



PennState
College of Engineering

**ENGINEERING SCIENCE
AND MECHANICS**

ENGINEERING SCIENCE AND MECHANICS PUBLICATIONS

October 2017

Total Published = 183 Articles (3 co-authored with undergraduate student and 113 co-authored with graduate students)

Journal Articles = 148; Articles in Proceedings = 35

- Abbas, F., Faryad*, M., Swiontek*, S. E., & Lakhtakia+, A. (2016). Enhancement of Dynamic Sensitivity of Multiple Surface-plasmonic-polaritonic Sensor Using Silver Nanoparticles. *Plasmonics*, 11(4), 987–994. <https://doi.org/10.1007/s11468-015-0133-x>
- Abeywickrema, U., Banerjee, P., Kota, A., Lakhtakia+, A., & Swiontek*, S. E. (2016). 3D fingerprint analysis using transmission-mode multi-wavelength digital holographic topography. In *Practical Holography XXX: Materials and Applications* (Vol. 9771, pp. 977110–977117). San Francisco, CA.
- Ahmed*, D., Ozcelik*, A., Bojanala, N., Nama*, N., Upadhyay, A., Chen*, Y., Hanna-Rose, W., & Huang+, T. J. (2016). Rotational manipulation of single cells and organisms using acoustic waves. *Nature Communications*, 7, 11085.
- Al Jassem, N., Sikora+, E., Wang*, D., Shaw+, B., Mishra, B., Palmer, B., & Vechot, L. (2016). Study of Protection Mechanism of Multifunctional Coating Systems against Internal Corrosion in Pipelines in Oil and Gas Industry. In *Corrosion 2016 Conference and Expo*. Vancouver, British Columbia: NACE International.
- Alat, E., Motta, A. T., Comstock, R. J., Partezana, J. M., & Wolfe+, D. E. (2016). Multilayer (TiN, TiAlN) ceramic coatings for nuclear fuel cladding. *Journal of Nuclear Materials*, 478, 236–244. <https://doi.org/10.1016/j.jnucmat.2016.05.021>
- Amma, S., Lanagan+, M. T., Kim, S. H., & Pantano, C. G. (2016). Ionic Conductivity in Sodium–Alkaline Earth–Aluminosilicate Glasses. *Journal of the American Ceramic Society*, 99(4), 1239–1247. <https://doi.org/10.1111/jace.14101>
- Anders*, M. A., Lenahan+, P. M., & Lelis, A. J. (2016). A Surprising Result: “Bulk” SiC Defects in the Negative Bias Instability in 4H-SiC MOSFETs. In F. Roccaforte, F. La Via, R. Nipoti, D. Crippa, F. Giannazzo, & M. Saggio (Eds.), *Materials Science Forum* (Vol. 858, pp. 513–517). Trans Tech Publications. <https://doi.org/10.4028/www.scientific.net/MSF.858.513>
- Anders*, M. A., Lenahan+, P. M., & Lelis, A. J. (2016). Are dangling bond centers important interface traps in 4H-SiC metal oxide semiconductor field effect transistors? *Applied Physics Letters*, 109(14), 142106. <https://doi.org/10.1063/1.4963708>
- Anderson, T. H., Faryad*, M., Mackay, T. G., Lakhtakia+, A., & Singh, R. (2016). Combined optical–electrical finite-element simulations of thin-film solar cells with homogeneous and nonhomogeneous intrinsic layers. *Journal of Photonics for Energy*, 6(2), 25502–25517.
- Atalla*, M. R. M., Elahi*, A. M. N., Mo*, C., Jiang*, Z., Liu*, J., Ashok+, S., & Xu+, J. (2016). On the design of GaN vertical MESFETs on commercial LED sapphire wafers. *Solid-State Electronics*, 126, 23–31. <https://doi.org/http://dx.doi.org/10.1016/j.sse.2016.09.019>
- Ayan*, B., Ozcelik*, A., Bachman*, H., Tang, S.-Y., Xie*, Y., Wu*, M., Li, P., & Huang+, T. J. (2016). Acoustofluidic coating of particles and cells. *Lab on a Chip*, 16(22), 4366–4372. <https://doi.org/10.1039/C6LC00951D>
- Bahari*, F., Tulyaganova*, C., Billard*, M. W., Alloway, K., & Gluckman+, B. J. (2016). The neural basis for sleep regulation #x2014; Data assimilation from animal to model. In *2016 50th Asilomar Conference on Signals, Systems and Computers* (pp. 1061–1065).
- Bakis+, C. E., Haluza, R. T., Bartolai, J., Kim*, J. J., & Simpson, T. W. (2016). Anisotropic Mechanical Properties of 3D Printed Carbon Whisker Reinforced PLA Composite Material. In *Proceedings of the 17th US/Japan Conference on Composite Materials* (p. 12). Tokyo: Japan Society for Composite Materials. <https://doi.org/10.1109/ACSSC.2016.7869532>
- Bakis+, C. E., Salasky**, H., Artun, K., Lopez, M. M., Whitaker, M. B., & Boothby, T. (2016). DIC Strain Analysis of FRP/Concrete Bond After Sustained Loading. In H. Jin, S. Yoshida, L. Lamberti, & M.-T. Lin (Eds.), *Proceedings of the 2015 Annual Conference on Experimental and Applied Mechanics*, Vol. 3, *Advancement of Optical Methods in Experimental Mechanics* (pp. 47–56). New York: Springer International Publishing. https://doi.org/10.1007/978-3-319-22446-6_6
- Banai, R. E., Cordell, J. J., Lindwall, G., Tanen, N. J., Shang, S.-L., Nasr*, J., Liu, Z.-K., Brownson, J. R. S., & Horn+, M. W. (2016). Control of Phase in Tin Sulfide Thin Films Produced via RF-Sputtering of SnS₂ Target with Post-deposition Annealing. *Journal of Electronic Materials*, 45(1), 499–508. <https://doi.org/10.1007/s11664-015-4137-2>
- Banai, R. E., Horn+, M. W., & Brownson, J. R. S. (2016). A review of tin (II) monosulfide and its potential as a photovoltaic absorber. *Solar Energy Materials and Solar Cells*, 150, 112–129. <https://doi.org/http://dx.doi.org/10.1016/j.solmat.2015.12.001>
- Banks, J., Reichard, K., Sinding*, K. M., Ledford, K., & Tittmann+, B. R. (2016). Embedded wireless corrosion detection technology. In *2016 IEEE Aerospace Conference* (pp. 1–7).

+denotes faculty member

*denotes co-authored with graduate student(s)

