372-2382, 2017. doi: 10.1016/j.ymthe.2017.07.002. Epub 2017 Jul 8.
- Meng-Yen Tsai, Niamh Creedon, Eleanor Brightbill, Spyridon Pavlidis, Billyde Brown, Darren W Gray, Niall Shields, Róna Sayers, Mark H Mooney, Alan O'Riordan, Eric M Vogel, "Direct correlation between potentiometric and impedance biosensing of antibody-antigen interactions using an integrated system," *Applied Physics Letters*, vol. 111, pp. 073701, 2017.
- Meng-Yen Tsai, Siyuan Zhang, Philip M Campbell, Raghunath R Dasari, Xiaochu Ba, Alexey Tarasov, Samuel Graham, Stephen Barlow, Seth R Marder, Eric M Vogel, "Solution-Processed Doping of Trilayer WSe₂ with Redox-Active Molecules," *Chemistry of Materials*, vol. 29, pp. 7296-7304, 2017.
- M.J. Uddin, P.K. Alaboina, L. Zhang, S-J.Cho, "A low-cost, environment-friendly lignin-polyvinyl alcohol nanofiber separator using a water-based method for safer and faster lithium-ion batteries," *Materials Science and Engineering: B*, 223, 84-90, 2017.
- M-J. Uddin, P.K. Alaboina, S-J. Cho, "Nanostructured Advanced Cathode Materials Synthesis for Lithium-Ion Batteries." *Materials Today Energy*, 5, 138-157, 2017.

- M. Vara, P. Lu, X. Yang, and Y. Xia, "A photochemical, room-temperature, and aqueous route to the synthesis of Pd nanocubes enriched with atomic steps and terraces on the side faces," *Chemistry of Materials*, vol. 29, pp. 4563-4571, 2017.
- M. Vara, L. Roling, X. Wang, A. Elnabawy, Z. Hood, M. Chi, M. Mavrikakis, and Y. Xia, "Understanding the thermal stability of palladium-platinum core-shell nanocrystals by in situ transmission electron microscopy and density functional theory," *ACS Nano*, vol. 11, pp. 4571-4581, 2017.
- J. Vatamanu, O. Borodin, M. Olguin, G. Yushin, D. Bedrov, "Charge storage at the nanoscale: understanding the trends from the molecular scale perspective," *Journal of Materials Chemistry A*, vol. 5 (40), pp. 21049-21076, 2017.
- Paul Villoutreix, Joakim Andén, Bomyi Lim, Hang Lu, Ioannis G Kevrekidis, Amit Singer, Stanislav Y Shvartsman, "Synthesizing developmental trajectories," *PLoS Computational Biology*, vol. 13 (9), e1005742, 2017.
- C. Wan, T. K. Gaylord, and M. S. Bakir, "Circular waveguide grating-via-grating for interlayer coupling," *IEEE Photonics Technology Letters*, vol. 29, no. 21, pp. 1776-1779, Nov. 2017.
- Z. Wan, Y. Joshi, "Pressure Drop and Heat Transfer Characteristics of Pin Fin Enhanced Microgaps in Single Phase Microfluidic Cooling," *Int. J. Heat Mass Transfer*, vol. 115, pp. 115-126, 2017.
- C. -Y. Wang, C. Fuentes-Hernandez, W.-F. Chou, and B. Kippelen, "Top-gate organic field-effect transistors fabricated on paper with high operational stability," *Org. Electron*, vol. 41, pp. 340-344, 2017.
- G. Wang, D. Yu, A.D. Kelkar, L. Zhang, "Electrospun Nanofiber: Emerging Reinforcing Filler in Polymer Matrix Composite Materials" *Progress in Polymer Science*, 75, 73-107, 2017.
- H. Wang, S. Zhou, G. D. Gilroy, Z. Cai, and Y. Xia, "Icosahedral nanocrystals of noble metals: Synthesis and applications," *Nano Today*, vol. 15, pp. 121-144, 2017.
- N. Wang, R. Liu and A. F. Sarioglu, "Microfluidic Platform with Multiplexed Electronic Detection for Spatial Tracking of Particles," *Journal of Visualized Experiments*, Vol. 121, pp. e55311, 2017.
- S. Wang, X. Li, A. M. Fischer, T. Detchprohm, R. D. Dupuis, and F. A. Ponce, "Crystal Structure of BAIN Thin Films: Effect of Boron Concentration in the Gas Flow," *J. Cryst. Growth*, Vol. 475, pp. 334-40, 2017.
- T. Wei, L. Zhang, Y. Chen, P. Yang, M. Liu, "A promising proton conductor for intermediate-temperature fuel cells: $\text{Li}_{13.9}\text{Sr}_{0.1}\text{Zn}(\text{GeO}_4)_4$," *Chem. Mater.*, vol. 29 (4), pp. 1490-1495, 2017.
- H. Wen, A. Daruwalla, and F. Ayazi, "Resonant Pitch and Roll Silicon Gyroscopes with Sub-Micron-Gap Slanted Electrodes: Breaking the Barrier Toward High-Performance Monolithic Inertial Measurement Units," *Microsystems & Nanoengineering (nature publishing)*, vol. 3, 16092, 2017.
- F. Wu and G. Yushin, "Conversion Cathodes for Rechargeable Lithium and Lithium-Ion Batteries," *Energy & Environmental Science*, vol. 10 (2), pp. 435-459, 2017.
- F. Wu et al. "Toward in-situ protected sulfur cathodes by using lithium bromide and pre-charge," *Nano Energy*, vol. 40, pp. 170-179, 2017.
- F. Wu, O. Borodin, G. Yushin, "In situ surface protection for enhancing stability and performance of conversion-type cathodes," *MRS Energy & Sustainability*, vol. 4, 2017.
- Y. Wu, D. Su, D. Qin, "Bifunctional $\text{Ag}@\text{SiO}_2/\text{Au}$ Nanoparticles for Probing Sequential Catalytic Reactions by Surface-Enhanced Raman Spectroscopy," *ChemNanoMat*, vol. 3, pp. 245-251, 2017.
- Y. Wu, X. Sun, Y. Yang, J. Li, Y. Zhang, D. Qin, "Enriching Silver Nanocrystals with a Second Noble Metal," *Acc. Chem. Res.*, vol. 50, pp. 1774-1784, 2017.

- Z. Wu, J. Min, V. Smet, M. R. Pulugurtha, V. Sundaram, and R. R. Tummala, "Ultraminaturized Three-Dimensional IPAC Packages with 100 μm Thick Glass Substrates for Radio Frequency Front-End Modules," *Journal of Electronic Packaging*, vol. 139, pp. 041001, 2017.
- R. Xiong *et al.*, "Template-Guided Assembly of Silk Fibroin on Cellulose Nanofibers for Robust Nanostructures with Ultrafast Water Transport," *ACS Nano*, vol. 11, pp. 12008–12019, 2017.
- S. Xiu, B. Zhang, N.A. Boakye-Boaten, A. Shahbazi, "Green Biorefinery of Giant Miscanthus for Growing Microalgae and Biofuel Production," *Fermentation*, 3(4), p.66, 2017.
- S. Xiu, A. Shahbazi, R. Li, "Characterization, modification and application of biochar for energy storage and catalysis: a review," *Trends in Renewable Energy*, 3(1), pp.86-101, 2017.
- Minyi Xu, Peihong Wang, Yi-Cheng Wang, Steven L. Zhang, Aurelia Chi Wang, Chunli Zhang, Zhengjun Wang, Xinxiang Pan and Zhong Lin Wang*, "A soft and robust spring based triboelectric nanogenerator for harvesting arbitrary directional vibration energy and self-powered vibration sensing," *Adv. Energy Mater.*, 1702432, 2017.
- J. Xue, J. Yang, D. O'Connor, C. Zhu, D. Huo, N. Boulis, and Y. Xia, "Differentiation of bone marrow stem cells into Schwann cells for the promotion of neurite outgrowth on electrospun fibers," *ACS Applied Materials & Interfaces*, vol. 9, pp. 12299-12310, 2017.
- M. Yang, W. Wang, K. D. Gilroy, and Y. Xia, "Controlling the deposition of Pd on Au nanocages: Outer surface only versus both outer and inner surfaces," *Nano Letters*, vol. 17, pp. 5682-5687, 2017.
- M. Yang, Z. D. Hood, X. Yang, M. Chi, and Y. Xia, "Facile synthesis of Ag@Au core-sheath nanowires with greatly improved stability against oxidation," *Chemical Communications*, vol. 53, pp. 1965-1968, 2017.
- T.-H. Yang, H.-C. Peng, S. Zhou, C.-T. Lee, S. Bao, Y.-H. Lee, J.-M. Wu, and Y. Xia, "Toward a quantitative understanding of the reduction pathways of a salt precursor in the synthesis of metal nanocrystals," *Nano Letters*, vol. 17, pp. 334-340, 2017.
- W. Yang, H. Bian, L. Jiao, W. Wu, H. Dai, Y. Deng, "Highly Wet Strength, Thermal-Stable and Transparent TEMPO- Oxidized Cellulose Nanofibrils Film via Cross-Linking with Poly-amide Epichlorhydrin Resin," *RCS Advances*, vol. 7, pp. 31567-31573, 2017.
- Wei Yang, Nian-Wu Li, Shuyu Zhao, Zuqing Yuan, Jiaona Wang, Xinyu Du, Bin Wang, Ran Cao, Xiuyan Li, Weihua Xu*, Zhong Lin Wang, Congju Li*, "A Breathable and Screen-Print Pressure Sensor Based on Nanofiber Membranes for Electronic Skins," *Advanced Materials Technology*, 2017.
- X. Yang, G. D. Gilroy, M. Vara, M. Zhao, S. Zhou, and Y. Xia, "Gold icosahedral nanocages: Facile synthesis, optical properties, and fragmentation under ultrasonication," *Chemical Physics Letters*, vol. 683, pp. 613-618, 2017.
- Ya Yang, Yang Wang, and Zhong Lin Wang, "Triboelectric Nanogenerators as Flexible Power Sources," *npj Flexible Electronics*, vol. 1(10), 2017.
- P. Yeon, S.A. Mirbozorgi, J. Lim, H. and M. Ghovanloo, "Feasibility study on active back telemetry and power transmission through an inductive link for millimeter-sized biomedical implants," *IEEE Trans. on Biomed. Circuits and Systems*, vol. 11, no. 6, pp. 1366-1376, Dec. 2017.
- H. Ying, J. Dark, L. Ge, N. Lourenco, A. Omprakash, D. Davidovic, M. Mourigal, and J.D. Cressler, "Operation of SiGe HBTs Down to 70 mK Temperatures," *IEEE Electron Device Letters*, vol. 38, pp. 12-15, 2017.
- G.B. Yohei Matsunaga, Hyundoo Hwang, Barbara Franke, Rhys Williams, McKenna Penley, Hiroshi Qadota, Hong Yi, Levi T. Morran, Hang Lu, Olga Mayans, "Twitchin kinase inhibits muscle activity," *Molecular Biology of the Cell*, vol. 28 (12), pp. 1591-1600, 2017.

- H. Yoon, S.K. Yarmoska, A.S. Hannah, C. Yoon, K.A. Hallam, and S.Y. Emelianov, "Contrast-enhanced ultrasound imaging in vivo with laser-activated nanodroplets," *Medical Physics*, doi: 10.1002/mp.12269, vol. 44, pp. 3444–3449, 2017.
- W. Yueh, Z. Wan, H. Xiao, S. Yalamanchili, Y. Joshi, S. Mukhopadhyay, "Active Fluidic Cooling on Energy Constrained System-on-Chip Systems," *IEEE Components and Manuf. Technology*, vol. 7, pp. 1813-1822, 2017.
- S. Zeinolabedinzadeh, A.C. Ulusoy, F. Inanlou, H. Ying, Y. Gong, R.L. Schmid, Z.E. Fleetwood, N.J.-H. Roche, A. Khachatryan, D. McMorrow, S.P. Buchner, J.H. Warner, P. Paki, and J.D. Cressler, "Single-Event Effects in a Millimeter-Wave Receiver Front-End Implemented in 90 nm, 300 GHz SiGe HBT Technology," *IEEE Transactions on Nuclear Science*, vol. 64, pp. 536-543, 2017.
- S. Zeinolabedinzadeh, H. Ying, Z.E. Fleetwood, N.J.-H. Roche, A. Khachatryan, D. McMorrow, S.P. Buchner, J.H. Warner, P. Paki, and J.D. Cressler, "Single-Event Effects in High Frequency Linear Amplifiers: Experiment and Analysis," *IEEE Transactions on Nuclear Science*, vol. 64, pp. 125-132, 2017.
- S. Zeinolabedinzadeh, A.C. Ulusoy, M.A. Oakley, and J.D. Cressler, "A 0.3 – 15.0 GHz SiGe LNA with >1.0 THz Gain-Bandwidth Product," *IEEE Microwave and Wireless Components Letters*, vol. 27, pp. 380-382, 2017.
- Z. Zeng, X. Shi, T. Mabe, S. Christie, G. Gilmore, A. Smith, J. Wei, "Protein Trapping in Plasmonic Nanoslit and Nanoledge Cavities: The Behavior and Sensing," *Analytical Chemistry*, 89 (10), 5221-5229, 2017.
- Z. Zeng, Y. Liu, W. Zhang, H. Chevva, J. Wei, "Improved Supercapacitor Performance of MnO₂-Electrospun Carbon Nanofiber Electrodes by mT Magnetic Field," *Journal of Power Sources*, 358, 22-28, 2017.
- Z. Zeng, W. Zhang, D. Arvapalli, B. Bloom, A. Sheardy, T. Mabe, Y. Liu, Z. Ji, H. Chevva, D. H. Waldeck, J. Wei, "A Fluorescence-electrochemical Study of Carbon Nanodots (CNDs) in Bio- and Photoelectronic Applications and Energy Gap Investigation," *Physical Chemistry Chemical Physics* 19, 20101-20109, 2017.
- Z. Zeng, W. Zhang, Y. Liu, P. Liu, J. Wei*, Uniformly electrodeposited alpha-MnO₂ film on super-aligned electrospun carbon nanofibers for a bifunctional catalyst design in oxygen reduction reaction. *Electrochimica Acta*, 256, 232-240, 2017.
- B. Zhang, L.J. Wang, R. Li, Q. Rahman, A. Shahbazi, A, "Catalytic conversion of Chlamydomonas to hydrocarbons via the ethanol-assisted liquefaction and hydrotreating processes. *Energy and Fuels*," 31(11):12223-12231, 2017.
- C. Zhang, W. J. Koros, "Ultrasensitive Carbon Molecular Sieve Membranes with Tailored Synergistic Sorption Selective Properties," *Advanced Materials*, vol. 29, pp. 1701631, 2017.
- C. Zhang; G. B. Wenz, P. J. Williams, J. M. Mayne, G. Liu, W. J. Koros, "Purification of Aggressive Supercritical Natural Gas Using Carbon Molecular Sieve Hollow Fiber Membranes," *Industrial & Engineering Chemistry Research*, vol. 56, pp. 10482-10490, 2017.
- C. Zhang, H. S. Yang, and M. S. Bakir, "A double-lithography and double-reflow process and application to multi-pitch multi-height mechanical flexible interconnects," *Journal of Micromechanics and Microengineering*, vol. 27, no. 2, pp. 025014-1-025014-6, Jan. 2017.
- F. Zhang, H. Ren, J. Dou, G. Tong, Y. Deng, "Cellulose Nanofibril Based-Aerogel Microreactors: A High Efficiency and Easy Recoverable W/O/W Membrane Separation System," *Scientific Reports*, vol. 7, pp. 40096, 2017.

