

Yirong Lin, Ph.D.

Department of Mechanical Engineering
The University of Texas at El Paso
El Paso, TX 79968, U.S.A.
(Office): 915-747-6015; (Email): ylin3@utep.edu

Research website: http://me.utep.edu/lin/FEMS_LAB/index.html

Google Scholar: <https://scholar.google.com/citations?user=MyWwThwAAAAJ&hl=en>

EDUCATION AND TRAINING

Postdoc, Mechanical Engineering *December 2010 – July 2011*
University of Florida, Gainesville, Florida, U.S.A.
Sponsor: Henry A. Sodano, Ph.D.

Postdoc, Mechanical Engineering *August 2009 – December 2010*
Arizona State University, Tempe, Arizona, U.S.A.
Sponsor: Henry A. Sodano, Ph.D.

Ph.D. Mechanical Engineering *August 2009*
Arizona State University, Tempe, Arizona, U.S.A.
Advisor: Henry A. Sodano, Ph.D.

M.S. Mechanical Engineering *July 2006*
Harbin Institute of Technology, Harbin, China
Advisor: Yingxue Yao, Ph.D.

B.S. Mechanical Engineering *July 2004*
Harbin Engineering University, Harbin, China

PROFESSIONAL EMPLOYMENT

Academic

Associate Professor *August 2016 – Present*
Department of Mechanical Engineering
The University of Texas at El Paso, El Paso, TX, 79968

Assistant Professor *July 2011 – August 2016*
Department of Mechanical Engineering
The University of Texas at El Paso, El Paso, TX, 79968

AWARDS AND HONORS

ASME Best Paper in Materials, SPIE Smart Structures/NDE, San Diego, CA, 2011
Honorable Mention Award at SMASIS Technical Conference, Oxnard, CA, 2009
Best Paper at SAMPE Fall Technical Conference, Memphis, TN, 2008
Outstanding Performance in Securing Extramural Funding, ORSP, UTEP, 2014

RESEARCH INTERESTS

Smart Materials	Multifunctional Composites
Sensors	Energy Harvesting
Additive Manufacturing	Functional Nanocomposites

SPONSORED RESEARCH

1. Project title: Consortium for Integrating Energy Systems in Engineering and Science Education

Funding Agency: Department of Energy

Amount: \$300,000

Duration: 10/1/2016-9/30/2019

Investigator(s): PI: Lourdes Echegoyen (50%), co-PI: Norman Love (25%) co-PI: Yirong Lin (25%)

2. Project title: UTEP/UCSB PREM: Molecular and Interfacial Phase Design for Improved Photovoltaics

Funding Agency: National Science Foundation

Amount: \$3,962,399

Duration: 10/1/2012-9/30/2018

Investigator(s): PI: Luis Echegoyen (100%), co-PI: Ramana Chintalapalle (0%), Tunna Baruah (0%), Skye Fortier (0%), Juan Noveron (0%) and Yirong Lin (0%)

3. Project title: Additive Manufacturing of Energy Harvesting Material System for Active Wireless MEMS Sensors

Funding Agency: Department of Energy

Amount: \$250,000

Duration: 9/1/2016-8/31/2019

Investigator(s): PI: Yirong Lin (35%), co-PI: Norman Love (35%) co-PI: Ryan Wicker (30%)

4. Project title: Development of Educational Courses on Nuclear Engineering Materials at the University of Texas at El Paso (UTEP)

Funding Agency: Nuclear Regulatory Commission

Amount: \$188,684

Duration: 10/1/2014 – 9/30/2016

Investigator(s): PI: Ahsan Choudhuri (34%), co-PI: Yirong Lin (22%), co-PI: Ramana Chintalapalle (22%), co-PI: Louis Everett (22%)

5. Project title: Acquisition of an X-Ray Scattering System with Solid-Gas Reactor Chamber and Ultrafast Detection Capabilities or Research and Instruction in Science and Engineering

Funding Agency: The Department of Defense

Amount: \$395,721

Duration: 2/1/2014-1/31/2017

Investigator(s): PI: Christian Botez (100%), Senior Personnel: Yirong Lin, Luis Echegoyen, Dino Villagran, David Zubia

6. Project title: Investigation of “Smart Parts” with Embedded Sensors for Energy System Applications

Funding Agency: Department of Energy

Amount: \$1,150,894 (Including \$237,532 of Cost Share from UTEP)

Duration: 10/1/2013-9/30/2017

Investigator(s): PI: Yirong Lin (40%), co-PI: Ahsan Choudhuri (30%), co-PI: Ryan Wicker (30%)