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

- <https://doi.org/10.1109/AERO.2016.7500562>
- Barhoumi Meddeb, A., Ounaies, Z., & Lanagan+, M. T. (2016). Enhancement of electrical properties of polyimide films by plasma treatment. *Chemical Physics Letters*, 649, 111–114. <https://doi.org/https://doi.org/10.1016/j.cplett.2016.02.037>
- Bigelow, M. E. G., Jamieson, B. G., Chui, C. O., Mao, Y., Shin, K. S., Huang+, T. J., Huang*, P.-H., Ren*, L., Adhikari, B., Chen, J., & Iturriaga, E. (2016). Point-of-Care Technologies for the Advancement of Precision Medicine in Heart, Lung, Blood, and Sleep Disorders. *IEEE Journal of Translational Engineering in Health and Medicine*, 4, 1–10. <https://doi.org/10.1109/JTEHM.2016.2593920>
- Billard*, M. W., Basantani*, H. A., Horn+, M. W., & Gluckman+, B. J. (2016). A Flexible Vanadium Oxide Thermistor Array for Localized Temperature Field Measurements in Brain. *IEEE Sensors Journal*, 16(8), 2211–2212. <https://doi.org/10.1109/JSEN.2016.2517161>
- Bimber*, B. A., Hamilton+, R. F., Keist*, J. S., & Palmer+, T. A. (2016). Anisotropic microstructure and superelasticity of additive manufactured NiTi alloy bulk builds using laser directed energy deposition. *Materials Science and Engineering: A*, 674, 125–134. <https://doi.org/http://dx.doi.org/10.1016/j.msea.2016.07.059>
- Blecher*, J. J., Palmer+, T. A., & Debroy, T. (2016). Porosity in Thick Section Alloy 690 Welds - Experiments, Modeling, Mechanism, and Remedy. *Welding Journal*, 95, 17S–26S.
- Bohnsack-McLagan*, N. K., Cusumano+, J. P., & Dingwell, J. B. (2016). Adaptability of stride-to-stride control of stepping movements in human walking. *Journal of Biomechanics*, 49(2), 229–237. <https://doi.org/http://dx.doi.org/10.1016/j.jbiomech.2015.12.010>
- Braun, H. P., Perini, S. E., & Lanagan+, M. T. (2016). Measurement of the surface resistivity and electrical conductivity of carbon nanotube sheets using the resonant post-method. *Materials Letters*, 167, 297–299. <https://doi.org/http://dx.doi.org/10.1016/j.matlet.2016.01.042>
- Chen*, K., Wu*, M., Guo*, F., Li, P., Chan*, C. Y., Mao*, Z., Li*, S., Ren*, L., Zhang*, R., & Huang+, T. J. (2016). Rapid formation of size-controllable multicellular spheroids via 3D acoustic tweezers. *Lab on a Chip*, 16(14), 2636–2643. <https://doi.org/10.1039/c6lc00444j>
- Chen*, Y., Wu*, M., Ren*, L., Liu*, J., Whitley, P. H., Wang, L., & Huang+, T. J. (2016). High-throughput acoustic separation of platelets from whole blood. *Lab Chip*, 16(18), 3466–3472. <https://doi.org/10.1039/C6LC00682E>
- Cheng+, H. (2016). Inorganic dissolvable electronics: materials and devices for biomedicine and environment. *Journal of Materials Research*, 31(17), 2549–2570. <https://doi.org/10.1557/jmr.2016.289>
- Cheng+, H., & Vepachedu**, V. (2016). Recent development of transient electronics. *Theoretical and Applied Mechanics Letters*, 6(1), 21–31. <https://doi.org/http://dx.doi.org/10.1016/j.taml.2015.11.012>
- Chiadini, F., Fiumara, V., Mackay, T. G., Scaglione, A., & Lakhtakia+, A. (2016). Left/right asymmetry in Dyakonov–Tamm-wave propagation guided by a topological insulator and a structurally chiral material. *Journal of Optics*, 18(11), 115101.
- Chiadini, F., Fiumara, V., Scaglione, A., & Lakhtakia+, A. (2016). Periodicity effects on compound guided waves. In *Proceedings of the SPIE 9929, Nanostructured Thin Films IX* (p. 99290).
- Chiadini, F., Fiumara, V., Scaglione, A., & Lakhtakia+, A. (2016). Compound guided waves that mix characteristics of surface-plasmon-polariton, Tamm, Dyakonov–Tamm, and Uller–Zenneck waves. *J. Opt. Soc. Am. B*, 33(6), 1197–1206. <https://doi.org/10.1364/JOSAB.33.001197>
- Chillara*, V. K., & Lissenden+, C. J. (2016). Review of nonlinear ultrasonic guided wave nondestructive evaluation: theory, numerics, and experiments. *Optical Engineering*, 55(1), 11002–11015.
- Chillara*, V. K., & Lissenden+, C. J. (2016). Constitutive model for third harmonic generation in elastic solids. *International Journal of Non-Linear Mechanics*, 82, 69–74. <https://doi.org/https://doi.org/10.1016/j.ijnonlinmec.2016.02.008>
- Chillara*, V. K., Ren*, B., & Lissenden+, C. J. (2016). Guided wave mode selection for inhomogeneous elastic waveguides using frequency domain finite element approach. *Ultrasonics*, 67, 199–211. <https://doi.org/https://doi.org/10.1016/j.ultras.2015.12.007>
- Chindam*, C., Brown, N. R., Lakhtakia+, A., Awadelkarim+, O. O., & Orfali, W. (2016). Temperature-dependent dynamic moduli of Parylene-C columnar microfibrillar thin films. *Polymer Testing*, 53, 89–97. <https://doi.org/https://doi.org/10.1016/j.polymertesting.2016.05.010>
- Chindam*, C., Lakhtakia+, A., & Awadelkarim+, O. O. (2016). Reply to “Comment on ‘Surface energy of Parylene C’ .” *Materials Letters*, 166, 325–326. <https://doi.org/http://dx.doi.org/10.1016/j.matlet.2015.12.127>
- Cho*, H., Choi, S., Lindsey, M. S., & Lissenden+, C. J. (2016). Electromagnetic acoustic transducers for nondestructive inspection of dry storage canisters for used nuclear fuel. *The Journal of the Acoustical Society*

+denotes faculty member

*denotes co-authored with graduate student(s)