- Guoyan Zhang, Michael McBride, Nils Persson, Savannah Lee, Tim Dunn, Michael Toney, Zhibo Yuan, Yo-Han Kwon, Ping-Hsun Chu, Bailey Risteen, Elsa Reichmanis, "A versatile interpenetrating polymer network approach to robust stretchable electronic devices," *Chemistry of Materials*, vol. 29, pp. 7645-7652, 2017.
- Ke Zhang, Mingzeng Peng, Wei Wu, Junmeng Guo, Guoyun Gao, Yudong Liu, Jinzong Kou, Rongmei Wen, Ying Lei, Aifang Yu, Yang Zhang, Junyi Zhai*, and Zhong Lin Wang*, "A flexible p-CuO/n-MoS₂ heterojunction photodetector with enhanced photoresponse by the piezo-phototronic effect," *Mater. Horiz.*, vol. 4, pp. 274-280, 2017.
- W. Zhang, Z. Zeng, J. Wei, "Electrochemical Study of DPPH Radical Scavenging for Evaluating the Antioxidant Capacity of Carbon Nanodots," *Journal of Physical Chemistry C*, 121, 186345-18642, 2017.
- X. Zhang, P. K. Jo, M. Zia, G. May, and M. S. Bakir, "Heterogeneous interconnect stitching technology with compressible microinterconnects for dense multi-die integration," *IEEE Electron Device Letters*, vol. 38, no. 2, pp. 255-257, Feb. 2017.
- Y. Zhang, and M. S. Bakir, "Integrated thermal and power delivery network co-simulation framework for single-die and multi-die assemblies", *IEEE Trans. on Components, Packaging and Manufacturing Technology*, vol. 7, no. 3, pp. 434-443, Feb. 2017.
- Y. Zhang, J. Liu, J. Ahn, T. Xiao, Z.-Y. Li, D. Qin, "Observing the Overgrowth of a Second Metal on Silver Cubic Seeds in Solution by Surface-Enhanced Raman Scattering," *ACS Nano*, vol. 11, pp. 5080-5086, 2017.
- Y. Zhang, T. E. Sarvey, and M. S. Bakir, "Thermal evaluation of 2.5-D integration using bridge-chip technology challenges and opportunities", *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 7, no. 7, pp. 1101 - 1110, July 2017.
- Yang Zhang, Junyi Zhai*, Zhong Lin Wang, "Piezo-phototronic Matrix via a Nanowire Array," *Small*, 1702377, 2017.
- Z. Zhang, C. Liu, W. Liu, Y. Cui, D. Xu, H. Guo, Y. Deng, "Innovative Design of Coal Utilization - A Green Pathway for Direct Conversion of Coal to Electricity through Flow Fuel Cell Technology," *Applied Energy*, vol. 200, pp. 226-236, 2017.
- Z. Zhang, C. Liu, W. Liu, X. Du, Y. Cui, J. Gong, H. Guo, Y. Deng, "Directly Conversion of Sewage Sludge to Electricity with Polyoxometalate Catalyzed Flow Fuel Cell," *Energy*, vol. 141, pp. 1019-1026, 2017.
- Z. Zhang, Y. Zhang, Z. Lin, A. Mulyadi, W. Mu, Y. Deng, "Butyric Anhydride Modified Lignin and Its Oil-water Interfacial Properties," *Chemical Engineering Science*, vol. 165, pp. 55-64, 2017.
- B. Zhao, D. Chen, X. Xiong, B. Song, R. Hu, Q. Zhang, B. Rainwater, G. Waller, D. Zhen, Y. Ding, Y. Chen, C. Qu, D. Dang, C. P. Wong, M. Liu, "A high-energy, long cycle-life hybrid supercapacitor based on graphene composite electrodes," *Energy Storage Materials*, vol. 7, pp. 32-39, 2017.
- B. Zhao, L. Zhang, Q. Zhang, D. Chen, Y. Cheng, X. Deng, Y. Chen, R. Murphy, X. Xiong, B. Song, CP Wong, M. Wang, M. Liu, "Rational design of nickel hydroxide-based nanocrystals on graphene for ultrafast energy storage," *Advanced Energy Materials*, 2017.
- B. Zhao, L. Zhang, D. Zhen, S. Yoo, Y. Ding, D. Chen, Y. Chen, Q. Zhang, B. Doyle, X. Xiong, M. Liu, "A tailored double perovskite nanofiber catalyst enables ultrafast oxygen evolution," *Nature Communications*, vol. 8, 14586, 2017.

- Junqing Zhao#, Hang Guo#, Yao Kun Pang, Fengben Xi, Zhi Wei Yang, Guoxu Liu, Tong Guo, Guifang Dong*, Chi Zhang*, and Zhong Lin Wang*, "Flexible Organic Tribotronic Transistor for Pressure and Magnetic Sensing," *ACS Nano*, vol. 11, pp. 11566-11573, 2017.
- M. Zhao, A. Elnabawy, M. Vara, L. Xu, X. Yang, K. Gilroy, L. Figueroa-Cosme, M. Mavrikakis, and Y. Xia, "Facile synthesis of Ru-based octahedral nanocages with ultrathin walls in a face-centered cubic structure," *Chemistry of Materials*, vol. 29, pp. 9227-9237, 2017.
- D. Zhen, B. Zhao, H.C. Shin, Y. Bu, Y. Ding, G. He, M. Liu, "Electrospun Porous Perovskite $\text{La}_{0.6}\text{Sr}_{0.4}\text{Co}_{1-x}\text{Fe}_x\text{O}_{3-\delta}$ Nanofibers for Efficient Oxygen Evolution Reaction," *Advanced Materials Interfaces*, 2017.
- J. Zhou, L. Yu, Y. Deng, Y. Yang, Z. Hao, N. Li, "Highly Ordered, Ultralong Mn-based Nanowire Films with Low Contact Resistance as Freestanding Electrodes for High Efficiency Flexible Supercapacitors," *ChemElectroChem*, vol. 4, pp. 3061-3067, 2017.
- C. Zhu, D. Huo, Q. Chen, J. Xue, S. Shen, and Y. Xia, "A eutectic mixture of natural fatty acids can serve as the gating material for near-infrared-triggered drug release," *Advanced Materials*, vol. 29, pp. 1703702, 2017.
- G. Zhu, Y. Liu, L. Flores, Z.R. Lee, C.W. Jones, D.A. Dixon, D.S. Sholl, R.P. Lively, "Formation Mechanisms and Defect Engineering of Imine-based Porous Organic Cages," *Chemistry of Materials*, Dec. 11. 2017.
- P. Zhuo, Weipeng and Lu, Hang and McGrath, "Microfluidic Platform with Spatiotemporally Controlled Micro-Environment for Studying Long-term *C. elegans* Developmental Arrests," *Lab on a Chip*, vol. 17, pp. 1826-1833, 2017.
- J. D. Zou, M. Zhang, J.R. Huang, J. Bian, Y. Jie, W. Magnus, X. Cao*, N. Wang*, Z. L. Wang*, "Coupled Supercapacitor and Triboelectric Nanogenerator boost Biomimetic Pressure Sensor," *Advanced Energy Materials*, 2017. DOI: 10.1002/aenm.201702671

External Journal Publications

- Baruah, B. and Miller, T.-A., "Polyoxovanadate fabricated gold nanoparticles: Application in SERS," *J. Colloid Interface Sci.*, vol. 487, pp. 209-216, 2017.
- P.R. Broussard, "Parallel Critical Field in Thin Niobium Films: Comparison to Theory," *Journal of Low Temperature Physics*, vol. 189, p. 108, 2017.
- A.T. Carlsen, K. Briggs, A.R. Hall, V. Tabard-Cossa, "Solid-state nanopore localization by controlled breakdown of selectively thinned membranes", *Nanotechnology*, 28 (8), 085304, 2017
- N.T. Evans, F.B. Torstrick, D.L. Safranski, K.E. Smith, R.E. Guldberg, and K. Gall, "Local Deformation Behavior of Surface Porous Polyether-ether-ketone," *Journal of Mechanical Behavior of Biomedical Materials*, vol. 65, pp. 522-532, 2017.
- T. Evans, D.M. Piper, H. Sun, T. Porcelli, S.C. Kim, S.S. Han, Y. S. Choi, C. Tian, D.N. Lund, M.M. Doeff, C. Ban, S-J. Cho, K.H. Oh, S-H, Lee. "In Situ Engineering of the Electrode-Electrolyte Interface for Stabilized Over-lithiated Cathodes." *Adv. Mater.* 2017. 29, 1604549, 2017.
- Ifat Jahangir and Goutam Koley, "Modeling the performance limits of novel microcantilever heaters for volatile organic compound detection," *Journal of Micromechanics and Microengineering*, vol. 27, p. 015024, 2017.

- Digangana Khan, Ferhat Bayram, Durga Rao Gajula, Abdul Talukdar, Hongmei Li, and Goutam Koley, "Plasmonic amplification of photoacoustic waves detected using piezotransistive GaN microcantilevers," *Applied Physics Letters*, vol. 111, p. 062102, 2017.
- W. Li, T. Alam, F. Yang, X. Qu, B. Peng, C. Li, "Enhanced Flow Boiling in Microchannels using Auxiliary Channels and Multiple Micronozzles Part II: Enhancement of CHF and Reduction of Pressure Drop," *International Journal of Heat and Mass Transfer*, vol. 115, pp. 264-272, 2017.
- W. Li, X. Qu, T. Alam, F. Yang, W. Chang, J. Khan and C. Li, "Enhanced Flow Boiling in Microchannels through Integrating Multiple Micro-nozzles and Reentry Microcavities," *Applied Physics Letters*, vol. 110 (1), p. 014104, 2017.
- Stanley M. Lo, Shuren Hu, Girija Gaur, Yiorgos Kostoulas, Sharon M. Weiss, and Philippe M. Fauchet, "Photonic crystal microring resonator for label-free biosensing," *Optics Express*, vol. 25, iss. 6, pp. 7046-7054, 2017.
- A.T. Miller, D.L. Safranski, C. Wood, R.E. Guldborg, and K. Gall, "Deformation and Fatigue of Tough 3D Printed Elastomer Scaffolds Processed by Fused Deposition Modeling and Continuous Liquid Interface Production," *J Mech Behav Biomed Mater*, vol. 75, pp. 1-13, 2017.
- Danna Qasim, Logan Vlasak, Aaron Pital, Thomas Beckman, Nsamba Mutanda, and Heather Abbott-Lyon "Adsorption of Water, Methanol, and Formic Acid on Fe₂NiP, a Meteoritic Mineral Analogue," *J. Phys. Chem. C*, vol. 121, pp. 13645-13654, 2017. DOI: 10.1021/acs.jpcc.7b01312
- D.B. Roy, A.R. Hall, "Solid-state nanopore analysis of alcohol-soluble molecules", *Analyst*, 142, 1676-1681, 2017
- F.B. Torstrick, D.L. Safranski, J.K. Burkus, J.L. Chappuis, R.E. Guldborg, and K.E. Smith, "Porous PEEK for Spine Applications: How to Get PEEK to Stick to Bone," *Techniques in Orthopaedics*, Vol. 32(3), pp. 158-166, 2017.
- F. Wang, O.K. Zahid, B.Swain, D.Parsonage, T. Hollis, S. Harvey, F. Perrino, R.M. Kohli, E.W. Taylor, A.R. Hall, "Solid-state nanopore analysis of diverse DNA base modifications using a modular enzymatic labeling process", *Nano Letters*, 17 (11), 7110–7116, 2017

Internal Conference Presentations

- M.B.B. Abad, T. Ignatova, M.W. Turvey, P.G. Collins, "In Situ Scanning Probe Microscopy of Li-Ion Battery Cathode Materials," In Proceedings of the 232nd Meeting of the Electrochemical Society, 3, 245, 2017.
- S. Abbasi, S. Aravamudhan, "Effect of boron nitride (hBN) filler on thermal properties of underfill epoxy," In Thermal and Thermomechanical Phenomena in Electronic Systems (ITherm), 2017 16th IEEE Intersociety Conference, 251-259, 2017.
- N. Abutalib, S.R. Karnati, D. Oldham, L. Zhang, E.H. Fini, "Functionalization of amine group on silica fume surface to reduce agglomeration and improve asphalt resistance to oxidation," Sustainable Adhesives from Bio-Mass (SAB) International Symposium, Greensboro, NC, January 26-28, 2017.
- J. Ahn, Y.J. Sei, N.L. Jeon, and Y. Kim, "Conditional regulation of inflammation-driven angiogenesis using engineered HDL-mimetic nanoparticles," Annual Fall Meeting of Biomedical Engineering Society (BMES), 2017.
- J. Ahn, Y.J. Sei, N.L. Jeon, and Y. Kim, "Probing the effect of HDL-mimetic nanoparticles on angiogenesis using microengineered vascular mimicry," MicroTAS, 2017.

- S.I. Ahn, J.W. Yom, C.M. Hovell, and Y. Kim, "Microengineering of vascularized 3D glial network for the development of a neurovascular unit," Annual Fall Meeting of Biomedical Engineering Society (BMES), 2017.
- P.K. Alaboina, A.R. Letfullina, M-J. Uddin, J-S. Cho, S. Puvvada, S-J. Cho, "Highly Engineered Si Alloy Flexible Battery." 232nd ECS Meeting. National Harbor, MD, Oct 2017.
- P. Alapati, & K. E. Kurtis, "Can the resistance of alternative cementitious binder systems to ASR be assessed by AMBT?" 8th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing Meeting, Atlanta, Georgia, June 26-28 2017.
- S. Alex, J. Wei, "Carbon Nanodot-Copper Sulfide Core-Shell Nanoparticle for Photothermal Therapy," CALCON 2017, Colorado Springs, CO August 3, 2017.
- H. Alrowais, M. Kim, P. Getz, O. Brand, "Parylene-on-oil encapsulation process for bio-inspired accelerometers," in Proc. International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2017), pp. 587-590, 2017.
- F. Aryeetey, D. Singh, K. Nowlin, S. Aravamudhan, "He-Ion Induced Defect Generation and Doping of 2D MoS₂ Monolayers," 231st ECS Meeting, New Orleans, NO, May 28-Jun 1, 2017.
- F. Aryeetey, K. Nowlin, S. Aravamudhan, "Controlled Modification of Large-Area MoS₂ Monolayers Using He-Ion Irradiation," 59th Electronic Materials Conf, South Bend, IN, Jun 2017.
- O. Ayanbajo, J. Li, S. Iyer, "Micro-Photoluminescence Studies of Bandgap Engineered Axial GaAsSb Nanowires", MRS/ASM/AVS Joint Symposium, Raleigh, NC, Nov 2017.
- A. Barrios Santos, G. Castelluccio, O. Pierron, "In situ SEM high cycle fatigue investigation of small fatigue crack growth in Ni microbeams," MRS Fall Meeting 2017, Boston, MA, Nov 27-Dec 1, 2017.
- A. Barrios Santos, G. Castelluccio, O. Pierron, "The role of environment on void driven fatigue crack nucleation and propagation in Ni microbeams," ASTM International Student Presentation Competition, ASTM Committee E08 on Fatigue and Fracture Meeting, Atlanta, GA, Nov 15, 2017.
- M. L. F. Bellaredj, S. Mueller, A. K. Davis, P. Kohl, M. Swaminathan, Y. Mano, "Fabrication, Characterization and Comparison of FR4-Compatible Composite Magnetic Materials for High Efficiency Integrated Voltage Regulators with Embedded Magnetic Core Micro-Inductors," IEEE 67th Electron Compon. Technol. Conf. (ECTC), pp. 2008-2014, Orlando, FL, USA, 30 May-2 Jun. 2017.
- M. G. Boebinger, M. Xu, M. T. McDowell, "Distinct Nanoscale Reaction Pathways in a Sulfide Material for Sodium and Lithium Batteries." Oak Ridge National Laboratory, 2017 User Meeting for the Center for Nanophase Materials Sciences, Oak Ridge, TN, August 2017.
- M. G. Boebinger, M. Xu, R. R. Unocic, M. T. McDowell, "In Situ Multiscale Investigation of Reaction Pathways in a Sulfide Material for Na and Li Batteries." The 231st Electrochemical Society Meeting, New Orleans, LA, May 2017.
- D. S. Boyuk (presenter), W. Hu, M. A. Filler, "Surface Chemical Control of Charge Transport and Infrared Plasmonic Response in Nanocrystal Thin Films," 64th International Symposium of the American Vacuum Society, Tampa, FL, Oct. 29 - Nov. 3, 2017.
- Eleanor Brightbill, Meng-Yen Tsai, Bryce Hitchcock, Spyridon Pavlidis, Billyde Brown & Eric Vogel, "Potentiometric biosensing for point-of-care disease diagnostics: Effects of SAM defects and coverage," Biological and Chemical Sensors Summit, San Diego, CA, December 5-7, 2017.
- Brown, D. B., Bougher, T. L., Zhang, X., Ajayan, P., Cola, B. A., and Kumar, S., "Thermal boundary conductance across vertically stacked graphene/h-BN interface," The American Society of Mechanical Engineers International Mechanical Engineering Congress and Exhibition (IMECE), Tampa, FL, Nov. 3-9, 2017.