7. Project title: Investigation on Pyroelectric Ceramic Temperature Sensors for Energy System Applications

Funding Agency: Department of Energy

Amount: \$200,000

Duration: 7/1/2013-6/30/2016

Investigator(s): PI: Yirong Lin (50%), co-PI: Norman Love (50%)

8. Project title: Development and Enhancement of Green Energy Learning for Effective Engineering Education to Foster the 21st Century Hispanic Sustainability Leaders

Funding Agency: Department of Education

Amount: \$900,000 (UTEP share: \$600,000; Arizona State University Share: \$300,000)

Duration: 10/1/2013-9/30/2017

Investigator(s): PI: Tze-Liang Tseng (50%), co-PI: Yirong Lin (25%), co-PI: Norman Love (25%)

9. Project title: Development of "Lick and Stick" Wireless Temperature Sensors

Funding Agency: Department of Energy

Amount: \$200,000

Duration: 1/1/2013-12/31/2013

Investigator(s): PI: Ahsan Choudhuri, (20%), co-PI: Yirong Lin (60%), co-PI: Ryan Wicker (20%).

10. Project title: Development of graphene based carbon-carbon composites

Funding Agency: UTEP URI Award (UTEP Internal seed funding)

Amount: \$4,960

Duration: 1/1/2012-12/31/2012

Investigator(s): PI: Yirong Lin (100%)

PUBLICATIONS

Journal Articles

1. Sarker, M., Silva, J., Wilburn, B., Lin, Y., and Love, N., 2017, "Pyroelectric Wireless Temperature Sensor", Journal of Measurement, Revision Submitted.
2. Hoejin Kim, Fernando Torres, Juan Noveron, Tzu-Liang Tseng, Yirong Lin, 2017, "3D printing of MWCNT/BaTiO₃/PVDF nanocomposites for pressure sensor with improved Performance", ACS Applied Materials and Interfaces, Revision Submitted.

3. Xu, W., Yang, H., Zeng, W., Houghton, T., Wang, X., Murthy, R., Kim, H., Lin, Y., Mignolet, M., Duan, H., Yu., H., Slepian, M., Jiang, H., "Food-Based Edible and Nutritive Electronics", *Advanced Materials Technologies.*, DOI: 10.1002/admt.201700181.
4. Hoejin Kim, Fernando Torres, Tzu-Liang Tseng, Yirong Lin, 2017, "3D Printing of BaTiO₃/PVDF nanocomposites with Electric In-Situ Poling for Pressure Sensor Applications", *Macromolecular Materials and Engineering*, In Press, accepted.
5. Hoejin Kim, Mohamed Shuvo, Hasanul Karim, M. Nandasiri, A. Schwarz, M. Vijayakumar, Juan Noveron, Tzu-Liang Tseng, Yirong Lin, 2017, "Porous carbon/CeO₂ nanoparticles hybrid material for high-capacity super-capacitors", *Materials Research Society Advances*, DOI: <https://doi.org/10.1557/adv.2017.420>
6. Hoejin Kim, Mohamed Shuvo, Hasanul Karim, Juan Noveron, Tzu-Liang Tseng, Yirong Lin, 2017, "Porous carbon/CeO₂ nanoparticles hybrid material for Li-ion battery", *Materials Research Society Advances*, In Press, accepted.
7. Sarker, M., Silva, J., Castaneda, M., Wilburn B., Lin, Y., and Love, N., 2017, "Characterization of the Pyroelectric Coefficient of a High Temperature Sensor", *Journal of Intelligence Material Structures and Systems*, Accepted, DOI: <https://doi.org/10.1177/1045389X17721376>
8. Kim, H., Fernando, T., Wu, Y., Villagran, D., Lin, Y., & Tseng, T. L. B. 2017, "Integrated 3D printing and corona poling of PVDF piezoelectric films for pressure sensor application". *Smart Materials and Structures*, Vol: 26, Number 8.
9. Kim, H., Lin, Y., & Tseng, T. L. B. 2017, "A Review on Quality Control in Additive Manufacturing". *Rapid Prototyping Journal*, In Press, accepted.
10. Kim, H., Fernando, T., Li, M., Lin, Y., & Tseng, T. L. B. 2017, "Fabrication and characterization of 3D printed BaTiO₃/PVDF nanocomposites," *Journal of Composite Materials*, 0021998317704709.
11. Hasanul Karim, Diego Delfin, Luis Chavez, Luis Delfin, Ricardo Martinez, Jose Avila, Raymond Rumpf, Norman Love and Yirong Lin, 2017, "Metamaterial based Passive Wireless Temperature sensor," *Advanced Engineering Materials.*, DOI:10.1002/adem.201600741.
12. Cabral, A., Islam, M., Tarango, E., Lin, Y., and Prabhkar., P., 2017, "Interlaminar Reinforcement for Enhancing Low-Velocity Impact Response of Woven Composites," *Accepted, Textile Research Journal*, DOI:10.1177/0040517517708536.