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

- of America, 140(4), 3211.
<https://doi.org/10.1121/1.4970109>
- Choi*, G., & Lissenden+, C. J. (2016). Third Harmonic Generation from Guided Shear Waves for Early Damage Characterization in plates and Pipes. In *ASNT 25th Research Symposium Proceedings*.
- Choi, S., Cho*, H., Lissenden+, C. J., & Lindsey, M. S. (2016). Surface Crack Detection in Welded Stainless Steel Canisters Using Shear Horizontal Waves. In *ASME 2016 Pressure Vessels and Piping Conference* (p. V06BT06A062). Honolulu, HI: American Society of Mechanical Engineers (ASME).
- Cochrane*, C. J., Blacksberg, J., Anders*, M. A., & Lenahan+, P. M. (2016). Vectorized magnetometer for space applications using electrical readout of atomic scale defects in silicon carbide. *Nature: Science Reports*, 6, 37077.
- Cochrane*, C. J., Blacksberg, J., Lenahan+, P. M., & Anders*, M. A. (2016). Magnetic Field Sensing with Atomic Scale Defects in SiC Devices. *Materials Science Forum*, 858, 265–268.
<https://doi.org/10.4028/www.scientific.net/MSF.858.265>
- Cohick*, Z., Luo*, W., Perini, S. E., Baker, A. L., Wolfe+, D. E., & Lanagan+, M. T. (2016). A novel, all-dielectric, microwave plasma generator towards development of plasma metamaterials. *Applied Physics Express*, 9(11), 116201.
- Das+, S. (2016). Two Dimensional Electrostrictive Field Effect Transistor (2D-EFET): A sub-60mV/decade Steep Slope Device with High ON current. *Scientific Reports*, 6, 34811.
- Das+, S., Bera, M. K., Tong, S., Narayanan, B., Kamath, G., Mane, A., Paulikas, A. P., Antonio, M. R., Sankaranarayanan, S. K. R. S., & Roelofs, A. K. (2016). A Self-Limiting Electro-Ablation Technique for the Top-Down Synthesis of Large-Area Monolayer Flakes of 2D Materials. *Scientific Reports*, 6, 28195.
- Dearnley, M., Chu, T., Zhang*, Y., Looker, O., Huang*, C., Klonis, N., Yeoman, J., Kenny, S., Arora, M., Osborne, J. M., Chandramohanadas, R., Zhang+, S., Dixon, M. W. A., & Tilley, L. (2016). Reversible host cell remodeling underpins deformability changes in malaria parasite sexual blood stages. *Proceedings of the National Academy of Sciences of the United States of America*, 113(17), 4800–4805.
<https://doi.org/10.1073/pnas.1520194113>
- DeForce, B. S., & Shaw+, B. (2016). Documented Evidence of Significant Metal Loss in Aluminum Crevice Corrosion. In *Corrosion 2016 Conference and Expo* (p. NACE-2016-7199). Vancouver, British Columbia: NACE International.
- Dennison, S., Chapman, A., Luo*, W., Lanagan+, M. T., & Hopwood, J. (2016). Plasma generation by dielectric resonator arrays. *Plasma Sources Science and Technology*, 25(3), 03LT02.
- Dingwell, J. B., Cusumano+, J. P., Rylander*, J. H., & Wilken, J. M. (2016). Frontal Plane Stepping Control and Lateral Balance in Human Walking. In *Proceedings of the 40th Annual Meeting of the American Society of Biomechanics* (p. 2).
- Dunbar, A. J., Nassar*, A. R., Reutzel+, E. W., & Blecher*, J. J. (2016). A Real-Time Communication Architecture for Metal Powder Bed Fusion Additive Manufacturing. *Solid Freeform Fabrication Symposium*, 67–80.
- Dutta*, J., Ramakrishna, S. A., & Lakhtakia+, A. (2016). Characteristics of surface plasmon-polariton waves excited on 2D periodically patterned columnar thin films of silver. *Journal of Optical Society of America A, Optics, Image Science, and Vision*, 33(9), 1697–1704.
<https://doi.org/10.1364/JOSAA.33.001697>
- Elahinia, M., Moghaddam, N. S., Andani, M. T., Amerinatanzi, A., Bimber*, B. A., & Hamilton+, R. F. (2016). Fabrication of NiTi through additive manufacturing: A review. *Progress in Materials Science*, 83, 630–663.
<https://doi.org/https://doi.org/10.1016/j.pmatsci.2016.08.001>
- Erten*, S., & Lakhtakia+, A. (2016). Dual-band circular-polarization filter for obliquely incident light. *Microwave and Optical Technology Letters*, 58(10), 2381–2384.
<https://doi.org/10.1002/mop.30057>
- Evans*, D., Drapaca+, C. S., & Cusumano+, J. P. (2016). Dynamics and Bifurcations in Low-Dimensional Models of Intracranial Pressure. In J. Bélair, I. A. Frigaard, H. Kunze, R. Makarov, R. Melnik, & R. J. Spiteri (Eds.), *Mathematical and Computational Approaches in Advancing Modern Science and Engineering* (pp. 223–232). Cham: Springer International Publishing.
https://doi.org/10.1007/978-3-319-30379-6_21
- Fan, L., Monk, P. B., & Lakhtakia+, A. (2016). Blazed-grating spectrum splitter for harvesting solar energy. *Electronics Letters*, 52(5), 387–388.
<https://doi.org/10.1049/el.2015.3564>
- French, J. B., Jones, S. A., Deng, H., Pedley, A. M., Kim, D., Chan*, C. Y., Hu, H., Pugh, R. J., Zhao, H., Zhang, Y., Huang+, T. J., Fang, Y., Zhuang, X., & Benkovic, S. J. (2016). Spatial colocalization and functional link of purinosomes with mitochondria. *Science*, 351(6274), 733–737.
<https://doi.org/10.1126/science.aac6054>
- Gaddes, D., Jung*, H., Pena-Francesch*, A., Dion, G., Tadigadapa, S., Dressick, W. J., & Demirel+, M. C. (2016). Self-Healing Textile: Enzyme Encapsulated Layer-by-Layer Structural Proteins. *ACS Applied Materials & Interfaces*,

+denotes faculty member

*denotes co-authored with graduate student(s)

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

- 8(31), 20371–20378.
<https://doi.org/10.1021/acsami.6b05232>
- Gao*, J., Kwon, D.-K., Perini, S. E., Long, J., Zhang, S., & Lanagan+, M. T. (2016). Glass Dielectrics in Extreme High-Temperature Environment. *Journal of the American Ceramic Society*, 99(12), 4045–4049.
<https://doi.org/10.1111/jace.14424>
- Gao*, Y.-R., & Drew+, P. J. (2016). Effects of Voluntary Locomotion and Calcitonin Gene-Related Peptide on the Dynamics of Single Dural Vessels in Awake Mice. *Journal of Neuroscience*, 36(8), 2503–2516.
<https://doi.org/10.1523/JNEUROSCI.3665-15.2016>
- Geronimo*, A., Kamrunnihar, M., & Schiff+, S. J. (2016). Single Trial Predictors for Gating Motor-Imagery Brain-Computer Interfaces Based on Sensorimotor Rhythm and Visual Evoked Potentials. *Frontiers in Neuroscience*, 10, 164.
<https://doi.org/10.3389/fnins.2016.00164>
- Geronimo*, A., Simmons, Z., & Schiff+, S. J. (2016). Performance predictors of brain–computer interfaces in patients with amyotrophic lateral sclerosis. *Journal of Neural Engineering*, 13(2), 26002.
- Glath*, M. C., Koudela+, K. L., & Strauch, E. (2016). Compression behavior of ultra-high modulus carbon/epoxy composites using ASTM D6641 and SACMA SRM 1R-94. *Journal of Composite Materials*, 50(5), 701–712.
<https://doi.org/10.1177/0021998315580829>
- Goecker*, Z. C., Swiontek*, S. E., Lakhtakia+, A., & Roy, R. (2016). Comparison of Quantifiler® Trio and InnoQuant™ human DNA quantification kits for detection of DNA degradation in developed and aged fingerprints. *Forensic Science International*, 263, 132–138.
- <https://doi.org/http://dx.doi.org/10.1016/j.forsciint.2016.04.009>
- Goodridge*, S. I., Lenahan+, P. M., Young, C. D., Quevedo-Lopez, M., & Avila-Avendano, J. (2016). Spin dependent recombination in CdTe/CdS solar cells. In *2016 IEEE 43rd Photovoltaic Specialists Conference (PVSC)* (pp. 1553–1556).
<https://doi.org/10.1109/PVSC.2016.7749880>
- Gudapati, H., Dey, M., & Ozbolat+, I. T. (2016). A comprehensive review on droplet-based bioprinting: Past, present and future. *Biomaterials*, 102, 20–42.
<https://doi.org/10.1016/j.biomaterials.2016.06.012>
- Gungor*, S., & Bakis+, C. E. (2016). Indentation damage detection in glass/epoxy composite laminates with electrically tailored conductive nanofiller. *Journal of Intelligent Material Systems and Structures*, 27(5), 679–688.
<https://doi.org/10.1177/1045389X15577644>
- Guo*, F., Mao*, Z., Chen*, Y., Xie, Z., Lata, J. P., Li, P., Ren*, L., Liu*, J., Yang, J., Dao, M., Suresh, S., & Huang+, T. J. (2016). Three-dimensional manipulation of single cells using surface acoustic waves. *Proceedings of the National Academy of Sciences*, 113(6), 1522–1527.
<https://doi.org/10.1073/pnas.1524813113>
- Guo, J., Berbano*, S. S., Guo, H., Baker, A. L., Lanagan+, M. T., & Randall, C. A. (2016). Cold Sintering Process of Composites: Bridging the Processing Temperature Gap of Ceramic and Polymer Materials. *Advanced Functional Materials*, 26(39), 7115–7121.
<https://doi.org/10.1002/adfm.201602489>
- Guo, J., Guo, H., Baker, A. L., Lanagan+, M. T., Kupp, E. R., Messing, G. L., & Randall, C. A. (2016). Cold Sintering: A Paradigm Shift for Processing and Integration of Ceramics. *Angewandte Chemie International Edition*, 55(38), 11457–11461.
<https://doi.org/10.1002/anie.201605443>
- Gurunathan, R. L., Nasr*, J., Cordell, J. J., Banai, R. A., Abraham*, M., Cooley, K. A., Horn+, M. W., & Mohny, S. E. (2016). Pd and Au Contacts to SnS: Thermodynamic Predictions and Annealing Study. *Journal of Electronic Materials*, 45(12), 6300–6304.
<https://doi.org/10.1007/s11664-016-5042-z>
- Handley, M., Lang, D. H., & Erdman+, A. M. (2016). Identifying Engineering Leadership Potential During the On-Campus Recruiting Process. *ASEE 123rd Annual Conference and Exposition*.
- Heigel, J. C., Gouge, M. F., Michaleris, P., & Palmer+, T. A. (2016). Selection of powder or wire feedstock material for the laser cladding of Inconel® 625. *Journal of Materials Processing Technology*, 231, 357–365.
<https://doi.org/https://doi.org/10.1016/j.jmatprotec.2016.01.004>
- Heigel, J. C., Michaleris, P., & Palmer+, T. A. (2016). Measurement of forced surface convection in directed energy deposition additive manufacturing. In *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture* (Vol. 230, pp. 1295–1308). IMECHE.
<https://doi.org/10.1177/0954405415599928>
- Heller, M., Bauer, H.-K., Goetze, E., Gielisch, M., Ozbolat+, I. T., Moncal*, K. K., Rizk, E., Seitz, H., Gelinsky, M., Schröder, H. C., Wang, X. H., Müller, W. E. G., & Al-Nawas, B. (2016). Materials and scaffolds in medical 3D printing and bioprinting in the context of bone regeneration. *International Journal of Computerized Dentistry*, 19(4), 301–321.
- Henry*, T. C., & Bakis+, C. E. (2016). Compressive strength and stiffness of filament-wound cylinders. *Journal of Reinforced Plastics and Composites*,