- C. Buch, D. Struk, K.-J. Wolter, P. J. Hesketh, V. Sundaram, R. Tummala, et al., "Design and Demonstration of Highly Miniaturized, Low Cost Panel Level Glass Package for MEMS Sensors," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 1088-1097, 2017.
- W. Cai, "Nonlinear metamaterials, (invited)" International Conference on Advanced Materials and Devices (ICAMD 2017), Jeju, Korea, December 5-8, 2017.
- W. Cai, "Chiral metamaterials in the nonlinear regime: harmonic generation, multiphoton luminescence, and intensity-dependent optical activity, (invited)" SPIE Optics + Photonics, 10343-44, San Diego, CA, August 6-10, 2017.
- W. Cai, "Passive, active, and nonlinear chiral metasurfaces, (invited)" The 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META 2017), Paper ID 5702, Incheon, Korea, July 25-28, 2017.
- W. Cai, "Active and nonlinear chiral metamaterials, (invited)" The International Conference on Materials for Advanced Technologies (ICMAT 2017), V-02, Singapore, June 18-23, 2017.
- W. Cai, "Electrically-controlled nonlinear plasmonics, (invited)" The 8th International Conference on Surface Plasmon Photonics (SPP8), IN-21, Taipei, Taiwan, May 22-26, 2017.
- W. Cai, "Plasmonic metamaterials as a self-contained platform for optoelectronic signal processing, (invited)" Materials Research Society (MRS) Spring Meeting, ED10.13.06, Phoenix, AZ, April 17-21, 2017.
- W. Cai, "Tuning harmonics with electronics: Voltage controlled nonlinear optics in nanostructured metals, (invited)" SPIE Photonics West, 10112-47, San Francisco, CA, January 28 – February 2, 2017.
- Philip Campbell, Johannes Chiu, Eric Snyder, Atul Gupta, Hunter Ray, Hang Chen, Kevin Wenzel, Brent Wagner, W. Jud Ready, Eric Vogel, "Lower Temperature 2D MoS₂ Deposition Utilizing Plasma Processing," MRS Spring Meeting, Phoenix, AZ, April 20, 2017.
- Chen, J., Hesketh, P., and Kumar, S., "Carbon Nanotube Thin Film Transistor Based Gas Sensors for Gas Identification," ASME InterPACK, San Francisco, CA, August 29-September 1, 2017.
- H. Chevva, R. Chandran, D. LaJeunesse, J. Wei, "Silver Nanowires (AgNWs) Growth in-situ on Chitosan Polymer Matrix Film for SERS Application," Proceedings of 17th IEEE International Conference on Nanotechnology, Pittsburgh, 885-889, 2017.
- T. Chi, M. Huang, S. Li, H. Wang, "A Packaged 90-to-300GHz Transmitter and 115-to-325GHz Coherent Receiver in CMOS for Full-Band Continuous-Wave Mm-Wave Hyperspectral Imaging," IEEE International Solid-State Circuits Conference (ISSCC) Dig. Tech. Papers, Feb. 2017.
- T. Chi, F. Wang, S. Li, M. Huang, J. Park, and H. Wang, "A 60GHz On-Chip Linear Radiator with Single-Element 27.9dBm Psat and 33.1dBm Peak EIRP Using Multi-Feed Antenna for Direct On-Antenna Power Combining," IEEE International Solid-State Circuits Conference (ISSCC) Dig. Tech. Papers, Feb. 2017.
- Eunhwan Cho, Young-Woo Ok, James Hwang, Aditi Jain, Vijay D. Upadhyaya, John Keith Tate, Ajeet Rohatgi, "Field-Effect Passivation by Negative Charge on Boron Emitter and Boron-doped Surfaces by a Novel Low-cost Plasma Charge Injection," 44th IEEE PVSC, Washington DC, USA, 2017.
- J-S Cho, A. Letfullina, P.K. Alaboina, M-J. Uddin, Sung-Jin Cho*. "Ionically Enhanced SixFey/Li1.3Al0.3Ti1.7(PO4)3 Nanocomposite for High Performance Lithium-ion Batteries." 232nd ECS Meeting, National Harbor, MD, Oct 2017.
- M.-K. Cho, I. Song, S. Pavlidis, Z.E. Fleetwood, S.P. Buchner, D. McMorrow, P. Paki, and J.D. Cressler, "An Electrostatic Discharge (ESD) Protection Circuit Technique for the Mitigation of Single-Event

Transients in SiGe BiCMOS Technology,” *2017 IEEE Nuclear and Space Radiation Effects Conference*, paper PG-3, 2017.

- O. Civelekoglu, R. Liu, M. Boya, Chia-Heng Chu, N. Wang and A. F. Sarioglu, “A Microfluidic Device for Electronic Cell Surface Expression Profiling Using Magnetophoresis,” *Transducers*, Kaohsiung, TAIWAN, June 2017.
- C.T. Coen, A. Ildefonso, Z.E. Fleetwood, and J.D. Cressler, “A 19–34 GHz SiGe HBT Square-Law Detector with Ultra-Low 1/f Noise for Atmospheric Radiometers,” *Proceedings of the 2017 European Microwave Integrated Circuits Conference*, pp. 163-166, 2017.
- James Collins*, Wade Lanning, Yoon Joo Na, Syed Saad Javaid, and Christopher Muhlstein, "Strain Mapping and mining to quantify the extent of cyclic damage and transverse necking in thin metallic sheets", TMS Annual Meeting, San Diego, CA, 2017.
- S. Crawford, S. Aravamudhan, “Environmental Impact and Speciation Analysis of Chemical Mechanical Planarization (CMP) Waste Following GaAs Polishing,” ECS Meeting, Meet. Abstr., MA2017-02(24): 1073, 2017.
- J. Dallas, G. Pavlidis, B. Chatterjee, J. S. Lundh, J. Kim, T. Kao, T. Detchprohm, R. D. Dupuis, S. Shen, S. Graham, and S. Choi, “Temperature assessment of gallium nitride based p-i-n diodes,” IEEE the Intersociety Conference on Thermal and Thermomechanical Phenomena in Electric Systems (ITHERM), May 30-June 2 2017.
- A. Daruwalla, C.S. Liu, H. Wen, and F. Ayazi, “Distributed lamé mode resonators for temperature-stable high frequency MEMS oscillators,” IEEE International Micro Electro Mechanical Systems Conference (MEMS) 2017, pp. 909-912, Las Vegas, USA, January 2017.
- K. Davis, H. Rathnayake, “Study and optimization of ZnO Nanostructures Morphologies in different solvent mediums”, SERMACS, Charlotte, NC, USA, 2017.
- T. Davis, R. Abrokwhah, T. Hossain, N. Mohammad, V. Deshmane, S. Woosley, S. Aravamudhan, D. Mainardi, D. Kuila, “Nanocatalysts for Syngas conversion to higher hydrocarbons using Si-microreactor,” In American Chemical Society, 254, 1155, 2017.
- R. Dehghannasiri, A. A. Eftekhar and A. Adibi, “Observation of stimulated Brillouin scattering in Si₃N₄ waveguides,” IEEE Photonics Conference (IPC), Orlando, FL, 2017.
- P. Deshmukh, M. Sharma, S. Nalamati, C.L. Reynolds Jr., Y. Liu, S. Iyer, “A modified Dual – Temperature Approach for Tailoring the Sb incorporation in Self-Catalyzed GaAs_{1-x}Sb_x (0.1<x<0.85) NWs Grown on Si (111) using Molecular Beam Epitaxy”, MRS/ASM/AVS Joint Symposium, Raleigh, NC, Nov 2017.
- P. Deshmukh, M. Sharma, S. Nalamati, C. L. Reynolds Jr., Y. Liu, S. Iyer, “Assessing the Role of Ga Flux for Growth of Self-catalyzed GaAs_{1-x}Sb_x (x>0.8) Nanowires on Si for SWIR Photodetection”, Oral Presentation, 33rd NAMBE, Galveston Island, TX, Oct 15-18, 2017.
- T. Detchprohm, Y. Park, Y. Liu, K. Mehta, S. Wang, T.-T. Kao, S.-C. Shen, D. Yoder, F. Ponce, and R. Dupuis, “Sub-250 nm deep-UV AlGa_N/AlN distributed Bragg reflectors,” SPIE Photonics West Conference, San Francisco, CA, January 31-February 2 2017.
- S. Dwarakanath, P. M. Raj, C. Z. Leng, V. Smet, M. D. Losego, V. Sundaram, et al., "Infusing Inorganics into the Subsurface of Polymer Redistribution Layer Dielectrics for Improved Adhesion to Metals Interconnects," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 150-155, 2017.
- D. Dumani, I.-C. Sun, and S. Emelianov, “In vivo photoacoustic detection of lymph node metastasis using glycol-chitosan-coated gold nanoparticles,” IEEE International Ultrasonics Symposium, 2017.

- S.Y. Emelianov, "Contrast Agents for Clinical Multifunctional Imaging Using Light and Sound," invited presentation at 2017 annual convention of American Institute of Ultrasound in Medicine, 2017.
- C.R. Ethier, E.J. Snider, K. Kubelick, H. Yoon, S.Y. Emelianov, "Using ultrasound/photoacoustic imaging with nanoparticles to visualize and assist stem cell engraftment in the trabecular meshwork," ARVO Annual Meeting, 2017.
- T. Fan, H. Taghinejad, A. A. Eftekhar, and A. Adibi, "Light-matter interaction in 2D material heterostructures," SPIE Photonics West Meeting, San Francisco, CA, 2017.
- Z. Fleetwood and J.D. Cressler, "Radiation Hardening and Heavy-ion to Laser Correlation in SiGe Devices and Circuits," *Proceedings of the 2017 GOMAC-Tech - Government Microcircuit Applications and Critical Technology Conference*, pp. 1-4, 2017.
- Z.E. Fleetwood, A. Ildefonso, G.N. Tzintzarov, B. Wier, U. Raghunathan, M-K.Cho, I. Song, M.T. Wachter, A. Khachatryan, J. Warner, P. McMarr, H. Hughes, S.P. Buchner, D. McMorrow, P. Paki, A. Joseph, V. Jain, and J. D. Cressler, "SiGe HBT Profiles with Enhanced Inverse-Mode Operation to Mitigate Single-Event Transients," *2017 IEEE Nuclear and Space Radiation Effects Conference*, paper G-3, 2017.
- M. Frounchi, C. Coen, C. Cheon, W. Williams, and J.D. Cressler, "An Integrated Silicon-Germanium Receiver for Atmospheric Remote Sensing," *Symposium on Space Innovations*, 2017.
- K.S. Garde, J. Yan, S. Aravamudhan, "Nanoelectrodes to differentiate adipose derived stem cells into neural lineage," *Nanotechnology (IEEE-NANO)*, 2017 IEEE 17th International Conference, Pittsburgh, PA, 934-937, Jul 25-28 2017.
- K. Garde, S. Aravamudhan, "Penetrating Nanoelectrodes for Stimulation of Cells," 231st ECS Meeting, New Orleans, NO, May 28-Jun 1, 2017.
- K.S. Garde, S. Aravamudhan, "Role of Nanoelectrodes and Electrical Stimulation to Modulate Cellular Functions," 2017 TERMIS-AM, Charlotte, NC, Dec 3-6, 2017.
- H. Ghazizadeh, S. Aravamudhan, "Cytotoxicity of Silica Nanoparticles on A549 Human Epithelial Cells under Biaxial Mechanical Stretch," BMES Annual Meeting, Phoenix AZ, Oct 11-14, 2017.
- H. Ghazizadeh, K. Kosaraju, S. Aravamudhan, "The Study of Post-exposure Cytotoxicity and the Resistance of A549 Epithelial Cells to Silica Nanoparticles," Gordon Research Annual Conferences, Cellular and Mechanisms of Toxicity, Andover, NH, Aug 13-18, 2017.
- H. Ghazizadeh, J. Plotkin, Y. Patel, S. Aravamudhan. "The Role of Complex Mechanical Stimuli on Differentiation of 3T3/L1 Fibroblastic Preadipocytes and the Lipid Accumulation." 2017 TERMIS-AM, Charlotte, NC, Dec 3-6, 2017.
- H. Ghazizadeh, D.R. LaJeunesse, S. Aravamudhan, "Behavior of Fibroblastic Cells under the Influence of Variable Biaxial Cyclic Stress Regime," 2017 TERMIS-AM, Charlotte, NC, Dec 3-6, 2017.
- P.S. Goley, Z.E. Fleetwood, and J.D. Cressler, "Fundamental Limitations on Integrated Silicon Photonic Waveguides Operating in a Heavy Ion Environment," *2017 IEEE Nuclear and Space Radiation Effects Conference*, paper PB-6, 2017.
- Y. Gong, M.-K. Cho, and J.D. Cressler, "A Bi-Directional, n X-Band 6-Bit Phase Shifter for Phased Array Antennas Using an Active DPDT Switch Technique," *Proceedings of the 2017 IEEE MTT-S RFIC Symposium*, pp. 1-4, 2017.
- G. Gourdin, O. Phillips, J. Schwartz, A. Engler, P. A. Kohl, "Phototriggerable, Transient Electronics: Components and Device Fabrication," IEEE Electronics and Components Technology Conference, Orlando, Fl., June, 2017.