13. Sarker, R., Karim, H., Martinez, R., Love, N. and Lin, Y., 2016, "A Lithium Niobate High Temperature Sensor for Energy System Applications," *IEEE Sensors Journal*, vol. 16, No. 15, 2016,
14. Gonzalez, J., Mireles, J., Lin, Y., and Wicker, R., 2016, "Characterization of ceramic components fabricated using binder jetting additive manufacturing technology," *Ceramics International*, 42, 10559-10564.
15. Karim, H., Sarker, M., Shahriar, S., Shuvo, M., Delfin, D., Hodges, D., Tseng, T., Roberson, D., Love, N., and Lin, Y., 2016. "Feasibility study of thermal energy harvesting using lead free pyroelectric", *Smart Materials and Structures*, 25, 055022.
16. Castellanos, A., Islam, M., Quevedo, S., Shuvo, M., Lin, Y., and Prabhakar, P., 2016, "Nanowire Reinforcement of Woven Composites for Enhancing Interlaminar Fracture Toughness," *Journal of Sandwich Structures and Materials*, Accepted, in press. DOI: 10.1177/1099636216650989
17. Hossain, M., Gonzalez, J., Martinez, R., Shuvo, M., Mireles, J., Choudhuri, A., Wicker, R., and Lin, Y., 2016. "Fabrication and Characterization of Smart Parts using Electron Beam Melting Additive Manufacturing Technology". *Additive Manufacturing*, 10, 58-66.
18. Shuvo, M. A. I., Rodriguez, G., Islam, M. T., Karim, H., Ramabadran, N., Noveron, J. C., and Lin, Y. 2015. "Microwave exfoliated graphene oxide/TiO₂ nanowire hybrid for high performance lithium ion battery," *Journal of Applied Physics*, 118(12), 125102. (Selected for cover image of volume 118, number 12.)
19. Sarker, MD, Karim, H., Martinez, R., Delfin, D., Enriquez, R., Shuvo, M., Love, N., and Lin, Y., 2015, "Temperature measurements using a lithium niobate (LiNbO₃) pyroelectric ceramic," *Measurement*, 75, 104-110.
20. Rajib, M., Martinez, R., Shuvo, M., Karim, H., Delfin, D., Afrin, S., Rodriguez, G., and Ramana, C.V., and Lin, Y., 2015, "Enhanced energy storage of dielectric nanocomposites at elevated temperatures," *International Journal of Applied Ceramic Technology*, DOI: 10.1111/ijac.12410.
21. Gaytan, S., Cadena, M., Karim, H., Delfin, D., Lin, Y., Espalin, D. MacDonald, E. and Wicker, R., 2015, "Fabrication of barium titanate by binder jetting additive manufacturing technology," *Ceramics International*, 41, 6610-6619.
22. Torrado, A., Shemelya, C., English, J., Lin, Y., Wicker, R., and Roberson, D., 2015, "Characterizing the effect of additives to ABS on the mechanical property anisotropy of