+denotes faculty member

*denotes co-authored with graduate student(s)

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

- 35(21), 1543–1553.
<https://doi.org/10.1177/0731684416659545>
- Henry*, T. C., Bakis+, C. E., & Riddick, J. C. (2016). Three-dimensional elastic behavior of undulating laminas in fiber composites. *Journal of Reinforced Plastics and Composites*, 35(2), 151–164.
<https://doi.org/10.1177/0731684415609429>
- Hou*, H., Hamilton+, R. F., & Horn+, M. W. (2016). Crystallization and microstructure evolution of nanoscale NiTi thin films prepared by biased target ion beam deposition. *Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena*, 34(1), 10601.
<https://doi.org/10.1116/1.4936392>
- Hou*, H., Hamilton+, R. F., & Horn+, M. W. (2016). Narrow thermal hysteresis of NiTi shape memory alloy thin films with submicrometer thickness. *Journal of Vacuum Science & Technology A: Vacuum, Surfaces, and Films*, 34(5), 50602.
<https://doi.org/10.1116/1.4959567>
- Hou*, H., Hamilton+, R. F., & Horn+, M. W. (2016). Crystallization of nanoscale NiTi alloy thin films using rapid thermal annealing. *Journal of Vacuum Science & Technology B, Nanotechnology and Microelectronics: Materials, Processing, Measurement, and Phenomena*, 34(6), 06KK01.
<https://doi.org/10.1116/1.4963375>
- Hou*, H., Horn+, M. W., & Hamilton+, R. F. (2016). Biased Target Ion Beam Deposition and Nanoskiving for Fabricating NiTi Alloy Nanowires. *Shape Memory and Superelasticity*, 2(4), 330–336.
<https://doi.org/10.1007/s40830-016-0093-9>
- Huang*, C., Ozdemir, T., Xu, L.-C., Butler, P. J., Siedlecki, C. A., Brown, J. L., & Zhang+, S. (2016). The role of substrate topography on the cellular uptake of nanoparticles. *Journal of Biomedical Materials Research Part B: Applied Biomaterials*, 104(3), 488–495.
<https://doi.org/10.1002/jbm.b.33397>
- Irwin, J., Reutzel+, E. W., Michaleris, P., Keist*, J. S., & Nassar*, A. R. (2016). Predicting Microstructure From Thermal History During Additive Manufacturing for Ti-6Al-4V. *Journal of Manufacturing Science and Engineering*, 138(11), 111007–111011.
- Jeong, Y., Lopez, M. M., & Bakis+, C. E. (2016). Effects of temperature and sustained loading on the mechanical response of {CFRP} bonded to concrete. *Construction and Building Materials*, 124, 442–452.
<https://doi.org/https://doi.org/10.1016/j.conbuildmat.2016.07.123>
- John*, J., Dingwell, J. B., & Cusumano+, J. P. (2016). Error Correction and the Structure of Inter-Trial Fluctuations in a Redundant Movement Task. *PLOS Computational Biology*, 12(9), 1–30.
<https://doi.org/10.1371/journal.pcbi.1005118>
- Jovanova*, J., Frecker, M., Hamilton+, R. F., & Palmer+, T. A. (2016). Target Shape Optimization of Functionally Graded Shape Memory Alloy Compliant Mechanism. In *Proceedings of the ASME 2016 Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS2016)* (p. V002T03A006). Stowe, VT: American Society of Mechanical Engineers (ASME).
- Jung*, H., Pena-Francesch*, A., Saadat, A., Sebastian, A., Kim, D. H., Hamilton+, R. F., Albert, I., Allen, B. D., & Demirel+, M. C. (2016). Molecular tandem repeat strategy for elucidating mechanical properties of high-strength proteins. *Proceedings of the National Academy of Sciences*, 113(23), 6478–6483.
<https://doi.org/10.1073/pnas.1521645113>
- Kamat*, A. M., Copley+, S. M., & Todd+, J. A. (2016). Effect of CO₂ Laser-Sustained Nitrogen Plasma on Heat and Mass Transfer During Laser-Nitriding of Commercially-Pure Titanium. In *Proceedings of the 13th World Conference on Titanium* (pp. 893–898). John Wiley & Sons, Inc.
<https://doi.org/10.1002/9781119296126.ch153>
- Kamat*, A. M., Copley+, S. M., & Todd+, J. A. (2016). Effect of processing parameters on microstructure during laser-sustained plasma (LSP) nitriding of commercially-pure titanium. *Acta Materialia*, 107, 72–82.
<https://doi.org/http://dx.doi.org/10.1016/j.actamat.2016.01.051>
- Kang, S.-K., Murphy, R. K. J., Hwang, S.-W., Lee, S. M., Harburg, D. V., Krueger, N. A., Shin, J., Gamble, P., Cheng+, H., Yu, S., Liu, Z., McCall, J. G., Stephen, M., Ying, H., Kim, J., Park, G., Webb, R. C., ... Rogers, J. A. (2016). Bioresorbable silicon electronic sensors for the brain. *Nature*, 530(7588), 71–76.
- Karash, S., Wang, R., Kelso, L., Lu*, M., Huang+, T. J., & Li, Y. (2016). Rapid detection of avian influenza virus {H5N1} in chicken tracheal samples using an impedance aptasensor with gold nanoparticles for signal amplification. *Journal of Virological Methods*, 236, 147–156.
<https://doi.org/https://doi.org/10.1016/j.jviromet.2016.07.018>
- Kaynak*, M., Ozcelik*, A., Nama*, N., Nourhani, A., Lammert, P. E., Crespi, V. H., & Huang+, T. J. (2016). Acoustofluidic actuation of in situ fabricated microrotors. *Lab Chip*, 16(18), 3532–3537.
<https://doi.org/10.1039/C6LC00443A>
- Keist*, J. S., & Palmer+, T. A. (2016). Role of geometry on properties of additively manufactured Ti-6Al-4V structures fabricated using laser based directed energy deposition. *Materials & Design*, 106, 482–494.
<https://doi.org/http://dx.doi.org/10.1016/j.matdes.2016.05.045>