- M.T. Griffin and D.N. Ku, "3-Dimensional Simulation 'Grayscale' Lithography: Applications to High Shear Thrombosis Assays," SB3C 2017, Tucson, AZ, July 2017.
- A. Gupta, E. Snyder, C. Gottschalk, K. Wenzel, J. Gunn, H. Lu, et al., "First Demonstration of Photoresist Cleaning for Fine-Line RDL Yield Enhancement by an Innovative Ozone Treatment Process for Panel Fan-Out and Interposers," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 609-614, 2017.
- A. Gupta, E. Snyder, C. Gottschalke, K. Wenzel, J. Gunn, H. Lu, Y. Suzuki, V. Sundaram, and R. Tummala, "First Demonstration of Fine Line RDL Yield Enhancement using an Innovative Ozone Treatment Process for Panel Fan-out and Interposers," Additional Conferences (Device Packaging, HiTEC, HiTEN, & CICMT), Vol. 2017, No. DPC, pp. 1-19, January 2017.
- S. Gupta, E. Hosseinian, W. Mook, B. Boyce, and O. Pierron, "Quantitative in situ TEM MEMS nanomechanical testing (poster presentation)," CINT Annual Meeting, Santa Fe, NM, September 25-27, 2017.
- S. Gupta and O. Pierron, "A MEMS nanomechanical tensile testing technique for measuring true activation volume and effective stress in nanocrystalline ultrathin microbeams (poster presentation)," MRS Fall Meeting 2017, Boston, MA, Nov 27-Dec 1, 2017.
- S. Gupta and O. Pierron, "Improved fatigue behavior of Ni microbeams with Au coatings," ASTM International Student Presentation Competition, ASTM Committee E08 on Fatigue and Fracture Meeting, Atlanta, GA, Nov 15, 2017.
- J. Ha, and S. W. Lee, "The Planer Sodium Exposure Test to Evaluate Na-TEC Electrodes," MRS Fall Meeting & Exhibit, Boston, MA, November 2017.
- J. Ha, and S. W. Lee, "The Planer Sodium Exposure Test to Evaluate Na-TEC Electrodes," International Mechanical Engineering Congress & Exposition, Tampa, FL, November 2017.
- K. Hallam, E. Donnelly, A. Karpiouk, R. Hartman, and S. Emelianov, "Laser-activated perfluorocarbon nanodroplets as a new tool for image-guided blood brain barrier opening and delivery of imaging/therapeutic agents to the brain," 2017 IEEE International Ultrasonics Symposium, Washington, DC, 2017.
- J.M. Hales, A. Khachatryan, S. Buchner, N. J.-H. Roche, J. Warner, Z.E. Fleetwood, A. Ildefonso, J.D. Cressler, D. McMorro, M. Turowski, K. Lilja, and V. Ferlet-Cavrois, "Strong Correlation Between Heavy-ion and Laser Equivalent LET in a Diode Using One- and Two-Photon Absorption," 2017 IEEE Radiation Effects on Components and Systems (RADECS) Conference, paper PE-2, 2017.
- B. Hamelin, V. Tavassoli, and F. Ayazi, "Microscale pierced shallow shell resonators: a test vehicle to study surface loss," IEEE International Micro Electro Mechanical Systems Conference (MEMS) 2017, pp. 1134-1137, Las Vegas, USA, January 2017.
- S. Hanasoge, M. Ballard, Peter Hesketh, Alexander Alexeev, "Magnetic thin films for active fluid manipulation in microfluidics" uTAS 2017, Savannah, GA, October 2017.
- S. Hanasoge, M. Ballard, A. Alexeev, P. J. Hesketh, "Magnetic Cilia for Microfluidic Applications," Fall ECS Meeting, National Harbor, MA, November 2017.
- A. Hashemisohi, A., Shahbazi, L.J. Wang, "Effects of wall boundary conditions on 3D simulation of pseudo two dimensional fluidized beds using dense discrete phase model (DDPM)," AIChE Annual International Meeting, Minneapolis, MN, Oct 30-Nov 2, 2017.
- Hauck, T., Schmadlak, I., Lakhera, N., Shantaram, S., Samet, D., Rambhatla, V.T. and Sitaraman, S., "Methods for Theoretical Assessment of Delamination Risks in Electronic Packaging," ASME

International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems, San Francisco, CA, pp. V001T05A007-V001T05A007, August 2017.

- M. Hawkins, J. Starobin, H. Rathnayake, "Theoretical and Experimental Investigation of Functional Polyimide Nanostructures as a Potentials Platform for Nanodevices," SERMACS, Charlotte, NC, USA, 2017.
- P. J. Hesketh, "Magnetically actuated synthetic cilia for microfluidics," INVITED TALK, AVS Meeting, Tampa, FL, October 2017.
- M. Hodjat-Shamami, A. Norouzpour-Shirazi, and F. Ayazi, "Eigenmode Operation as A Quadrature Error Cancellation Technique for Piezoelectric Resonate Gyroscopes," IEEE International Micro Electro Mechanical Systems Conference (MEMS 2017), pp. 1107-1110, Las Vegas, USA, January 2017.
- A. H. Hosseinnia, M. Sodagar, H. Moradinejad, T. Fan, A. A. Eftekhar and A. Adibi, "High-speed active devices integrated in hybrid silicon on silicon nitride platform," Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, 2017.
- W. Hu, M. A. Filler (presenter), "Infrared Surface Plasmon-influenced Interfacial Chemistry of Semiconductor Nanocrystals," 64th International Symposium of the American Vacuum Society, Tampa, FL, Oct. 29 - Nov. 3, 2017.
- W. Hu (presenter), M. A. Filler, "Mid-Infrared Surface Plasmon-enhanced Molecular Desorption," Annual Meeting of the American Institute of Chemical Engineers, Minneapolis, MN, Oct. 29 - Nov. 3, 2017.
- Y. Hu, T. Sarvey, M. Bakir, and Y. Joshi, "Single phase liquid cooling of hotspots in a heterogeneous pin-fin-enhanced microgap with non-uniform fin array," 16th IEEE Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems (ITherm), 2017, Orlando, FL, USA, 30 May-2 June 2017.
- G. Huang, J. Ahlfield, L. Liu, and P.A. Kohl, "Anionic Ionomers for Fuel Cells and Electrolyters," The Electrochemical Society Biannual Meeting, Washington DC, October 1, 2017.
- T.-C. Huang, V. Smet, P. M. Raj, R. Nichols, G. Ramos, M. Tomic, et al., "Scaling Cu pillars to 20um pitch and below: critical role of surface finish and barrier layers," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 384-391, 2017.
- T. Ignatova, S. Jedlicka, S. V. Rotkin, "Long Term Intracellular Study of Carbon Nanomaterials at Ultra-Low Concentrations," In Proceedings of the 232nd Meeting of the Electrochemical Society, National Harbor, Maryland, 8, 657, 2017.
- A. Ildefonso, C.T. Coen, Z.E. Fleetwood, G.N. Tzintzarov, M.T. Wachter, A. Khachatrian, D. McMorro, S.P. Buchner, J.H. Warner, P. Paki, and J.D. Cressler, "Utilizing SiGe HBT Power Detectors for Sensing Single-Event Transients in RF Circuits," *2017 IEEE Nuclear and Space Radiation Effects Conference*, paper D-6, 2017.
- A. Ildefonso, I. Song, Z.E. Fleetwood, N.E. Lourenco, M.T. Wachter, and J.D. Cressler, "Modeling Single-Event Transient Propagation in a SiGe BiCMOS Direct-Conversion Receiver," *Proceedings of the 2016 Conference on Radiation and Its Effects on Components and Systems*, paper J9, pp. 1-4, 2017.
- A. Islam, A. Kelkar, "Improving Flexural Properties of Laminated Carbon Epoxy Composite Materials Using Nanoengineered Prepregs," MRS Fall Meeting, Boston, Nov 2017.
- Syed Saad Javaid*, Wade Lanning, James Collins, Christopher Muhlstein, "Damage Evolution in Thin Tin Sheets During Creep Fatigue Loading", TMS Annual Meeting, San Diego, CA 2017.
- V. Jayaram, S. McCann, B. Singh, R. Pulugurtha, V. Smet, and R. Tummala, "Analysis of System-Level Reliability of Single-Chip Glass BGA Packages with Advanced Solders and Polymer Collars," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 1405-1412, 2017.

- Y. Jeong, A. Daruwalla, H. Wen, and F. Ayazi, "An out-of-plane 'hinge-shaped' nano-gap accelerometer with high bandwidth and wide bandwidth," Tech. Digest of the 19th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS'17), pp. 2131-2134, Kaohsiung, Taiwan, June 2017.
- Y. Jeong, M. Foster, J. Chae, D.E. Serrano, and F. Ayazi, "Shock-protection of nano-gap capacitive MEMS accelerometers using sloped electrode design," IEEE International Micro Electro Mechanical Systems Conference (MEMS 2017), pp. 1150-1153, Las Vegas, USA, January 2017.
- M. Ji, J. Kim, T. Detchprohm, Y. Zhu, S.-C. Shen, and R. Dupuis, "Growth, fabrication, and characterization of GaN p-i-p-i-n ultraviolet avalanche photodiodes," presented in the twelfth International Conference on Nitride Semiconductors (ICNS-12), Strasbourg, France, July 24-28 2017.
- M-H. Ji, Y.-S. Liu, J. Kim, Y.-J. Park, T. Detchprohm, R. D. Dupuis, T.-T. Kao, S.-C. Shen, K. Mehta, D. Yoder, H. Xie, F. Ponce, A. Sood, N. Dhar, and J. Lewis, "Growth and Characterization of III-N Ultraviolet Lasers and Avalanche Photodiodes by MOCVD," *Optics InfoBase Conf. Papers Vol. Part F41-CLEO_SI 2017, CLEO Science and Innovations*, San Jose, CA, March 14-19, 2017.
- Jin, Q., Saad, E., Vanderzwaag, M., Reeve, T., Tang, Y., & Kurtis, K. E. "Where does nitrogen go in photocatalytic cement?" 8th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing Meeting, Atlanta, Georgia, June 26-28 2017.
- P. K. Jo, M. Zia, J. L. Gonzalez, and M. S. Bakir, "Dense and highly elastic compressible microinterconnects (CMIs) for electronic microsystems," Proc. 66th IEEE Electronic Components and Technology Conf. (ECTC), Orlando, FL, May 2017.
- G. Joseph, L.J. Wang, "Enhancement of biogas production by anaerobic digestion of lignocellulosic biomass through biological pre-treatment and recovery of energy, nutrients and water," ASABE Annual International Meeting, Spokane, Washington, Jul 16-19, 2017.
- G. Joseph, L.J. Wang, "Biological processing of agricultural and animal wastes to recover energy, nutrients and water," The 18th Research Symposium of the Association of 1890 Research Directors, Inc. (ARD), Atlanta, GA, Apr 1-4, 2017.
- Yogendra Joshi, Yuanchen Hu, Daniel Lorenzini, "Mitigating Hot Spots In Planar And Three-Dimensional (3d) Heterogeneous Micro Systems Using Liquid Cooling," Proceedings of CHT-17, ICHMT International Symposium on Advances in Computational Heat Transfer, Napoli, Italy, May 28-June 1, 2017.
- I. Ju, M.A. Oakley and J.D. Cressler, "An X-band Inverse Class-F SiGe HBT Cascode Power Amplifier With Harmonic-tuned Output Transformer," *Proceedings of the 2017 IEEE MTT-S RFIC Symposium*, pp. 1-4, 2017.
- G. Jung, C. Tekes, A. Pirouz, L. Degertekin, and M. Ghovanloo, "Beyond supply-voltage bootstrapped pulser for driving CMUT arrays in ultrasound imaging," Proc. of the IEEE Biomedical Circuits and Systems Conference (BioCAS 2017), pp. 192-195, Oct. 2017.
- G. Jung, A. Pirouz, C. Tekes, F.L. Degertekin, and M. Ghovanloo, "Supply-Doubled Pulse-Shaping Pulser and Supply-Inverted Bipolar Pulser with Tx/Rx Switch for CMUTs," 2017 International Micromachined Ultrasonic Transducers (MUT) Workshop, Glasgow, Scotland, 2017.
- G. Jung, A. Pirouz, C. Tekes, F.L. Degertekin, and M. Ghovanloo, "Supply-inverted bipolar pulser and Tx/Rx switch for CMUTs capable of tolerating voltage levels above process limit," IEEE Ultrasonics Symposium, 2017.
- S.R. Karnati, E.H. Fini, L. Zhang, "Surface Modified SiO₂ Nanomaterials for Reinforcing Epoxy Matrix Nanocomposite," 2017 International Mechanical Engineering Congress & Exposition (IMECE), Tampa, Florida, United States, November 3-9, 2017.

- S.R. Karnati, L. Zhang, E.H. Fini, D. Oldham, "Investigation of Efficacy of a Bio-based Modifier for Enhanced Properties of Bitumen Extracted from Roofing Shingles," Sustainable Adhesives from Bio-mass (SAB) Workshop, Clermont-Ferrand, France, June 21-23, 2017.
- S.R. Karnati, D. Oldham, E.H. Fini, L. Zhang, "Surface Modification of Silica Nanoparticles for Asphalt with Enhanced Resistance to Oxidation," Sustainable Adhesives from Bio-mass (SAB) Workshop, Clermont-Ferrand, France, June 21-23, 2017.
- S.R. Karnati, N. Abutalib, Nader; L. Lifeng, E.H. Fini, "Surface modifying silica nanoparticle with bio-binder to be compatible with asphalt binder and also increase the stability of silica particle to reduce agglomeration," Sustainable Adhesives from Bio-Mass (SAB) International Symposium, Greensboro, NC, January 26-28, 2017.
- J. Key, S. Zhu, C.M. Rouleau, R.R. Unocic, Y. Xie, J. Kacher, "Investigating local corrosion processes in real and diffraction space by in situ TEM liquid cell experiments," M&M, St Louis, MO, 2017.
- K. Kim, H. Luo, T. Zhu, S. Graham, O. Pierron, "Mechanical reliability of barrier films on polymer substrates for flexible electronics applications: effects of substrate cracking," ASTM International Student Presentation Competition, ASTM Committee E08 on Fatigue and Fracture Meeting, Atlanta, GA, Nov 15, 2017.
- K. Kim, H. Luo, T. Zhu, O. Pierron, S. Graham, "Mechanical Reliability of PECVD SiNx Barrier Films for Flexible Electronics" ASME INTERPACK 2017, San Francisco, CA, Aug. 29-Sept. 1, 2017.
- M. Kim, H. Alrowais, O. Brand, "All-soft physical and chemical microsystems based on liquid metal for wearable electronics applications," in Proc. IEEE Conference on Microelectromechanical Systems (MEMS 2017), pp. 1162-1165, 2017.
- C. Kim, P. Getz, M. Kim, O. Brand, "Room-temperature CO₂ sensing based on interdigitated capacitors and resonant cantilevers," in Proc. International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2017), pp. 1532-1525, 2017.
- M. Kim, O. Brand, "Toward all-soft and fully-integrated microsystems: vertically integrated physical and chemical microsystems using gallium-based liquid metal and soft lithography", NEXTFLEX Workshop: Powering the Internet of Everything, Georgia Institute of Technology, GA, USA, Nov 2017 – 1st Place Poster Award.
- B. Kippelen, X. Zhang, C. Fuentes Hernandez, F. A. Larrain, S. Choi, "Recent advances in OLEDs on unconventional substrates," SPIE Optics and Photonics Conference, San Diego, CA, Aug. 6-10 2017.
- B. Kippelen, V. A. Kolesov, C. Fuentes-Hernandez, W.-F. Chou, N. Aizawa, F. A. Larrain, A. Perrotta, S. Choi, S. Graham, M. Wang, G.C. Bazan, T.-Q. Nguyen, and S. R. Marder, "A simple processing technique for the electrical doping of organic semiconductors," SPIE Optics and Photonics Conference, San Diego, CA, Aug. 6-10 2017.
- B. Kippelen, V. A. Kolesov, C. Fuentes-Hernandez, N. Aizawa, F. A. Larrain, W.-F. Chou, S. Choi, "New methods for tailoring the electronic properties of organic semiconductors near electrodes," Materials Research Society (MRS) Annual Fall Meeting, Boston, MA, Nov. 26 – Dec. 1 2017.
- B. Kippelen, V. A. Kolesov, C. Fuentes-Hernandez, N. Aizawa, F. A. Larrain, W. -F. Chou, S. Choi, "Novel methods to tailor the electrical properties of interfaces for organic optoelectronics," 13th Mediterranean Workshop and Topical Meeting on Novel Optical Materials and Applications (NOMA), Cetraro, Italy, Jun. 4-10 2017.
- B. Kippelen, V. A. Kolesov, C. Fuentes-Hernandez, N. Aizawa, F. A. Larrain, W. -F. Chou, S. Choi, "Simple methods to control the electrical properties of organic semiconductors near interfaces for printed electronics," European Materials Research Society (E-MRS) meeting, Strasbourg, France, May 22-26 2017.