- specimens fabricated by material extrusion 3D printing," *Additive Manufacturing*, 6, 16-29.
23. Karim, H., Delfin, D., Shuvo, M., Chavez, L., Garcia, C., Barton, H., Gaytan, S., Cadena, M., Rumpf, R., Wicker, R., Lin, Y., and Choudhuri, A., 2014, "Concept and model of a metamaterial based passive wireless temperature sensor for harsh environment applications," *IEEE Sensors Journal*, 15, 1445-1452. (Top 50 most downloaded paper in December 2014)
 24. Rajib, M., Shuvo, M. and Karim, H., Delfin, D., Afrin, S., and Lin, Y., 2014, "Temperature influence on dielectric energy storage of nanocomposites," *Ceramics International*, 41, 1807-1813.
 25. Shuvo, M., Karim, H. and Delfin, D., and Lin, Y., 2013, "Nanowire modified carbon fibers for enhanced electrical energy storage," *Journal of Applied Physics*, 114, 104306.
 26. Shuvo, M., Khan, M., Karim, H. and Morton, P., Wilson, T., and Lin, Y., 2013, "Investigation of modified graphene for energy storage applications", *ACS applied materials and interfaces*, 5, 7881-7885.
 27. Zhou, Z., Lin, Y., Tang, H. and Sodano, H. A., 2013, "Hydrothermal growth of highly textured BaTiO₃ films composed of nanowires", *Nanotechnology*, 24, 095602.
 28. Zhou, Z., Tang, H., Lin, Y., and Sodano, H. A., 2013, "Hydrothermal growth of textured (Ba_{1-x}Sr_x)TiO₃ films composed of nanowires", *Nanoscales*, 5, 10901-10907.
 29. Lin, Y., Zhou, Z. and Sodano, H.A., 2013, "Barium titanate and barium strontium titanate coated carbon fibers for multifunctional structural capacitors," *Journal of Composite Materials*, 47(12), 1527-1533.
 30. Tang, H., Lin, Y. and Sodano, H.A., 2012, "Synthesis of high aspect ratio BaTiO₃ nanowires for high energy density nanocomposite capacitors," *Advanced Energy Materials*, 3, 451-456.
 31. Mendoza, M, Khan, M., Shuvo, M., Guerrero, A. and Lin, Y., 2012, "Development of lead-free nanowire composites for energy storage application", *Journal of Nanomaterials*, 2012, 151748.
 32. Tang, H., Lin, Y. and Sodano, H.A., 2012, "Enhanced energy storage in nanocomposite capacitors through aligned pzt nanowire by uniaxial strain assembly," *Advanced Energy Materials*, 2, 469-476.
 33. Tang, H., Lin, Y., Ehlert, G. and Sodano, H.A., 2012, "Highly efficient synthesis of

graphene nanocomposites," *Nano Letter*, 12, 84-90.

34. Lin, Y., Ehlert, G., and Bukowsky, C. and Sodano, H.A., 2011, "Superhydrophobic functionalized graphene aerogels," *ACS Applied Materials and Interfaces*, 3, 2200-2203.
35. Ehlert, G., Lin, Y. and Sodano, H.A., 2011, "Carboxyl functionalization of carbon fibers via a non-oxidative reaction that preserves fiber tensile strength," *Carbon*, 49, 4246-4255.
36. Andrews, C., Lin, Y., Tang H. and Sodano, H.A., 2011, "Influence of aspect ratio on effective electromechanical coupling of nanocomposites with lead zirconate titanate nanowire inclusion," *Journal of Intelligent Material systems and structures*, 22, 1879-1886.
37. Tang, H., Lin, Y., Andrews, C. and Sodano, H.A., 2011, "Nanocomposites with increased energy density through high aspect ratio PZT nanowires," *Nanotechnology*, 22, 015702.
38. Galan, U., Lin, Y., Ehlert, G. and Sodano, H.A., 2011, "Effect of ZnO nanowire morphology on the interfacial strength of nanowire coated carbon fibers," *Composites Science and Technology*, 71: 946-954.
39. Ehlert, G., Lin, Y. and Sodano, H.A., 2010, "Enhanced multi-scale composites through an engineered hierarchical fiber," *International Journal of Mechanics and Materials Engineering*, 4: 1687-1698 (Invited paper).
40. Garcia, M., Lin, Y. and Sodano, H.A., 2010, "Autonomous materials with controlled toughening and healing," *Journal of Applied Physics*, 108, 093512.
41. Lin, Y., Andrews, C. and Sodano, H.A., 2010, "Enhanced piezoelectric properties of lead zirconate titanate (PZT) sol-gel derived ceramics using single crystal PZT cubes," *Journal of Applied Physics*, 108, 064108.
42. Lin, Y., Shaffer, J., and Sodano, H.A., 2010, "Electrolytic deposition of PZT on carbon fibers for multifunctional composites," *Smart Materials and Structures*, 19, 124004 (Invited Paper).
43. Andrews, C., Lin, Y. and Sodano, H.A., 2010, "The effect of particle aspect ratio on the electroelastic properties of piezoelectric nanocomposites," *Smart Materials and Structures*, 19, 02518.
44. Lin, Y. and Sodano, H.A., 2010, "Double Inclusion model for multiphase piezoelectric composites," *Smart Materials and Structures*, 19, 035003.
45. Lin, Y., Ehlert, G. and Sodano, H.A., 2009, "Increased interface strength in carbon fiber

composites through a zno nanowire interphase," *Advanced Functional Materials*, 19, 2654-2660.