+denotes faculty member

*denotes co-authored with graduate student(s)

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

- Khawaji*, I. H., Awadelkarim+, O. O., & Lakhtakia+, A. (2016). Studies of Parylene C Microfibrous Thin Films Electrical Properties. *Meeting Abstracts, MA2016-02(27)*, 1840.
- Kim, S., Choi, S. J., Zhao, K., Yang*, H., Gobbi, G., Zhang+, S., & Li, J. (2016). Electrochemically driven mechanical energy harvesting. *Nature Communications*, 7, 10146.
- Knowlton, S., Joshi, A., Yenilmez, B., Ozbolat+, I. T., Chua, C. K., Khademhosseini, A., & Tasoglu, and S. (2016). Advancing cancer research using bioprinting for tumor-on-a-chip platforms. *International Journal of Bioprinting*, 2(2), 3–8. <https://doi.org/10.18063/IJB.2016.02.003>
- Kouadri-boudjelthia, E. A., Ntsoenzok, E., Benoit, R., Regula, G., Etienne, H., Michel, T., & Ashok+, S. (2016). Plasma immersion ion implantation: A viable candidate for low cost purification of mc-Si by nanocavities? *Nuclear Inst. and Methods in Physics Research, B*, 366(Complete), 150–154. <https://doi.org/10.1016/j.nimb.2015.10.071>
- Kwak, D. R., Yoshida, S., Sasaki, T., Todd+, J. A., & Park, I. K. (2016). Evaluation of near-surface stress distributions in dissimilar welded joint by scanning acoustic microscopy. *Ultrasonics*, 67, 9–17. <https://doi.org/http://dx.doi.org/10.1016/j.ultras.2015.12.006>
- Kwon, D.-K., Goh, Y., Son, D., Kim, B.-H., Bae, H., Perini, S. E., & Lanagan+, M. T. (2016). Temperature- and Frequency-Dependent Dielectric Properties of Sol–Gel-Derived BaTiO₃-NaNbO₃ Solid Solutions. *Journal of Electronic Materials*, 45(1), 631–638. <https://doi.org/10.1007/s11664-015-4162-1>
- Lakhtakia+, A. (2016). Rejoice in unexpected gifts from parrots and butterflies. In *Proceedings of the SPIE 9797: Bioinspiration, Biomimetics, & Bioreplication 2016* (Vol. 9797, p. 97970K–9797–6). Las Vegas.
- Lakhtakia+, A., & Mackay, T. G. (2016). Classical electromagnetic model of surface states in topological insulators. *Journal of Nanophotonics*, 10(3), 33004–33005.
- Lakhtakia+, A., & Mackay, T. G. (2016). Left/right asymmetry in reflection and transmission by a planar anisotropic dielectric slab with topologically insulating surface states. *Journal of Nanophotonics*, 10(2), 20501–20508.
- Lakhtakia+, A., & Mackay, T. G. (2016). Electromagnetic scattering by homogeneous, isotropic, dielectric-magnetic sphere with topologically insulating surface states. *Journal of the Optical Society of America B Optical Physics*, 33, 603. <https://doi.org/10.1364/JOSAB.33.000603>
- Lang, D. H., Erdman+, A. M., & Handley, M. (2016). 'Lion Leadership Lessons Video Series' - Delivering Engineering Leadership Lessons to a Broad Audience "Lion Leadership Lessons Video Series" Delivering Engineering Leadership Fundamentals to a Broad Audience Abstract The Engineering Leadership Develo. In *2016 ASEE Annual Conference*.
- Lata, J. P., Guo*, F., Guo, J., Huang*, P.-H., Yang, J., & Huang+, T. J. (2016). Surface Acoustic Waves Grant Superior Spatial Control of Cells Embedded in Hydrogel Fibers. *Advanced Materials*, 28(39), 8632–8638. <https://doi.org/10.1002/adma.201602947>
- Li*, S., Ren*, L., Huang*, P.-H., Yao, X., Cuento, R. A., McCoy, J. P., Cameron, C. E., Levine, S. J., & Huang+, T. J. (2016). Acoustofluidic Transfer of Inflammatory Cells from Human Sputum Samples. *Analytical Chemistry*, 88(11), 5655–5661. <https://doi.org/10.1021/acs.analchem.5b03383>
- Li, X., Yang, T., Yang, Y., Zhu*, J., Li, L., Alam, F. E., Li, X., Wang, K., Cheng+, H., Lin, C.-T., Fang, Y., & Zhu, H. (2016). Large-Area Ultrathin Graphene Films by Single-Step Marangoni Self-Assembly for Highly Sensitive Strain Sensing Application. *Advanced Functional Materials*, 26(9), 1322–1329. <https://doi.org/10.1002/adfm.201504717>
- Lipowsky+, H. H., Lescanic, A., & Sah, R. (2016). Role of matrix metalloproteases in the kinetics of leukocyte-endothelial adhesion in post-capillary venules. *Biorheology*, 52(5–6), 433–445.
- Lissenden+, C. J., Choi, S., Cho*, H., Motta, A. T., Hartig, K., Xiao, X., Le Berre, S., Brennan, S. N., Reichard, K., Leary, R., McNelly, B., & Jovanovic, I. (2016). Robotic Inspection of Dry Storage Casks for Spent Nuclear Fuel. In *ASME 2016 Pressure Vessels and Piping Conference, Volume 6B: Materials and Fabrication* (p. V06BT06A063). Vancouver, British Columbia: ASME.
- Lissenden+, C. J., Motta, A. T., Brennan, S. N., Reichard, K., Jovanovic, I., Knight, T., & Popovics, J. (2016). Development of Robotic Multisensor Inspection System for Used Nuclear Fuel Canisters. In *Transactions of the American Nuclear Society* (Vol. 115, pp. 201–204). Las Vegas.
- Liu, L., Barber, G. D., Shuba, M. V., Yuwen, Y., Lakhtakia+, A., Mallouk+, T. E., & Mayer, T. S. (2016). Planar Light Concentration in Micro-Si Solar Cells Enabled by a Metallic Grating–Photonic Crystal Architecture. *ACS Photonics*, 3(4), 604–610. <https://doi.org/10.1021/acsp Photonics.5b00706>
- Lothar, S., Schiff+, S. J., Neuberger, T., Jakob, P. M., & Fidler, F. (2016). Design of a mobile, homogeneous, and efficient electromagnet with a large field of view for neonatal low-field MRI. *Magnetic Resonance Materials in Physics, Biology and Medicine*,

+denotes faculty member

*denotes co-authored with graduate student(s)