- B. Kippelen, C. Fuentes-Hernandez, N. Hertel, "Organic semiconductors for radiation detection: fundamentals and applications," IEEE Nuclear Science Symposium and Medical Imaging Conference, Workshop on Organic Detectors and Materials, Atlanta, GA, Oct. 21-28 2017.
- B. Kippelen, "Controlling the electrical properties of organic semiconductors near interfaces for printed electronics," 4th International Workshop on Nano and Bio-Photonics, Vogue, France, Sep. 24-29 2017.
- B. Kippelen, "Solar energy for generation Z," Next Generation Solar Energy (NGSE) conference, Cali, Colombia, Dec. 4 - 7 2017.
- P.A. Kohl, "Low k Dielectrics and Transient Electronics," ECS Invited Talk, Biannual meeting, New Orleans, LA, May, 2017.
- P.A. Kohl, "Materials and Structures Enabling Vanishing Optically Triggered Sensors," Invited Talk, GOMACTech, Reno, NV, March 11, 2017.
- S. Kommandur, A. Mahdaviifar, P. Hesketh, S. K. Yee, "Metal-Coated Fiber for Concentration Detection in Gas Mixtures Using the 3-Omega Excitation Method," ECS Spring Meeting, New Orleans, May 2017.
- N. Kondekar, M. T. McDowell, "In Situ Investigation of Interfacial Transformations Between Oriented Molybdenum Disulfide (MoS₂) and Contact Materials." The 231st Electrochemical Society Meeting, New Orleans, LA, May 2017.
- D.N. Ku, C.A. Aidun, M.T. Griffin, Y. Zhu, Z. Liu, "Nanoparticle Inhibition of Shear Induced Platelet Aggregation," 63rd Annual SSC Meeting of the ISTH, Berlin, Germany, July 2017.
- K. Kubelick, E. Snider, H. Yoon, C.R. Ethier, S.Y. Emelianov, "Ultrasound and photoacoustic imaging to monitor ocular stem cell delivery and tissue regeneration," Abstract and presentation at the SPIE Photonics West Symposium, SPIE Proceedings 10064, Photons Plus Ultrasound: Imaging and Sensing 2017.
- Y.H. Kwon, B. Min, C. Kiang, R. Bhave, S. Nair, "Chabazite Zeolite Membranes for Krypton/Xenon Separation: Control of Membrane Properties and Process Modeling," ANS annual Meeting, San Francisco, June 2017.
- Y.H. Kwon, C. Kiang, R. Bhave, S. Nair, "Chabazite SAPO-34 Zeolite Membranes for Krypton/Xenon Separation: Enhanced Separation Performances and Process Modeling," AIChE Fall Meeting, Minneapolis, October 2017.
- Gabe Kwong, "Activity-based synthetic biomarkers that predict the onset of organ transplant rejection," CIRP Conference on BioManufacturing, Northwestern, Chicago, IL, 2017.
- Gabe Kwong, "Activity-based synthetic biomarkers for early and predictive monitoring of disease, Canary Center at Stanford for Cancer Early Detection, Palo Alto, CA, 2017.
- S. Lan, S. P. Rodrigues, M. Taghinejad, L. Kang, D. K. Brown, A. M. Urbas, and W. Cai, "Geometrically induced loss suppression in plasmoelectronic nanostructures," SPIE Photonics West, 10112-50, San Francisco, CA, January 28 – February 2, 2017.
- A. W. Lang; A. M. Österholm, M. De Keersmaecker, D. E. Shen, R. J. Moon, J. R. Reynolds, "Paper-based Electrochromic Devices Incorporating Inkjet Printed PEDOT:PSS Electrodes," European Materials Research Society Spring Meeting, Strasbourg, France. May 22nd – 26th 2017.
- A. W. Lang; A. M. Österholm, M. De Keersmaecker, D. E. Shen, R. J. Moon, J. R. Reynolds, "Paper-based Electrochromic Devices Incorporating Inkjet Printed PEDOT:PSS Electrodes," 254th American Chemical Society Fall Meeting, Washington, D. C., August 20th – 24th 2017.

- W.R. Lanning *, S.S. Javaid, J.G. Collins, and C.L. (Invited) Muhlstein, "Fatigue crack growth and fracture of flexible metallic sheets", TMS Annual Meeting, San Diego, CA, 2017
- B. Lee, T. Liu, H. Jang, H. D. Jang, and S. W. Lee, "Hydrothermal Assembly of Submicron Si Recovered from Si Waste with Graphene and Carbon for Scalable Lithium Battery Anodes," The 231st Electrochemical Society Meeting, New Orleans, LA, May 2017.
- Dong-Chan Lee and G. Yushin, "Microstructure and Phase Change on Iron Anodes for Nickel-Iron Batteries," 2017 MRS Fall Meeting, Boston, November 28, 2017.
- H. Lee, V. Smet, P. Raj, and R. Tummala, "Design of Low-Profile Integrated Transformer and Inductor for Substrate-Embedding in 1-5kW Isolated GaN DC-DC Converters," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 2256-2262, 2017.
- S. W. Lee, "Designing Redox-Active Organic Electrodes for Electrochemical Energy Storage Applications," US-Korea Conference, Washington, DC, August 2017.
- S. W. Lee, "Self-Assembled Organic Electrodes for Electrochemical Energy Storage Applications," LbL2017 New Horizons in Layer-by-Layer Assemblies: Principles and Applications, South Korea, June, 2017.
- C. Leng, "Solvent Resistance and Water Affinity of Vapor Phase Infiltrated PMMA Hybrids." AVS 64, Tampa, FL, November 2017.
- A.R. Letfullina, M-J. Uddin, J-S. Cho, P.K. Alaboina, S-J. Cho. "Nanoporous Electrospun $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ as Filler in PEO/LiTFSI Hybrid Electrolyte." 232nd ECS Meeting. National Harbor, MD, Oct 2017.
- Y. Li, "Wettability and Surface Chemistry of Adventitious Carbon on ALD Prepared Al_2O_3 Surfaces." AVS 64, Tampa, FL, November 2017.
- J. Liang, M. Bakir, Y. Joshi, "Microfabricated thin silicon vapor chamber for low profile thermal management," 16th IEEE Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems (ITherm) 2017, Orlando, FL, USA, 30 May-2 June 2017.
- F. Liu, C. Nair, A. Kubo, T. Ando, H. Lu, R. Zhang, et al., "Via-in-Trench: A Revolutionary Panel-based Package RDL Configuration capable of 200-450 IO/mm/layer, an Innovation for More-Than-Moore System Integration," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 2097-2103, 2017.
- R. Liu, N. Wang, Chia-Heng Chu, and A. F. Sarioglu, "A Microfluidic Device for Label-Free Electronic Immunophenotyping of Cell Populations," MicroTAS, Savannah, GA, October 2017.
- R. Liu, N. Wang, Chia-Heng Chu, and A. F. Sarioglu, "The Effect of the Electrode Resistance on the Performance of Code-Multiplexed Resistive Pulse Sensing," Transducers, Kaohsiung, TAIWAN, June 2017.
- T. Liu, B. Lee, and S. W. Lee, "Carbon-Based Composite Electrodes for High-Performance Energy Storage Devices," The American Ceramic Society 41st International Conference & Exposition on Advanced Ceramics and Composites, Daytona Beach, FL, January 2017.
- T. Liu, K. Gupta, S. W. Lee, and S. Kumar, "Carbon-Based Electrodes for High Energy Electrochemical Capacitors," The 231st Electrochemical Society Meeting, New Orleans, LA, May 2017.
- T. Liu, J. Park, C. A. Joiner, S. W. Lee, M. Navaei, and I. Stern, "Interfacial Li-ion Storage Between Graphene Layers," The 231st Electrochemical Society Meeting, New Orleans, LA, May 2017.
- T. Liu, B. Lee, K. C. Kim, S. S. Jang, S. W. Lee, "Polydopamine: A Promising Organic Cathode for Rechargeable Batteries," The 231st Electrochemical Society Meeting, New Orleans, LA, May 2017.

- T. Liu, B. Lee, S. W. Lee, "Redox-Active Organic Electrodes for Pseudocapacitor Applications," The 231st Electrochemical Society Meeting, New Orleans, LA, May 2017.
- T. Liu, B. Lee, J. Park, and S. W. Lee, "Redox-Active Organic Positive Electrodes for Li- and Na-ion Capacitors," 232nd Electrochemical Society Meeting, National Harbor, MD, October 2017.
- Y. Liu, T.-T. Kao, Y. Zhu, Y. Park, K. Mehta, S. Wang, S.-C. Shen, D. Yoder, F. Ponce, T. Detchprohm and R. Dupuis, "Ultraviolet microcavity light-emitting diode with ion-implanted current aperture," SPIE Photonics West Conference, San Francisco, CA, January 31-February 2 2017.
- M. Losego, "Kinetics of Vapor Phase Infiltration: Fitting Theory to Experimental Measurements." ALD Conference, Denver, CO, July 2017.
- M. Losego, "Using ALD Grown Oxide Thin Films to Explore the Fundamental Science of Amorphous Solids: Thermal, Optical, and Structural Properties." Electronic Materials Conference, South Bend, IN, June 2017.
- N.E. Lourenco, A. Idefonso, G.N. Tzintzarov, Z.E. Fleetwood, K. Motoki, P. Paki, M. Kaynak, and J.D. Cressler, "Single-Event Upset Mitigation in a Complementary SiGe HBT BiCMOS Technology," 2017 *IEEE Nuclear and Space Radiation Effects Conference*, paper D-5, 2017.
- M. Mandal, G. Huang, and P. A. Kohl, "Anion Conducting Block Copolymers," The Electrochemical Society Biannual Meeting, Washington DC, October 1, 2017.
- M. T. McDowell, M. G. Boebinger, F. Quintero-Cortes, N. P. Kondekar, M. Xu. "Multi-Modal In Situ Characterization of Dynamic Processes in Battery Materials." WE-Heraeus Seminar on In Operando Characterization of Energy Materials, Bad Honnef, Germany, August 2017.
- M. T. McDowell, M. G. Boebinger, F. Quintero-Cortes, N. P. Kondekar, M. Xu, D. Yeh. "Probing Dynamic Processes within Nanoscale Materials and at Interfaces for Improved Energy Storage." Gordon Research Conference: Nano-Mechanical Interfaces, Hong Kong, August 2017.
- M. T. McDowell, M. G. Boebinger, F. Quintero-Cortes, "Nanowires for Enabling Fundamental in situ Investigations and New Materials Architectures in Electrochemical Energy Systems." Materials Research Society Spring Meeting, Phoenix, AZ, April 2017.
- M. T. McDowell, "In Situ Investigation of Nano-to-Macroscale Reaction Pathways in Sulfide Materials for Alkali-Ion Batteries." MRS Fall Meeting, Boston, MA, November 2017.
- M. T. McDowell, M. G. Boebinger, M. Xu, X. Ma, H. Chen, R. R. Unocic, "Revealing Distinct Nanoscale Reaction Pathways in a Sulfide Material for Sodium and Lithium Batteries." Materials Research Society Spring Meeting, Phoenix, AZ, April 2017.
- K. Mehta, T. Detchprohm, Y.-S. Liu, S. Wang, O. Moreno, Y. J. Park, S.-C. Shen, F. A. Ponce, R. D. Dupuis, and P. D. Yoder, "Design, growth and characterization of AlGa_N-based UV distributed Bragg reflectors with enhanced refractive index contrast," presented in the twelfth International Conference on Nitride Semiconductors (ICNS-12), July 24-28 2017.
- K. Mehta, T. Detchprohm, Y. Park, Y. Liu, O. Moreno, S. Wang, H. Xie, S. C. Shen, F. Ponce, R. D. Dupuis and D. Yoder, "High reflectivity ultraviolet AlGa_N-metal hybrid distributed Bragg reflectors," presented in the 11th International Symposium on Semiconductor Light Emitting Devices (ISSLED 2017), Banff, Alberta, Canada, Oct. 8-12 2017.
- S.A. Mirbozorgi, C. Tekes, A. Pirouz, O. Kocaturk, R.Lederman, M. Ghovanloo, and F.L. Degertekin, "A feasibility study for MRI guided CMUT-based intracardiac echocardiography catheters," IEEE International Ultrasonics Symposium, DOI: 10.1109/ULTSYM.2017.8091893, September 2017.
- K. Mohan, N. Shahane, P. M. Raj, A. Antoniou, V. Smet, and R. Tummala, "Low-temperature, organics-free sintering of nanoporous copper for reliable, high-temperature and high-power die-attach

- interconnections," Applied Power Electronics Conference and Exposition (APEC), 2017 IEEE, pp. 3083-3090, 2017.
- N. S. K. Mohan, P.M. Raj, A. Antoniou, V. Smet, R.R. Tummala, "Fabrication of Cu Pillar Interconnections with Nanocopper Foam Caps for Direct Cu-Cu Bonding with Enhanced Manufacturability in Chip-to-substrate Applications," SRC Techcon 2017, Austin, TX, USA, September 2017.
- R. Mohan, "Classical Newtonian Mechanics - Engineering and Bio Systems at Nanoscale," Indian Society for Applied Mechanics, Allahabad, India, July 2017.
- R. Mohan, "Constitutive Material Models for Heterogeneous Cement Paste," International Journal of Materials Science and Engineering, Hanoi, Vietnam, May 2017.
- R. Mohan, I. Padilla Espinosa, W. Hodo, J. Rivas Murillo, "Molecular Dynamics Modeling of Shear Deformation and Predictive Constitutive Behavior of Two Phase Cement Paste Composite Material Chemistry Structures," American Society for Mechanical Engineers, Tampa, FL, November 2017.
- H. Moradinejad, T. Fan, A. H. Hosseinnia, M. Sodagar, S. Taghavi, A. A. Eftekhar, and A. Adibi, "Optical modulation in hybrid integrated nanophotonic platforms," IEEE Summer Topicals Meeting, San Juan, Puerto Rico, 2017.
- O. Moreno, Y. Park, T. Detchprohm, B. Chaiyasarikul, K. Mehta, P. D. Yoder, R. D. Dupuis, and S.-C. Shen, "III-N-base distributed Bragg reflectors using complementary conductivity-selective wet-etching methods," presented in the twelfth International Conference on Nitride Semiconductors (ICNS-12), Strasbourg, France, July 24-28 2017.
- M. Mujica (presenter), M. A. Filler, V. Breedveld, S. H. Behrens, "Advanced Emulsion-Templating of Microreactors for the Scalable Production of Semiconductor Nanowires." Annual Meeting of the American Institute of Chemical Engineers, Minneapolis, MN, Oct. 29 - Nov. 3, 2017.
- B. Muriungi, A. Hashemisohi, L.J. Wang, A. Shahbazi, "Chemical looping gasification (CLG) of biomass using a novel bimetallic (copper-ferrite) oxygen carrier," AIChE Annual International Meeting, Minneapolis, MN, Oct. 30-Nov. 2, 2017.
- Yoon Joo Na*, James Collins, Christopher Muhlstein, "Strain field mining of cyclic damage accumulation in nonwoven fiber composites", TMS Annual Meeting, San Diego, CA 2017
- S. Nalamati, P. Deshmukh, S. Iyer, "Characterization of The Fabrication Processing Parameters and Electrical Measurements in GaAsSb Nanowires by Atomic Force Microscopy," MRS/ASM/AVS Joint Symposium, Raleigh, NC, Nov 2017.
- H. Oh, X. Zhang, P. K. Jo, G. S. May, and M. S. Bakir, "Monolithic-like heterogeneously integrated microsystems using dense low-loss interconnects," Proc. IEEE Silicon Monolithic Integrated Circuits in RF Systems (SiRF), Phoenix, AZ, January 2017.
- Andrew O'Hara, Pan Wang, Chris J Perini, Daniel M Fleetwood, Eric M Vogel, Sokrates T Pantelides, "Passivation and Depassivation of Defects in Graphene-based field-effect transistors," American Physical Society Meeting, New Orleans, LA, March 13-17, 2017.
- Young-Woo Ok, Ajay D Upadhyaya, Brian Rounsaville, Ying-Yuan Huang, Vijaykumar D Upadhyaya, Ajeet Rohatgi, "Screen Printed, Large Area Bifacial N-PERT cells with Tunnel Oxide Passivated Back Contact," 44th IEEE PVSC, Washington DC, USA, 2017.
- D. Oldham, A.S. Yaya, D. Folley, E.H Fini, "Effects of Warm-Mix Additives on Asphalt Moisture Resistance," Transportation Research Board 96th Annual Meeting, 17-05541, 2017.
- C. Pardue, M. L. F. Bellaredj, A. Davis, M. Swaminathan, "Miniaturization of Planar Packaged Inductor using NiZn and Low Cost Screen Printing Technique," IEEE 67th Electron. Compon. Technol. Conf. (ECTC), Orlando, FL, USA, pp. 2275-2281, Orlando, FL, USA, 30 May-2 Jun. 2017.

- C. Pardue, M. L. F. Bellaredj, A. K. Davis, M. Swaminathan, "Wireless Power Transfer Integrated Board for Low Power IoT Applications," IEEE Conference on Technologies for Sustainability, Phoenix, AZ, Nov. 12-14, 2017.
- G. Park, Y. Kim, K. Cho, J. Kim, M. Kim, P. M. Raj, et al., "Design and analysis of receiver channels of glass interposer for dual band Wi-Fi front end module (FEM)," Electromagnetic Compatibility & Signal/Power Integrity (EMCSI), 2017 IEEE International Symposium on, pp. 597-601, 2017.
- J. Park, M. K. Aziz, S. Gonzalez, D. Jung, T. Chi, S. Li, H. C. Cho, H. Wang, "A CMOS 22k-Pixel Single-Cell Resolution Multi-Modality Real-Time Cellular Sensing Array," Proc. IEEE Custom Integrated Circuits Conference (CICC), May 2017.
- J. Park, Z. Feng, and S. W. Lee, "New Class of Highly Active and Stable Electrocatalyst for Oxygen Evolution Reaction in an Acidic Medium," 255th American Chemical Society National Meeting, Washington, DC, August 2017.
- G. Pavlidis, S. Choi, S.-C. Shen, S. Graham, "Steady State and Transient Thermal Characterization of Vertical GaN PIN Diodes," Interpack 2017, Dusseldorf, Germany, May 4-10 2017.
- R. Perez-Martinez, U.S. Raghunathan, A.P. Omprakash, B.R. Wier, M.A. Oakley, Z.E. Fleetwood, and J.D. Cressler, "Predicting Hard Failures and the Maximum Usable Operational Range of SiGe HBTs," *Proceedings of the 2017 IEEE Bipolar/BiCMOS Circuits and Technology Meeting*, pp. 122-125, 2017.
- Chris J. Perini, Michael J. Muller, Eric M. Vogel, "Plasma-Assisted Sulfurization of Thin Molybdenum-Containing Films for MoS₂ Synthesis," Semiconductor Interface Specialists Conference, San Diego, CA, December 6-9, 2017.
- O. Phillips, J. Schwartz, A. Engler, G. Gourdin, P. A. Kohl, "Phototriggerable, Transient Electronics: Materials and Concepts," IEEE Electronics and Components Technology Conference, Orlando, FL, June, 2017.
- A. Pirouz and F.L. Degertekin, "A low temperature sacrificial layer based CMUT fabrication process for improved reliability," IEEE Ultrasonics Symposium, 2017.
- A. Pirouz and F.L. Degertekin, "Efficiency of capacitive micromachined ultrasound transducers for large signal non-collapsed operation," ASA Spring 2017 Meeting, Boston, MA, 2017.
- S. L. Pittelli, D. E. Shen, A. M. Österholm, J. R. Reynolds, "Chemical Oxidation of Polymer Electrodes for Redox Active Devices: Stabilization through Interfacial Interactions," Fall 2017 Materials Research Society Meeting, Boston, MA., November 26th-December 1st 2017.
- Q. Rahman, L.J. Wang, "A novel biorefinery approach for producing biofuel from fermented microalgae," ASABE Annual International Meeting, Spokane, Washington, Jul 16-19, 2017.
- P. M. Raj, T. H. Lin, A. Watanabe, V. Sundaram, R. Tummala and M. M. Tentzeris, "Nanostructured miniaturized artificial magnetic conductors (AMC) for high-performance antennas in 5G, IoT, and smart skin applications," 2017 IEEE 17th International Conference on Nanotechnology (IEEE-NANO), pp. 911-915, 2017.
- V. T. Rambhatla, D. Samet, P. M. Raj, S. Kawamoto, R. R. Tummala, and S. K. Sitaraman, "Interfacial Delamination of Mold Compound in Fan-Out Packages," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 827-833, 2017.
- Rambhatla, V.T., Samet, D., McCann, S.R. and Sitaraman, S.K., "A Characterization Method for Interfacial Delamination of Copper/Epoxy Mold Compound Specimens under Mixed Mode I/III Loading," 67th Electronic Components and Technology Conference, IEEE-CPMT and EIA, Lake Buena Vista, FL, pp. 1888-1893, May 2017.

- Rahul Rao, Ahmad E Islam, Philip M Campbell, Eric M Vogel, Benji Maruyama, "In situ photothermal oxidation kinetics in MoS₂," American Physical Society Meeting, New Orleans, LA, March 13-17, 2017.
- M. Rashidi, A. Paul, J. Y. Kim, L. J. Jacobs, & K. E. Kurtis, "New insights into DEF via nonlinear acoustics," 8th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing Meeting, Atlanta, Georgia, June 26-28 2017.
- S.A. Razgaleh, S. Aravamudhan, "Thermal and Viscoelastic Properties of Underfill Using hexagonal Boron Nitride (hBN) Nanofiller," In International Symposium on Microelectronics, 2017(1), 000542-000546, 2017.
- Elsa Reichmanis, "Active Organic and Polymer Materials for Flexible Electronics: a path to sustainable systems," 46th World Chemistry Congress, International Union for Pure and Applied Chemistry, Sao Paulo, Brazil, July 9-14, 2017 (keynote)
- Elsa Reichmanis, "Active Polymer Materials for Flexible Electronics: Molecular Design and Processing for Efficient Macroscale Charge Transport Pathways," 2017 AIChE Annual Meeting, Minneapolis, MN. October 30, 2017
- Elsa Reichmanis, "Approaches to sustainable materials and processes for flexible electronics," Cornell Nanofabrication Facility Annual Meeting and 40th Anniversary Symposium, Cornell University, Ithaca, New York, September, 14, 2017.
- Elsa Reichmanis, "Polymer molecular design and processing for efficient macroscale charge transport pathways," American Chemical Society National Meeting, San Francisco, CA, April 2-6, 2017
- Elsa Reichmanis, Fibrillar Structures, "Transport Pathways and Stretchable Electronics," 2017 International Conference on Advanced Fibers and Polymer Materials, Shanghai, China, October 8-10, 2017.
- S. P. Rodrigues, S. Lan, L. Kang, Y. Cui, P. W. Panuski, S. Wang, A. M. Urbas, W. Cai, "Intensity-dependent modulation of optically active signals in a chiral metamaterial," SPIE Photonics West, 10112-10, San Francisco, CA, January 28 – February 2, 2017.
- S. P. Rodrigues, S. Lan, L. Kang, Y. Cui, P. W. Panuski, S. Wang, A. M. Urbas, W. Cai, "Modulating optically active signals in a chiral metamaterial with varied input intensities," Institute of Electrical and Electronics Engineers (IEEE) Photonics Conference, WG2, Orlando, FL, October 1-5, 2017.
- V. A. Rodriguez-Toro, V. A. Kolesov, C. Fuentes-Hernandez, W.-F. Chou, N. Aizawa, F. A. Larrain, M. Wang, A. Perrota, S. Choi, S. Graham, G. C. Bazan, T.-Q. Nguyen, S. R. Marder, and B. Kippelen, "Solution-based electrical doping of semiconducting polymer films and demonstration of single-layer solar cells," Next Generation Solar Energy (NGSE) conference, Cali, Colombia, Dec. 4 - 7 2017.
- P. Ruparelia, R. Warren, D. LaJeunesse, S. Aravamudhan, S. Lee, "Biomimetic Self-Mineralizing Polysaccharide Material as a Scaffold for Bone Tissue Engineering," BMES Annual Meeting, Phoenix AZ, Oct 11-14, 2017.
- J. Ryan, L. Zhang, "Nanotechnology Research at the Joint School of Nanoscience and Nanoengineering," 2017 AATCC Fall Committee Meeting, Research Triangle Park, NC, Nov 2017.
- F. Sadeghi-Tohidi, A. Barrios Santos, G. Castelluccio, O. Pierron, "Investigation of microstructurally small fatigue cracks in Ni microbeams," 23rd International Conference on Plasticity, Damage & Fracture, Puerto Vallarta, Mexico, January 3-9, 2017.
- Samet, D., Rambhatla, V. N. N. T., and Sitaraman, S. K., "Mode Mixity Dependency on Fatigue Crack Propagation for an Epoxy Molding Compound," TECHCON, Austin, TX, Sep. 2017.

- D. Santiesteban, K. Hallam, S. Yarmoska, and S. Emelianov, "Molecular, multiplexed photoacoustic/ultrasound imaging with multicolored perfluorocarbon nanodroplets," World Molecular Imaging Congress 2017, Philadelphia, PA, September 2017.
- D. Santiesteban, K. Hallam, S. Yarmoska, and S. Emelianov, "Multicolor perfluorocarbon nanodroplets for multiplexed ultrasound and photoacoustic imaging," IEEE International Ultrasonics Symposium, 2017.
- T. Sarvey, W. Wahby, and M. Bakir, "Microfluidic Cooling for 3D ICs," GOMACTech, Reno, Nevada, March 2017.
- B. Schmatz, Z. Yuan, A. W. Lang, J. Hernandez, E. Reichmanis, J. R. Reynolds, "Aqueous Processing for Printed Organic Electronics: Conjugated Polymers with Multistage Cleavable Side Chains," 253rd American Chemical Society Spring Meeting, San Francisco, CA April 2nd – 6th 2017.
- B. Schmatz, Z. Yuan, A. W. Lang, J. Hernandez, E. Reichmanis, J. R. Reynolds, "Aqueous Processing for Printed Organic Electronics: Conjugated Polymers with Multistage Cleavable Side Chains," 254th American Chemical Society Fall Meeting, Washington, D. C., August 20th – 24th 2017.
- Y.J. Sei, S.I. Ahn, T. Virtue, and Y. Kim, "Detecting the endothelial conditional response to oscillatory shear stress," Annual Fall Meeting of Biomedical Engineering Society (BMES), 2017.
- Y.J. Sei, S.I. Ahn, T. Virtue, and Y. Kim, "Microfluidic transcellular monitor for probing the frequency response of the vascular endothelium to oscillatory shear stress," MicroTAS, 2017.
- N. Shahane, K. Mohan, G. Ramos, A. Kilian, R. Taylor, F. Wei, et al., "Enabling chip-to-substrate all-Cu interconnections: design of engineered bonding interfaces for improved manufacturability and low-temperature bonding," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 968-975, 2017.
- H. Shams-Mousavi, S. R. Panikkanvalappil, A. A. Eftekhar, M. El-Sayed, and A. Adibi, "Chiroptical Spectroscopy Using an On-Resonance Chiral Metasurface," META'17 Incheon, South Korea, 2017.
- H. Shams-Mousavi, S. R. Panikkanvalappil, A. A. Eftekhar, M. El-Sayed, and A. Adibi, "On-Resonance Chiral Metamaterial for Chiroptical Sensing at the Molecular Level," Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, 2017.
- M. Sharma, P. Deshmukh, P. Kasanaboina, C. L. Reynolds Jr., Y. Liu and S. Iyer, "A Novel Approach to Grow Defect-Free GaAsSbN Axial Nanowires via Self-Catalyzed Molecular Beam Epitaxy," Oral Presentation, 33rd NAMBE, Galveston Island, Texas, October 15-18, 2017.
- M. Sharma, M.R. Karim, P.K. Kasanaboina, S. Iyer, "Semi-Empirical Growth Rate Modeling for Self-Assisted Growth of GaAs, GaAs/GaAsSb Core-Shell, GaAsSb Axial NWs using MBE," 59th Electron Material Conference, South Bend, Indiana, Jun 28-30, 2017.
- M. Sharma, P. Kasanaboina, S. Iyer, "Impact of Processing and Growth Conditions on the Self-Catalyzed Patterned Growth of GaAs Nanowires by Molecular Beam Epitaxy," Proc. SPIE 10354, Nanoengineering: Fabrication, Properties, Optics, and Devices XIV, 103540, 103540F, 2017.
- M. Sharma, P. Kasanaboina, M.R. Karim, S. Iyer, "Self-Catalyzed Patterned Growth of GaAs(Sb), GaAsSbN Nanowires by Molecular Beam Epitaxy", SPIE, San Diego, CA, Aug 6-10 August 2017.
- R.K. Sharma, L. Zhang, S. Aravamudhan. "Nerve Growth Factor incorporated Coaxial Electrospun Cellulose Acetate/Polyvinylpyrrolidone (CA-PVP-CA) Nanofibers for Neural Cell Differentiation." 2017 TERMIS-AM, Charlotte, NC, Dec 3-6, 2017.
- R.K. Sharma, L. Zhang, S. Aravamudhan, "Coaxial Electrospun Cellulose Acetate/Polyvinylpyrrolidone Nanofibers for Sustained Release of Growth Factors," BMES Annual Meeting, Phoenix AZ, Oct 11-14, 2017.