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

- 29(4), 691–698.
<https://doi.org/10.1007/s10334-016-0525-8>
- Lu*, M., Ozcelik*, A., Grigsby, C. L., Zhao*, Y., Guo*, F., Leong, K. W., & Huang+, T. J. (2016). Microfluidic hydrodynamic focusing for synthesis of nanomaterials. *Nano Today*, 11(6), 778–792.
<https://doi.org/http://dx.doi.org/10.1016/j.nantod.2016.10.006>
- Ma, Q., Cheng+, H., Jang, K.-I., Luan, H., Hwang, K.-C., Rogers, J. A., Huang, Y., & Zhang, Y. (2016). A nonlinear mechanics model of bio-inspired hierarchical lattice materials consisting of horseshoe microstructures. *Journal of the Mechanics and Physics of Solids*, 90, 179–202.
<https://doi.org/https://doi.org/10.1016/j.jmps.2016.02.012>
- Mackay, T. G., & Lakhtakia+, A. (2016). On gain in homogenized composite materials. In *Proceedings of the SPIE 9929, Nanostructured Thin Films IX* (Vol. 9929, p. 99290M–9929–6). San Diego, CA.
- Mackay, T. G., & Lakhtakia+, A. (2016). Gain and loss enhancement in active and passive particulate composite materials. *Waves in Random and Complex Media*, 26(4), 553–563.
<https://doi.org/10.1080/17455030.2016.1171931>
- Mackay, T. G., & Lakhtakia+, A. (2016). Nonreciprocal Dyakonov-wave propagation supported by topological insulators. *J. Opt. Soc. Am. B*, 33(6), 1266–1270.
<https://doi.org/10.1364/JOSAB.33.001266>
- Mackay, T. G., & Lakhtakia+, A. (2016). On the propagation of Voigt waves in energetically active materials. *European Journal of Physics*, 37(6), 64002.
- Mackay, T. G., & Lakhtakia+, A. (2016). Simultaneous amplification and attenuation in isotropic chiral materials. *Journal of Optics*, 18(5), 55104.
- Mahgoudy-Louyeh, S., & Tittmann+, B. R. (2016). Nano mechanical behavior of bio composites. *International Journal of Biotechnology and Bioengineering*, 1(2), 41–51.
- Mao*, Z., Xie*, Y., Guo*, F., Ren*, L., Huang*, P.-H., Chen*, Y., Rufo*, J., Costanzo+, F., & Huang+, T. J. (2016). Experimental and numerical studies on standing surface acoustic wave microfluidics. *Lab on a Chip*, 16(3), 515–524.
<https://doi.org/10.1039/c5lc00707k>
- McAtee*, P. D., & Lakhtakia+, A. (2016). Reflection and transmission of obliquely incident light by chiral sculptured thin films fabricated using asymmetric serial-bideposition (ASBD) technique. In *Proceedings of the SPIE 9929, Nanostructured Thin Films IX2* (p. 99290Q). San Diego, CA.
- Menna*, C., Bakis+, C. E., & Prota, A. (2016). Effect of nanofiller length and orientation distributions on Mode I fracture toughness of unidirectional fiber composites. *Journal of Composite Materials*, 50(10), 1331–1352.
<https://doi.org/10.1177/0021998315590865>
- Mutch*, M. J., Lenahan+, P. M., & King, S. W. (2016). Defect chemistry and electronic transport in low- κ dielectrics studied with electrically detected magnetic resonance. *Journal of Applied Physics*, 119(9), 94102.
<https://doi.org/10.1063/1.4942675>
- Mutch*, M. J., Lenahan+, P. M., & King, S. W. (2016). Spin transport, magnetoresistance, and electrically detected magnetic resonance in amorphous hydrogenated silicon nitride. *Applied Physics Letters*, 109(6), 62403.
<https://doi.org/10.1063/1.4960810>
- Mutch*, M. J., Pomorski*, T. A., Bittel*, B. C., Cochrane*, C. J., Lenahan+, P. M., Liu, X., Nemanich, R. J., Brockman, J., French, M., Kuhn, M., French, B., & King, S. W. (2016). Band diagram for low- k /Cu interconnects: The starting point for understanding back-end-of-line (BEOL) electrical reliability. *Microelectronics Reliability*, 63, 201–213.
<https://doi.org/http://dx.doi.org/10.1016/j.microrel.2016.04.004>
- Muthuchamy*, A., Kumar*, R., Raja Annamalai*, A., Agrawal+, D. K., & Upadhyaya, A. (2016). An investigation on effect of heating mode and temperature on sintering of Fe-P alloys. *Materials Characterization*, 114, 122–135.
<https://doi.org/10.1016/j.matchar.2016.02.015>
- Nama*, N., Huang*, P.-H., Huang+, T. J., & Costanzo+, F. (2016). Investigation of micromixing by acoustically oscillated sharp-edges. *Biomicrofluidics*, 10(2), 24124.
<https://doi.org/10.1063/1.4946875>
- Neshastehriz*, M., Smid+, I., Segall+, A. E., & Eden+, T. J. (2016). On the Bonding Mechanism in Cold Spray of Deformable hex-BN-Ni Clusters. *Journal of Thermal Spray Technology*, 25(5), 982–991.
<https://doi.org/10.1007/s11666-016-0416-6>
- Ozbolat+, I. T., & Gudapati, H. (2016). A review on design for bioprinting. *Bioprinting*, 3–4, 1–14.
<https://doi.org/10.1016/j.bprint.2016.11.001>
- Ozbolat+, I. T., & Hospodiuk*, M. (2016). Current advances and future perspectives in extrusion-based bioprinting. *Biomaterials*, 76, 321–343.
<https://doi.org/https://doi.org/10.1016/j.biomaterials.2015.10.076>
- Ozbolat+, I. T., Peng, W., & Ozbolat*, V. (2016). Application areas of 3D bioprinting. *Drug Discovery Today*, 21(8), 1257–1271.
<https://doi.org/https://doi.org/10.1016/j.drudis.2016.04.006>

+denotes faculty member

*denotes co-authored with graduate student(s)