- S.-C. Shen, R. D. Dupuis, T. Detechprohm, J.-H. Ryou, J. Chaiyasarikul, M. Ji, J. Kim, T. Kao, Y. Lee, and Z. Lochner, "Development of III-Nitride Bipolar Transistor Switches and Rectifiers," (Invited talk) in the SOTAPOCS-60, 232nd ECS Meeting, October 1-6, 2017.
- S.-C. Shen, R. D. Dupuis, T. Detechprohm, P. D. Yoder, Y.-J. Park, M.-H. Ji, B. Chaiyasarikul, O. Moreno, K. Mehta, Y.-S. Liu, H. Li, J. Kim, H. Xie, and F. Ponce, "III-nitride optoelectronic devices for ultraviolet systems," (Invited paper) in the 2017 IEEE Electron Device and Solid-State Circuits (EDSSC '17), Hsinchu, Taiwan, October 18-20 2017.
- T. Shi, C. Buch, V. Smet, Y. Sato, L. Parthier, F. Wei, et al., "First demonstration of panel glass fan-out (GFO) packages for high I/O density and high frequency multi-chip integration," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 41-46, 2017.
- Ah-Young Song, Yiran Xiao, Kostiantyn Turcheniuk, Punith Upadhyaya, Anirudh Ramanujapuram, Jim Benson, Alexandre Magasinski, Marco Olguin, Lamartine Meda, Oleg Borodin, and Gleb Yushin, "Protons Enhance Conductivities in Lithium Halide Hydroxide/Lithium Oxyhalide Solid Electrolytes by Forming Rotating Hydroxy Groups," 2017 MRS Fall Meeting, Boston, November 28, 2017.
- I. Song, Z.E. Fleetwood, M.-K. Cho, S. Pavlidis, S.P. Buchner, D. McMorro, P. Paki, M. Kaynak, and J.D. Cressler, "SET-Mitigated PNP-Based RF Switches in a Complementary SiGe BiCMOS Platform," 2017 IEEE Nuclear and Space Radiation Effects Conference, paper G-2, 2017.
- R. G. Spurney, H. Sharma, P. Raj, R. R. Tummala, N. Lollis, S. Gandhi, et al., "High-Voltage Capacitors for Next-Generation Power Modules in Electric Vehicles," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 1695-1700, 2017.
- D. Struk, C. Buch, P. J. Hesketh, K.-J. Wolter, and R. Tummala, "Thermal and Mechanical Analysis of 3D Glass Packaging for Automotive Cameras," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 2269-2274, 2017.
- W. Su, Z. Wu, Y. Fang, R. Bahr, P. M. Raj, R. Tummala, et al., "3d printed wearable flexible SIW and microfluidics sensors for internet of things and smart health applications," in Microwave Symposium (IMS), 2017 IEEE MTT-S International, pp. 544-547, 2017.
- I.-C. Sun, and S. Emelianov, "Gas-generating nanoparticles for molecular ultrasound imaging," World Molecular Imaging Congress 2017, Philadelphia, PA, September 2017.
- I.-C. Sun, D. Dumani, S.Y. Emelianov, "Glycol-chitosan-coated gold nanoparticles for photoacoustic imaging of lymph nodes," Abstract and presentation at the SPIE Photonics West Symposium, 2017.
- I.-C. Sun, D. Dumani, S.Y. Emelianov, "Ultrasound-guided photoacoustic imaging of lymph nodes with biocompatible gold nanoparticles as a novel contrast agent," Abstract and presentation at the SPIE Photonics West Symposium, 2017.
- V. Sundaram, B. Deprosio, N. Gezgin, A. Watanabe, P. M. Raj, F. Liu, et al., "Integrated Copper Heat Slugs and EMI Shields in Panel Laminate (LFO) and Glass Fanout (GFO) Packages for High Power RF ICs," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 300-305, 2017.
- V. Sundaram, F. Liu, C. Nair, R. Tummala, A. Kubo, T. Ando, K. Best, and C. Shay, "Demonstration of Embedded Cu Trench RDL using Panel Scale Lithography and Photosensitive Dry Film Polymer Dielectrics," International Symposium on Microelectronics: Fall 2017, Vol. 2017, No. 1, pp. 000689-000693, 2017.
- Y. Suzuki, V. Sundaram, R. Tummala, H. Hichri, L. Seongkuk, M. Arendt, et al., "Embedded Trench Redistribution Layers (RDL) by Excimer Laser Ablation and Surface Planer Processes," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 884-889, 2017.

- H. Taghinejad, A. A. Eftekhar, M. Taghinejad, Y. Zhou, P. M Campbell, B. Beatty, P. M. Ajayan, E. J. Reed, E. Vogel, and A. Adibi, "Alloying-induced biaxial strain in compositionally-modulated two-dimensional van der Waals crystals," MRS, Boston, MI, 2017.
- H. Taghinejad, S.H. Shams Mousavi, T. Fan, M. Taghinejad, A.A. Eftekhar, and A. Adibi, "Plasmonic enhancement of light-matter interaction in planar materials," Invited for Presentation in META 2017 Conference, Seoul, South Korea, 2017.
- H. Taghinejad, M. Taghinejad, A. Tarasov, T. Fan, A. A. Eftekhar, E. M. Vogel, A. Adibi, "Strong light enhancement and confinement in two-dimensional transition metal dichalcogenides," SPIE Photonics West, San Francisco, CA, 2017.
- M. Taghinejad, H. Taghinejad, H. Moradinejad, A. A. Eftekhar, and Ali Adibi, "A spectroscopic ellipsometry demonstration of ultrasharp subradiant plasmons," META'17 Incheon, South Korea, 2017.
- Hossein Taghinejad, Mohammad Taghinejad, Alexey Tarasov, Ami Hossein Hosseinnia, Hesam Moradinejad, Ali A Eftekhar, Eric Vogel, Ali Adibi, "Enhancement of light-2D material interaction envisioned for energy harvesting applications," CLEO: Science and Innovations, San Jose, CA, May 14-19, 2017.
- M. Taghinejad, W. Cai, "All-optical modulation of ultrasharp lattice plasmons," Institute of Electrical and Electronics Engineers (IEEE) Photonics Conference, WP.30 Orlando, FL, FL, October 1-5, 2017.
- M. Taghinejad, H. Taghinejad, S. P. Rodrigues, W. Cai, "Subpicosecond all-optical modulation in a plasmonic metalattice enabled by hot-electron relaxation dynamics," Materials Research Society (MRS) Fall Meeting, EM03.06, Boston, MA, November 26 – December 1, 2017.
- Yuguo Tao, Felix Book, Barbara Terheiden, Vijaykumar Upadhyaya, Keeya Madani, Brian Rounsaville, Eunhwan Cho, Ajeet Rohatgi, "Large-area n-type TOPCon Cells with Screen-printed Contact on Selective Boron Emitter Formed by Wet Chemical Etch-back," 44th IEEE PVSC, Washington DC, USA, 2017.
- E. J. Tervo (presenter), D. S. Boyuk, Z. Zhang, B. A. Cola, and M. A. Filler, "Modeling of Near-Field Infrared Radiation and Waveguiding: Extracting Plasmonic Resonator Dispersion Relations from Spectroscopy and DDA," 2017 International Mechanical Engineering Congress and Exposition, Tampa, FL, Nov. 3-9, 2017.
- C. Tobin, O. Phillips, A. Engler, and P. A. Kohl, "Visible Spectrum Sensitization of Vaporizable Polyaldehydes for Transient Devices," AIChE National Meeting, November, 2017.
- S. Tol, F.L. Degertekin, and A. Erturk, "Omni-directional lens for structure-borne wave focusing and energy harvesting," 2017 Active and Passive Smart Structures and Integrated Systems Conference (SPIE), doi: 10.1117/12.2260358, 2017.
- S. Tol, F.L. Degertekin, and A. Erturk, "3D-printed lens for structure-borne wave focusing and energy harvesting," 2017 Active and Passive Smart Structures and Integrated Systems Conference (SPIE), doi: 10.1117/12.2260348, 2017.
- S. Tol, F.L. Degertekin, and A. Erturk, "Low-Frequency Elastic Wave Focusing and Harvesting via Locally Resonant Metamaterials," ASME 2017 Conference on Smart Materials, Adaptive Structures and Intelligent Systems, doi:10.1115/SMASIS2017-3957, 2017.
- M.J. Toth, Kim Y. Kim, "Parallelized microfluidics for large-scale synthesis of multicomponent nanoparticles," MicroTAS, 2017.
- R. Tummala, "Future of Embedding and Fan-out Technologies," Keynote, Pan Pacific Microelectronics Symposium (Pan Pac), Kauai, HI, February 2017.

- R. Tummala, "Future of Embedding and Fan-out Technologies," Keynote, China Semiconductor Technology International Conference (CSTIC), Shanghai, China, March 2017.
- R. Tummala, "Future of Embedding and Fan-out Technologies," Keynote, BITs Annual World Congress of Advanced Materials, Bangkok, China, March 2017.
- R. Tummala, "A Large-scale Industry Consortium in Partnership with Japanese and Global Companies in New Era of Automotive Electronics by Georgia Tech, USA," Industry Seminar, University of Tokyo, Tokyo, Japan, March 2017.
- R. Tummala, "Introduction to Georgia Tech PRC and its Industry Consortium in NAE," IEEE Workshop, San Jose, CA, March 2017.
- R. Tummala, "Future of Packaging: Strategic Technologies, Manufacturing Infrastructure and Applications," Professional Development Course, Electronic Components Technology Conference (ECTC), Orlando, FL, May 2017.
- R. Tummala, "System Scaling Industry Consortium @ Georgia Tech in Computing and Communication Electronics, Sensing Electronics for Autonomous Driving, and High-power and High-temp Electronics for Electric Cars," Member Seminar, Georgia Tech Packaging Research Center's Industry Advisory Board Semi-Annual Meeting, Atlanta, GA, May 2017.
- R. Tummala, "Future of Packaging: Embedded and non-embedded Fan-out," Keynote, 18th International Conference on Packaging Technology (ICEPT), Harbins, China, August 2017.
- R. Tummala, "Future of Embedded and Fan-out Packaging Technologies," Keynote, 21st European Microelectronics and Packaging Conference (EMPC), Warsaw, Poland, September 2017.
- R. Tummala, "Future of Embedded and Fan-out Packaging Technologies," Professional Development Course, International Wafer-level Packaging Conference (IWLPC), San Jose, CA, October, 2017.
- R. Tummala, "Future of Embedded and Fan-out Packaging Technologies," Georgia Tech Packaging Research Center's Industry Advisory Board Semi-Annual Meeting, Atlanta, GA, November 2017.
- R. Tummala, "3D System Package Architecture as Alternative to 3D Stacking of ICs with TSV at System Level," Keynote, 63rd International Electronic Devices Meeting, San Francisco, CA, December 2017.
- M-J. Uddin, A.R. Letfullina, P.K. Alaboina, J-S. Cho, S-J. Cho, "Synthesis of Nanoscale Li7La3Zr2O12 Solid State Electrolyte by Spray Drying." 232nd ECS Meeting. National Harbor, MD, Oct 2017.
- Ajay Upadhyaya, Vijaykumar Upadhyaya, Brian Rounsaville, Keeya Madani, Ajeet Rohatgi, "Large Area N-type Selective Emitter cells using Laser Doping through Boron Doped Screen Printed Paste," 44th IEEE PVSC, Washington DC, USA, 2017.
- A. Usman, R. Deghannasiri, A. A. Eftekhar, and A. Adibi, "Highly sensitive biomolecular detection using compact high-Q silicon spiral resonators," *Frontiers in Optics (FiO)*, Washington, D.C., 2017.
- S. Viswanathan, T. Ogawa, K. Demir, T. B. Huang, P. M. Raj, F. Liu, et al., "High Frequency Electrical Performance and Thermo-Mechanical Reliability of Fine-Pitch, Copper-Metallized Through-Package-Vias (TPVs) in Ultra-Thin Glass Interposers," *Electronic Components and Technology Conference (ECTC)*, 2017 IEEE 67th, pp. 1510-1516, 2017.
- Eric M. Vogel, "Potentiometric Biochemical Sensors for Diagnostic Applications," *Electrochemical Society Meeting*, New Orleans, LA, May 30, 2017.
- Eric M. Vogel, "Neuromorphic Circuits Using Low-temperature Processed Materials and Devices," *Symposium on Brain-Inspired Technologies and Systems (BITS)*, Melbourne, Australia, Oct. 27, 2017.
- Eric M. Vogel, "2D Materials for Tunnel Diodes," *Materials and Manufacturing Processes (M&MP) Technical Interchange Meeting (TIM)*, Dayton, OH, March 28, 2017.

- Eric M. Vogel, "2D Vertical Heterostructures for Novel Tunneling Device Applications," GOMACTech, Reno, NV, March 22, 2017.
- M.T. Wachter, A. Ildefonso, Z.E. Fleetwood, N.E. Lourenco, G. Tzintzarov, N.J.-H. Roche, A. Khachatrian, P. McMarr, H. Hughes, J. Warner, D. McMorrow, Pauline Paki, and J.D. Cressler, "The Effects of Total Ionizing Dose on the Transient Response of SiGe BiCMOS Technology," *Proceedings of the 2016 Conference on Radiation and Its Effects on Components and Systems*, paper J4, pp. 1-4, 2017 (DOI - 10.1109/RADECS.2016.8093194).
- C. Wan, M. S. Bakir, and T. K. Gaylord, "Waveguide grating couplers in overlaid chips: efficiency optimization and angular misalignment simulation," *Frontiers in Optics*, Washington, D.C., paper JW4A.94, 2017.
- H. Wang, S. Hu, T. Chi, F. Wang, S. Li, M. Huang, and J. Park, "Towards Energy-Efficient 5G Mm-Wave Links: Exploiting Broadband Mm-Wave Doherty Power Amplifier and Multi-Feed Antenna with Direct On-Antenna Power Combining (Invited)," *Proc. IEEE Bipolar/BiCMOS Circuits and Technology Meeting (BCTM)*, Sep. 2017.
- N. Wang, R. Liu, M. Boya and A. F. Sarioglu, "A Microfluidic Sensor Using Frequency Division Multiple Access for Multiplexed Detection of Cells in Microfluidic Channels," *MicroTAS*, Savannah, GA, October 2017.
- N. Wang, R. Liu, R. Khodambashi, N. Asmare and A. F. Sarioglu, "Code-Division Multiplexed Resistive Pulse Sensor Networks for Spatio-Temporal Detection of Particles in Microfluidic Devices," *IEEE*, Las Vegas, NV, January 2017.
- X. Wang, J. Kacher, "Investigating ledge formation during fatigue by SEM," *ASTM Conference*, Atlanta, GA, 2017.
- O. Watanabe, M. Ali, B. Tehrani, J. Hester, H. Matsuura, T. Ogawa, et al., "First Demonstration of 28 GHz and 39 GHz Transmission Lines and Antennas on Glass Substrates for 5G Modules," *Electronic Components and Technology Conference (ECTC)*, 2017 IEEE 67th, pp. 236-241, 2017.
- J. Wei, H. Chevva, R. Chandran, D. LaJeunesse, "Silver Nanowires (AgNWs) Growth in-situ on Chitosan Polymer Matrix Film for SERS Application," *17th IEEE International Conference on Nanotech*. Pittsburgh, PA, July 25-28, 2017.
- H. Wen, A. Daruwalla, and F. Ayazi, "A 0.5MHz mode-matched pitch or roll annulus gyroscope with nano-gap slanted electrodes for quadrature cancellation," *Tech. Digest of the 19th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS' 17)*, pp. 536-539, Kaohsiung, Taiwan, June 2017. (**outstanding paper award finalist**)
- W. Williams, C. Coen, M. Frounchi, N. Lourenco, and J.D. Cressler, "MicroNimbus: a Cubesat Temperature Porfilometer for Earth's Atmosphere Using a Single-chip 60 GHz SiGe Radiometer," *Proceedings of the 2017 IEEE International Geoscience and Remote Sensing Symposium*, pp. 1-4, 2017.
- Woodrum, D.C., Nasr, M., Zhang, X., Bakir, M.S. and Sitaraman, S.K., "Mechanical Characterization of Anodic Bonding Using Chevron Microchannel," *67th Electronic Components and Technology Conference, IEEE-CPMT and EIA*, Lake Buena Vista, FL, pp. 1646-1653, May 2017.
- R. Yarbrough, M. Hawkins, H. Rathnayake, "Multifunctional hybrid cellular nanocomposites for extreme environment spacecraft structures", *American Society of Gravitational Research*, Seattle, Washington, 2017.
- P. Yeon, J. L. Gonzalez, M. Zia, S. Kochupurackal Rajan, G.S. May, M.S. Bakir, and M. Ghovanloo, "Microfabrication, Assembly, and Hermetic Packaging of mm-Sized Free-Floating Neural Probes," *Proc. IEEE Biomedical Circuits and Systems Conference (BioCAS)*, Turin, Italy, Oct. 2017.