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

- Ozcelik*, A., Nama*, N., Huang*, P.-H., Kaynak*, M., McReynolds, M. R., Hanna-Rose, W., & Huang+, T. J. (2016). Acoustofluidic Rotational Manipulation of Cells and Organisms Using Oscillating Solid Structures. *Small*, 12(37), 5120–5125. <https://doi.org/10.1002/smll.201601760>
- Patten, C. H., Dillon, G., & Koudela+, K. L. (2016). Processing Characteristics of Out-of-Autoclave Pre-impregnated DiscoTex(TM) Composites. In *SAMPE Journal*.
- Peng, W., Unutmaz, D., & Ozbolat+, I. T. (2016). Bioprinting towards Physiologically Relevant Tissue Models for Pharmaceuticals. *Trends in Biotechnology*, 34(9), 722–732. <https://doi.org/http://dx.doi.org/10.1016/j.tibtech.2016.05.013>
- Rai, A. K., Thoutam, L. R., Zhang, W., Kovi, K., Banerjee, S., & Das+, S. (2016). Effects of High-Energy X-Ray Radiation on MoS₂ FETs. In *APS Meeting Abstracts*.
- Raja Annamalai*, A., Upadhyaya, A., & Agrawal+, D. K. (2016). Effect of Ni₃Al Addition and Heating Mode on the Electrochemical Response on Austenitic and Ferritic Stainless Steels. *Powder Metallurgy and Metal Ceramics*, 55(5), 288–296. <https://doi.org/10.1007/s11106-016-9804-1>
- Ren*, B., & Lissenden+, C. J. (2016). Modal content-based damage indicators for disbonds in adhesively bonded composite structures. *Structural Health Monitoring*, 15(5), 491–504. <https://doi.org/10.1177/1475921716650627>
- Ren*, B., & Lissenden+, C. J. (2016). PVDF array sensor for Lamb wave reception: Aircraft structural health monitoring. *AIP Conference Proceedings*, 1706(1), 30011. <https://doi.org/10.1063/1.4940483>
- Ren*, B., & Lissenden+, C. J. (2016). PVDF Multi-element Lamb Wave Sensor for Structural Health Monitoring. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 63(1), 178–185. <https://doi.org/10.1109/TUFFC.2015.2496423>
- Ren*, B., & Lissenden+, C. J. (2016). Multi-Element Lamb Wave Transducers to Classify Damage Type and Characterize Size Based on Modal Content. In *ASME 2016 Pressure Vessels and Piping Conference* (p. V06AT06A015). Honolulu, HI.
- Scarborough, C. P., Werner, D. H., & Wolfe+, D. E. (2016). Functionalized Metamaterials Enable Frequency and Polarization Agility in a Miniaturized Lightweight Antenna Package. *Advanced Electronic Materials*, 2(2), 1500295--n/a. <https://doi.org/10.1002/aelm.201500295>
- Scarborough, C. P., Wolfe+, D. E., & Werner, D. H. (2016). Near-Arbitrary Polarization from Tunable Crossed End-Loaded Dipoles. *IEEE Antennas and Wireless Propagation Letters*, 15, 1245–1248. <https://doi.org/10.1109/LAWP.2015.2503346>
- Schiff+, S. J., Kiwanuka, J., Riggio, G., Nguyen, L., Mu, K., Sproul, E., Bazira, J., Mwanga-Amumpaire, J., Tumusiime, D., Nyesigire, E., Lwanga, N., Bogale, K. T., Kapur, V., Broach, J. R., Morton, S. U., Warf, B. C., & Poss, M. (2016). Separating Putative Pathogens from Background Contamination with Principal Orthogonal Decomposition: Evidence for Leptospira in the Ugandan Neonatal Septisome. *Frontiers in Medicine*, 3, 22. <https://doi.org/10.3389/fmed.2016.00022>
- Schmitt, M. P., Harder, B. J., & Wolfe+, D. E. (2016). Process-structure-property relations for the erosion durability of plasma spray-physical vapor deposition (PS-PVD) thermal barrier coatings. *Surface and Coatings Technology*, 297, 11–18. <https://doi.org/http://dx.doi.org/10.1016/j.surfcoat.2016.04.029>
- Searfass*, C. T., Pheil*, C., Sinding*, K. M., Tittmann+, B. R., Baba, A., & Agrawal+, D. K. (2016). Bismuth Titanate (Bi₄Ti₃O₁₂) Fabricated Using Spray-on Deposition Technique and Microwave Sintering For High Temperature Ultrasonic Transducers. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 63(1), 139–146.
- Segall+, A. E. (2016). Closed-form Inverse Determination of Force Excitations for Undamped and Damped Linear-systems Using a Least-squares Approach. *Universal Journal of Mechanical Engineering*, 4(2), 50–55. <https://doi.org/10.13189/ujme.2016.040205>
- Segall+, A. E., Sohag, F. A., Beck, F. R., Mohanta, L., Cheung, F.-B., Eden+, T. J., & Potter, J. K. (2016). Micro-Porous Coatings and Enhanced CHF for Downward Facing Boiling During Passive Emergency Reactor Cooling. In *ASME 2016 Pressure Vessels and Piping Conference* (p. V003T03A088). Honolulu, HI.
- Seifi, B., Semouchkina, E., Lanagan+, M. T., & Neuberger, T. (2016). Approaches to designing micro-solenoidal RF probes for 14 T MRI studies of millimeter-range sized objects. *Concepts in Magnetic Resonance Part B: Magnetic Resonance Engineering*, 46B(4), 178–185. <https://doi.org/10.1002/cmr.b.21349>
- Serebryannikov, A. E., Lakhtakia+, A., & Ozbay, E. (2016). Single and cascaded, magnetically controllable metasurfaces as terahertz filters. *J. Opt. Soc. Am. B*, 33(5), 834–841. <https://doi.org/10.1364/JOSAB.33.000834>
- Sheldon*, J. P., Miller, S. T., & Pitt+, J. S. (2016). A hybridizable discontinuous Galerkin method for

+denotes faculty member

*denotes co-authored with graduate student(s)

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

- modeling fluid–structure interaction. *Journal of Computational Physics*, 326, 91–114.
<https://doi.org/http://dx.doi.org/10.1016/j.jcp.2016.08.037>
- Shi, J., Li, X., Cheng+, H., Liu, Z., Zhao, L., Yang, T., Dai, Z., Cheng, Z., Shi, E., Yang, L., Zhang, Z., Cao, A., Zhu, H., & Fang, Y. (2016). Graphene Reinforced Carbon Nanotube Networks for Wearable Strain Sensors. *Advanced Functional Materials*, 26(13), 2078–2084.
<https://doi.org/10.1002/adfm.201504804>
- Shuba, M. V., & Lakhtakia+, A. (2016). Splitting of absorptance peaks in absorbing multilayer backed by a periodically corrugated metallic reflector. *Journal of Optical Society of America A, Optics, Image Science, and Vision*, 33(4), 779–784.
<https://doi.org/10.1364/JOSAA.33.000779>
- Sinding*, K. M., Drapaca+, C. S., & Tittmann+, B. R. (2016). Digital Signal Processing Methods for Ultrasonic Echoes. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 63(8), 1172–1176.
<https://doi.org/10.1109/TUFFC.2016.2557283>
- Sinding*, K. M., Orr, A., Breon*, L., & Tittmann+, B. R. (2016). Effect of sintering temperature on adhesion of spray-on piezoelectric transducers. *Journal of Sensors and Sensor Systems*, 5(1), 113–123.
<https://doi.org/10.5194/jsss-5-113-2016>
- Sun, C., Zhang, Y., Wang, P., Yang, Y., Wang, Y., Xu+, J., Wang, Y., & Yu, W. W. (2016). Synthesis of Nitrogen and Sulfur Co-doped Carbon Dots from Garlic for Selective Detection of Fe³⁺. *Nanoscale Research Letters*, 11(1), 110.
<https://doi.org/10.1186/s11671-016-1326-8>
- Swiontek*, S. E., & Lakhtakia+, A. (2016). Influence of silve-nanoparticle layer in a chiral sculptured thin film for surface-multiplasmonic sensing of analytes in aqueous solution. *Journal of Nanophotonics*, 10(3), 33008.
- Swiontek*, S. E., & Lakhtakia+, A. (2016). Simultaneous optical sensing of multiple fluids via spatially multiplexed surface-multiplasmonic-resonance imaging. In *Proceedings of the SPIE 9929, Nanostructured Thin Films IX* (p. 99291H). San Diego, CA.
<https://doi.org/10.1117/12.2239924>
- Tang, S.-Y., Ayan*, B., Nama*, N., Bian, Y., Lata, J. P., Guo, X., & Huang+, T. J. (2016). On-Chip Production of Size-Controllable Liquid Metal Microdroplets Using Acoustic Waves. *Small*, 12(28), 3861–3869.
<https://doi.org/10.1002/smll.201600737>
- Thoutam, L. R., Wang, Y., Xiao, Z., Das+, S., Luican Mayer, A., Divan, R., Crabtree, G. W., & Kwok, W. K. (2016). Magnetoresistance Anisotropy in WTe₂. In *APS Meeting Abstracts*.
- Vardelle, A., Moreau, C., Akedo, J., Ashrafizadeh, H., Berndt, C. C., Berghaus, J. O., Boulos, M., Brogan, J., Bourtsalas, A. C., Dolatabadi, A., Dorfman, M., Eden+, T. J., Fauchais, P., Fisher, G., Gaertner, F., Gindrat, M., Henne, R., ... Vuoristo, P. (2016). The 2016 Thermal Spray Roadmap. *Journal of Thermal Spray Technology*, 25(8), 1376–1440.
<https://doi.org/10.1007/s11666-016-0473-x>
- Vashisth*, A., & Bakis+, C. E. (2016). Characterization of Nanosilica Filled Bis F Epoxide with Diamino Diphenyl Sulfone Curing Agents. *31st Technical Conference of the American Society for Composites*, 15.
- Vecchio*, M. A., Ounaies, Z., Lanagan+, M. T., & Meddeb, A. B. (2016). Polymer laminates for high energy density and low loss. In *2016 IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP)* (pp. 457–460).
<https://doi.org/10.1109/CEIDP.2016.7785648>
- Wang, Z., Palmer+, T. A., & Beese, A. M. (2016). Effect of processing parameters on microstructure and tensile properties of austenitic stainless steel 304L made by directed energy deposition additive manufacturing. *Acta Materialia*, 110, 226–235.
<https://doi.org/https://doi.org/10.1016/j.actamat.2016.03.019>
- Waskiewicz*, R. J., Mutch*, M. J., Lenahan+, P. M., & King, S. W. (2016). Radiation induced leakage currents in dense and porous low-k dielectrics. In *2016 IEEE International Integrated Reliability Workshop (IIRW)* (pp. 99–102).
<https://doi.org/10.1109/IIRW.2016.7904912>
- Whalen*, A. J., Brennan, S. N., Sauer, T. D., & Schiff+, S. J. (2016). Effects of symmetry on the structural controllability of neural networks: A perspective. In *2016 American Control Conference (ACC)* (pp. 5785–5790).
<https://doi.org/10.1109/ACC.2016.7526576>
- Widener, C. A., Carter, M. J., Ozdemir, O. C., Hrabe, R. H., Hoiland, B., Stamey, T. E., Champagne, V., & Eden+, T. J. (2016). Application of High-Pressure Cold Spray for an Internal Bore Repair of a Navy Valve Actuator. *Journal of Thermal Spray Technology*, 25(1), 193–201.
<https://doi.org/10.1007/s11666-015-0366-4>
- Wilke, R. H. T., Baker, A. L., Brown-Shaklee, H., Johnson-Wilke, R., Hettler, C., Murata, T., O'Malley, P., Perini, S. E., & Lanagan+, M. T. (2016). Fabrication of Wound Capacitors Using Flexible Alkali-Free Glass. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, 6(10), 1555–1560.
<https://doi.org/10.1109/TCPMT.2016.2600946>
- Wu, H., Zhang, Y., Lu, M., Liu, W., Xu+, J., & Yu, W. W. (2016). Reduced reabsorption and enhanced propagation induced by large Stokes shift in

+denotes faculty member

*denotes co-authored with graduate student(s)

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

- quantum dot-filled optical fiber. *Journal of Nanoparticle Research*, 18(7), 206.
<https://doi.org/10.1007/s11051-016-3516-9>
- Xie*, Y., Nama*, N., Li, P., Mao*, Z., Huang*, P.-H., Zhao, C., Costanzo+, F., & Huang+, T. J. (2016). Probing Cell Deformability via Acoustically Actuated Bubbles. *Small (Weinheim an Der Bergstrasse, Germany)*, 12(7), 902–910.
<https://doi.org/10.1002/smll.201502220>
- Xu, Q., Lanagan+, M. T., Huang, X., Xie, J., Zhang, L., Hao, H., & Liu, H. (2016). Dielectric behavior and impedance spectroscopy in lead-free BNT–BT–NBN perovskite ceramics for energy storage. *Ceramics International*, 42(8), 9728–9736.
<https://doi.org/https://doi.org/10.1016/j.ceramint.2016.03.062>
- Xu, Q., Lanagan+, M. T., Luo*, W., Zhang, L., Juan, X., Hao, H., Cao, M., Yao, Z., & Liu, H. (2016). Electrical properties and relaxation behavior of Bi_{0.5}Na_{0.5}TiO₃-BaTiO₃ ceramics modified with NaNbO₃. *Journal of the European Ceramic Society*, 36.
- Xu, Q., Liu, H., Xie, J., Zhang, L., Luo*, W., Huang, X., Cao, M., Hao, H., Yao, Z., & Lanagan+, M. T. (2016). High-Temperature Dielectrics in BNT-BT-Based Solid Solution. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 63(10), 1656–1662.
<https://doi.org/10.1109/TUFFC.2016.2574860>
- Xu, Q., Liu, H., Zhang, L., Xie, J., Hao, H., Cao, M., Yao, Z., & Lanagan+, M. T. (2016). Structure and electrical properties of lead-free Bi_{0.5}Na_{0.5}TiO₃-based ceramics for energy-storage applications. *RSC Adv.*, 6(64), 59280–59291.
<https://doi.org/10.1039/C6RA11744A>
- Yao, R., Zhang, D., Zou, B., & Xu+, J. (2016). Junction temperature measurement of alternating current light-emitting-diode by threshold voltage method. *Frontiers of Optoelectronics*, 9(4), 555–559.
<https://doi.org/10.1007/s12200-015-0533-8>
- Yao, X., Zhang, H., Han, W., Zhou, Q., & Lissenden+, C. J. (2016). Formation porosity evaluation using nonlinear acoustic second harmonic generation. In *SEG Technical Program Expanded Abstracts 2016* (pp. 764–767).
<https://doi.org/10.1190/segam2016-13845195.1>
- Yilmaz, H., Pena-Francesch*, A., Xu, L., Shreiner**, R., Jung*, H., Huang, S. H., Ozdemir, S. K., Demirel+, M. C., & Yang, L. (2016). Protein-based flexible whispering gallery mode resonators. In C. E. Tabor, F. Kajzar, T. Kaino, & Y. Koike (Eds.), *Proceedings of the SPIE 9745, Organic Photonic Materials and Devices XVIII* (p. 97450I). SPIE.
- Yu*, Y., Moncal*, K. K., Li, J., Peng, W., Rivero, I., Martin, J. A., & Ozbolat+, I. T. (2016). Three-dimensional bioprinting using self-assembling scalable scaffold-free “tissue strands” as a new bioink. *Scientific Reports*, 6, 28714.
- Yu, K. J., Kuzum, D., Hwang, S.-W., Kim, B. H., Juul, H., Kim, N. H., Won, S. M., Chiang, K., Trumpis, M., Richardson, A. G., Cheng+, H., Fang, H., Thompson, M., Bink, H., Talos, D., Seo, K. J., Lee, H. N., ... Rogers, J. A. (2016). Bioresorbable silicon electronics for transient spatiotemporal mapping of electrical activity from the cerebral cortex. *Nature Materials*, 15(7), 782–791.
- Yuan*, M., Zhang, S., Rajagopalan, R., & Lanagan+, M. T. (2016). High field dielectric properties of polymer-glass laminate. In *2016 IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP)* (pp. 474–477).
<https://doi.org/10.1109/CEIDP.2016.7785664>
- Zamrik+, S. Y. (2016). History of Journal of Pressure Vessel Technology.
- Journal of Pressure Vessel Technology*, 138(4), 40301.
- Zhao, J., Luo*, W., Cohick*, Z., Randall, C. A., & Lanagan+, M. T. (2016). Reliability of Split Ring Resonators in a High Power Plasma Environment. *Materials Research Bulletin*.
<https://doi.org/http://dx.doi.org/10.1016/j.materresbull.2016.11.017>
- Zhao, J., Chillara*, V. K., Cho*, H., Qiu, J., & Lissenden+, C. J. (2016). Evaluation of fatigue damage accumulation in composites via linear and nonlinear guided wave methods. *AIP Conference Proceedings*, 1706(1), 120007.
<https://doi.org/10.1063/1.4940592>
- Zhao, J., Chillara*, V. K., Ren*, B., Cho*, H., Qiu, J., & Lissenden+, C. J. (2016). Second harmonic generation in composites: Theoretical and numerical analyses. *Journal of Applied Physics*, 119(6), 64902.
<https://doi.org/10.1063/1.4941390>
- Zhao, X., & Rose+, J. L. (2016). Ultrasonic guided wave tomography for ice detection. *Ultrasonics*, 67, 212–219.
<https://doi.org/http://dx.doi.org/10.1016/j.ultras.2015.12.005>

+denotes faculty member

*denotes co-authored with graduate student(s)

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