- P. Yeon, J. Gonzalez, M. Zia, S. Kochupurackal Rajan, G. May, M. Bakir, and M. Ghovanloo, "Microfabrication, assembly, and hermetic packaging of mm-sized free-floating neural probes," Proc. of the IEEE Biomedical Circuits and Systems Conference (BioCAS 2017), pp. 608-611, Oct. 2017.
- P. Yeon, A. Kumar, and M. Ghovanloo, "Wireless coil array sensors for monitoring hermetic failure of millimeter-sized biomedical implants," Proceedings of the IEEE Midwest Symp. on Circ. Sys., pp. 631-634, Aug. 2017.
- Y.X. Yoo, J. Carroll, J. Emery, J. Kacher, "Investigating heterogeneous deformation in polycrystalline Al 6061 using in-situ SEM tensile testing and HREBSD characterization," ASTM Conference, Atlanta, GA, 2017.
- Y.S. Yoo, J. Carroll, J. Emery, J. Kacher, "Investigating heterogeneous deformation in polycrystalline Al 6061 using in situ SEM tensile test and HREBSD characterization," MS&T, Pittsburgh, PA, 2017.
- Katherine Young, Corey Joiner, Dale Hitchcock, Steve Serkiz, Eric Vogel, "A Facile Approach to Mapping Graphene Grain Boundaries and Multilayer Regions on Copper," MRS Fall Meeting, Boston, MA, November 30, 2017.
- G. Yushin, "Conversion-Type Cathodes and Material Synthesis via Conversion for Rechargeable Lithium and Lithium-Ion Batteries," Keynote Lecture at the 68th Meeting of the ISE, Providence, RI, USA, 2017.
- G. Yushin et al., "Carbon-Based Nanocomposites for Energy Storage Applications," Invited Talk at the 26th IMRC, Cancun, Mexico, 2017.
- G. Yushin et al., "Ceramic Nanowire Separator Membranes & Other Routes to Enhance Battery Safety," Invited Talk at the 26th IMRC, Cancun, Mexico, 2017.
- G. Yushin et al., "Chemical Vapor Deposition (CVD) of Iron Phosphate onto Carbon Nanotubes (CNT) for Flexible High-Power Battery Applications," MRS Fall Meeting 2017, Boston, 26th November-1 December
- G. Yushin et al., "Conversion Chemistry for Next-Generation Lithium and Lithium-Ion Batteries," Invited Talk at 253rd ACS National Meeting, San Francisco, CA, USA, 2017.
- G. Yushin et al., "Flexible Batteries for Next Generation Internet of Things and Beyond," Invited Talk at NextFlex Workshop: Powering the Internet of Everything, Atlanta, GA, 2017.
- G. Yushin et al., "High Energy Electrodes & Ceramic Nanowires," Invited Seminar at IARPA, Riverdale Park, MD, USA, 2017.
- G. Yushin et al., "Materials for Multifunctional Lithium Batteries," Invited Talk at 4th Multifunctional Materials for Defense Workshop, Arlington, VA, USA, 2017.
- G. Yushin et al., "Nanocomposite Electrodes for High Energy and High Power Batteries," Invited Talk at CERMACS, Charlotte, NC, USA, 2017.
- G. Yushin et al., "Nanoporous Copper Synthesized via De-alloying of Copper-Calcium Alloys to Accommodate Lithium Titanate for Asymmetric Supercapacitors," MRS Fall Meeting 2017, Boston, 26th November-1 December.
- G. Yushin et al., "Protons Enhance Conductivities in Lithium Halide Hydroxide / Lithium Oxyhalide Solid Electrolytes by Forming Rotating Hydroxy Groups," 4th Annual Post-doc Meeting, Georgia Tech, 21st September, 2017.
- G. Yushin et al., "Roles of Solid Electrolyte Interphases in Conversion-Type Electrodes for Rechargeable Lithium and Lithium-Ion Batteries," Invited Talk at MRS, Boston, MA, USA, 2017.

- G. Yushin et al., "Transformation of Bulk Alloys into Metal Oxide Nanowires for Energy Applications," 231st ECS, New Orleans, LA, USA, 2017.
- G. Yushin et al., "Transformation of Bulk Alloys into Metal Oxide Nanowires for Energy Applications," ECS Meeting, New Orleans, 2017.
- B. Zhang, L.J. Wang, "Biogas production by thermophilic anaerobic co-digestion and its dry reforming" ASABE Annual International Meeting, Spokane, Washington, Jul 16-19, 2017.
- B. Zhang, L.J. Wang, D. Bekoe, A. Shahbazi, "Thermophilic anaerobic co-digestion of swine manure with agricultural residues and energy crops," The 18th Research Symposium of the Association of 1890 Research Directors, Inc. (ARD), Atlanta, GA, Apr 1-4, 2017.
- Guoyan Zhang, Bailey Risteen, Ping-Hsun Chu, Elsa Reichmanis, "Approaches to sustainable materials and processes for flexible electronics," American Chemical Society National Meeting, San Francisco, CA, April 2-6, 2017.
- L. Zhang, "Surface modification of silica nanoparticles with bio-resin," Sustainable Adhesives from Bio-Mass (SAB) International Symposium, Greensboro, NC, January 26-27, 2017.
- R. Zhang, F. Liu, V. Sundaram, and R. Tummala, "First Demonstration of Single-Mode Polymer Optical Waveguides with Circular Cores for Fiber-to-Waveguide Coupling in 3D Glass Photonic Interposers," Electronic Components and Technology Conference (ECTC), 2017 IEEE 67th, pp. 1606-1611, 2017.
- X. Zhang, W. Huang, and P. A. Kohl, "Catalysts Supported on Functionalized Carbon Nanotubes for Oxygen Reduction Reaction in PEM/AEM Hybrid Fuel Cells," International Society of Electrochemistry, 2017.
- X. Zhang, K. Turcheniuk, J. Benson, B. Zusmann, W. Fu, E. Zhao, A. Magasinski, G. Yushin, "Environmentally Friendly Synthesis of Porous Copper and its Use in Electrochemical Supercapacitors," 2017 MRS Fall Meeting, Boston, November 28, 2017.
- Enbo Zhao, Xiaosi Gao, Danni Lei, Yiran Xiao, Xiaolei Ren, Wenbin Fu, Chenchen Hu, Xiaobo Zhang, Qiao Huang, Alexandre Magasinski, Seth Marder, Gleb Yushin, "Lithium-Iron (III) Fluoride Battery with In Situ Surface Protection," 2017 MRS Fall Meeting, Boston, November 28, 2017.
- Enbo Zhao, Chuanli Qin, Hong-Ryun Jung, Gene Berdichevsky, Alper Nese, Seth Marder, Gleb Yushin, "Lithium Titanate Confined in Carbon Nanopores for Asymmetric Supercapacitors," 2017 MRS Fall Meeting, Boston, November 28, 2017.

External Conference Presentations

- Abbott-Lyon, H. L., "Reduced Phosphorus Minerals in Prebiotic Chemistry," Southeast Regional Meeting of the American Chemical Society, Charlotte, NC, November 10, 2017.
- K. Greeson, K. Ghiassi, J. Alston, N. Redecker, J. Marcischak, A. Guenther, & Exhibit, "Field-Responsive Infused Porous Surfaces for High-Temperature Transport," 2017 MRS Fall Meeting, Boston, MA, November 2017.
- Y. Kinsella, L. Royo-Romero, C. Hughes, B. Augustine, X. Hu, "Adhesion of Au Thin Films on PMMA and Other Substrates," APS March Meeting, New Orleans, LA, March 13-17, 2017.
- L. R. Romero, Y. Kinsella, B. Augustine, C. Hughes, "Functionality of Chloroform Treatment to Improve Adhesion of Deposited Au Thin Films on PMMA", APS March Meeting, New Orleans, LA, March 13-17, 2017.

Qasim, D., Vlasak, L., Pital, A., Beckman, T., Mutanda, N., Abbott-Lyon, H. L., "Investigations of Prebiotic Phosphorus Chemistry on the Meteoritic Mineral Schreibersite," 254th ACS National Meeting & Exposition, Washington, DC., August 21, 2017.

Slavicinska, K. and Abbott-Lyon, H. L., "Analysis of phosphorylation by schreibersite via IR spectroscopy," Southeast Regional Meeting of the American Chemical Society, Charlotte, NC, November 10, 2017.

Slavicinska, K., Beckman, T., Abbott-Lyon, H. L., "Analyzing phosphorylation of prebiotic molecules by schreibersite with polarization-modulation: Infrared reflection-absorption spectroscopy," 253rd ACS National Meeting & Exposition, San Francisco, April 5, 2017.

Books and Book Chapters

T. Detchprohm, X. Li, P. D. Yoder, S.-C. Shen, and R. D. Dupuis, "III-N WIDE BANDGAP DEEP-ULTRAVIOLET LASERS AND PHOTODETECTORS" in Semiconductors and Semimetals—III-Nitride Optoelectronics, Vol. 96, Chapter 3 (Academic Press), 5 January 2017.

J. Graves Jr, "Biological Theories of Race beyond the Millennium." In Reconsidering Race: Global and Comparative Studies in Race and Genomics, edited by von Vacano and Suzuki. Oxford University Press, 2017

G. C. Jha, T. Sun, S. K. Bhattacharya, P. M. Raj, and R. Tummala, "Chapter 9: Nanogranular magnetic core inductors: Design, fabrication and packaging," in Nanopackaging 2nd Edition, 2017.

B. Kippelen, "Solid-state organic photovoltaics," in Photovoltaic Solar Energy: from Fundamentals to Applications, Eds. A. Reinders, A. Freundlich, P. Verlinden, and W. van Sark, Wiley, 2017.

P.M. Raj, D W Lee, L. Li, S. X. Wang, P. Chakraborti, H. Sharma, *et al.*, "Chapter- Embedded Passives," in Materials for Advanced Packaging, pp. 537-588, 2017.

Yuguo Tao and Ajeet Rohatgi, "High-Efficiency Front Junction n-Type Crystalline Silicon Solar Cells, in Nanostructured Solar Cells, Dr. Narottam Das (Ed.), InTech, 2017.

Q. Tian, Y. Demei, L. Zhang, A. Kelkar, "Composite Laminate Prepared from Boron Nitride Nanoparticle (BNNP) Enhanced Prepregs." In Boron Nitride: Properties, Synthesis and Applications, edited by Eugene Moran, 125–44. Nova Science Publishers, 2017.

M. Zia, C.Wan, Y. Zhang and M.S. Bakir, "Electrical and photonic off-chip interconnection and system integration," in Optical Interconnects for Data Centers, Edited by Tolga Tekin, Nikos Pleros, Richard Pitwon, and Andreas Hakansson, 1st ed., pp. 265-286, Woodhead Publishing, 2017.

Patents Awarded, Patent Applications, and Invention Disclosures

S. Aravamudhan, K. Garde, "Application of Electrical Stimulation via Nanoelectrodes to Stimulate Stem Cell, NCA&T Invention disclosure JSNN0022-1217, Dec 2017,

S-J. Cho, P. K. Alaboina "Wireless Charge – Discharge Flexible Energy Storage Devices," US Patent Application: 62/589,112, Nov. 2017

S.-J. Cho, J.-S. Cho, A.R. Letfullina, "Highly Ionically Conductive Solid Film Electrolyte", (US Patent Application: 62/526,260, August. 2017

S-J. Cho, "Silicon Iron Lithium Nanocomposite for Lithium Ion Batteries" US Patent Application Number: 62/473,772, Jan. 2017

Dahotre S, and Kwong GA, "Methods for massively parallel analysis of antigen-specific T cells," Provisional Patent Application No. 62/403,782.

D.J.C. Herr, M. Azad, Benign High-Performance Additives and Compositions that Enhance Superabsorbent Permeability, UNCG disclosure., November 10, 2017

S. Iyer, P.K. Kasanaboina, J. Li, GaAs/GaAs(1-x-y)SbxNy Core Shell Nanowires" US Utility Patent Application: US 2017/0130363 A1, May 2017

S. Iyer, E. Ahmad, M. Sharma, J. Li D. Dev, "P-I-N GaAsSb Photodetector", US Provisional Application No. 62/526,793. June 2017

S. Iyer, E. Ahmad, M. Sharma, J. Li and Durjoy Dev, "P-I-N GaAsSb Photodetector" NC A&T Invention Disclosure Ref: EN0102 0617

A. Kelkar, N. Aboualigalehdari, "Substantially Uniform Dispersion of a High Concentration of Nanoparticles in a Nanocomposite." US Patent Application, November 2017.

W.J. Koros, C. Zhang, "METHODS FOR REGENERATING AGED CARBON MOLECULAR SIEVE MEMBRANES." US Patent Application 62/545,737

W.J. Koros, C. Zhang, P.J. Jason, J.M. Mayne, "CARBON MOLECULAR SIEVE MEMBRANES FOR AGGRESSIVE GAS SEPARATIONS." US Patent Application 62/457,253

M. D. Losego, R. P. Lively, E. K. McGuinness, F. Zhang, "Hybrid Organic / Inorganic Polymer of Intrinsic Microporosity-1 for Improved Stability" (Filed: October 31, 2017)

Mac QD, Mathews DV, Adams AB, and Kwong GA, "Methods and compositions for noninvasive detection of organ transplant rejection," Application No. 62/400,656.

Miller IC, Gamboa Castro M, and Kwong GA., "Remote control of engineered T cell therapies," Provisional Patent Application No. 62/403,790.

S.-C. Shen, T. Detchprohm, Y. Park, R. Dupuis, and O. Moreno, "A method of manufacture using complementary conductivity-selective wet-etching techniques for III-nitride materials and devices," Patent disclosure February 20, 2017; Provision Patent filed on March 23, 2017 (USPTO application #: 62/475,576).

J. Wei, "Nanoplasmonic devices and applications thereof", US Application: 2016/62/357180, June 30, 2017, Inventor: J. Wei

J. Wei, Y. Liu, Z. Zeng, "Separator-Free Energy Storage Devices and Methods", US Application: 2017/62/478,773, 2017.

C. Zhang, W.J. Koros, "METHODS FOR PREPARING CARBON MOLECULAR SIEVE HOLLOW FIBER MEMBRANES FOR GAS SEPARATION." US Patent Application 62/536,678

L. Zhang, Lifeng; A. Carpenter, C. Gause, S. Gbewonyo, "Low Thermal Conductivity Carbon-Containing Materials and Methods of Producing the Same," PCT/US2017/53762, 2017

U.S. Patent Application No. 62/476,065, "Hollow Fiber Carbon Molecular Sieve (CMS) Based on 6FDA-DETA: DABE Polymer" Filed on March 24, 2017.