46. Lin, Y., Liu, Y. and Sodano, H.A., 2009, "Vertically Aligned PZT nanowires for sensing and actuation," *Applied Physics Letters*, 95, 122901.
47. Lin, Y. and Sodano, H.A., 2009, "Electromechanical characterization of single active structural fiber laminas for multifunctional composites," *Composites Science and Technology*, 69, 1825-1830.
48. Lin, Y. and Sodano, H.A., 2009, "Characterization of multifunctional structural capacitors for embedded energy storage," *Journal of Applied Physics*, 106, 114108.
49. Lin, Y. and Sodano, H.A., 2008, "Fabrication and electromechanical characterization of a piezoelectric structural fiber for multifunctional composites," *Advanced Functional Materials*, 19, 592-598.
50. Lin, Y. and Sodano, H.A., 2008, "Concept and model of a piezoelectric structural fiber for multifunctional composites," *Composites Science and Technology*, 68, 1911-1918.

Conference Articles

1. Karim, H., Delfin, D., Love, N., Lin, Y., 2017, "Metamaterial based Wireless Temperature Sensor," 2017 SPIE Smart Materials/NDE, Portland, OR.
2. Chavez, L., D., Love, N., Lin, Y., 2017, "Pyroelectric wireless temperature sensors," 2017 MRS Spring Meeting, Phoenix, AZ.
3. Kim, H., Lin, Y., Tseng, B., 2017, "3D printing of BaTiO₃/PVDF nanocomposites," 2017 MRS Spring Meeting, Phoenix, AZ.
4. H. Karim, A., Islam, M., Rodriguez, G., Nandasiri, M., Schwarz, A., Devaraj, A., Noveron, J., Vijayakumar, M., and Lin, Y., 2016, "Energy Harvesting of LiNbO₃ for Wireless Temperature Sensors," 2016 SPIE Smart Materials/NDE, March 15th, Las Vegas, NV.
5. Kim, H., Shuvo, M. Karim, A., Islam, M., Rodriguez, G., Noveron, J., and Lin, Y., 2016, "Microwave reduced graphene oxide for lithium ion battery applications," 2016 MRS Spring Meeting, Phoenix, AZ.
6. Delfin, D., Love, N., Lin, Y., 2016 "Porous Carbon with CeO₂ nano particles for super capacitors," 2016 MRS Spring Meeting, Phoenix, AZ.

7. Shuvo, M. Karim, A., Islam, M., Rodriguez, G., Nandasiri, M., Schwarz, A., Devaraj, A., Noveron, J., Vijayakumar, M., and Lin, Y., 2015, "Porous carbon/CeO₂ composites for Li-ion battery application," 2015 SPIE Smart Materials/NDE, March 12th, San Diego, CA.
8. Shuvo, M. Karim, A., Islam, M., Rodriguez, G., Nandasiri, M., Schwarz, A., Devaraj, A., Noveron, J., Vijayakumar, M., and Lin, Y., 2015, "High-performance porous carbon/CeO₂ nanoparticles hybrid super-capacitors for energy storage," 2015 SPIE Smart Materials/NDE, March 12th, San Diego, CA.
9. Delfin, D., Love, N., Lin, Y., and Tseng, T., 2015 "Instructional Setting on Student Learning Effectiveness Using Flipped Classroom in an Engineering Laboratory," ASEE 122nd Annual Conference and Exposition, ASEE, Seattle, WA, June 14 – 17.
10. Shuvo, M. Karim, A., Delfin, D., and Lin, Y., 2014, "Structural supercapacitor based on hybrid graphene nanocomposites," 2014 SPIE Smart Materials/NDE, March 12th, San Diego, CA.
11. Karim, A., Delfin, D., Shuvo, M. and Lin, Y., 2014, "Concept and Design of a low cost wireless temperature sensor using metamaterials," 2014 SPIE Smart Materials/NDE, March 12th, San Diego, CA.
12. Karim, H., Delfin, D., Rumpf, R., Lin, Y., and Choudhuri, A., 2014, "Development of Passive Wireless Temperature Sensors Using Metamaterials". AIAA Science and Technology Forum and Exposition 2014: 52nd Aerospace Sciences Meeting.
13. Karim, H., Delfin, D., Gaytan, S., Lin, Y., Cadena, A., Choudhuri, A., 2014 "A Metamaterial Inspired Passive Wireless Temperature Sensor For Harsh Environment Applications" ISAs 56th Power Industry Division Symposium, June 1-6, Scottsdale, Arizona.
14. Hossain, M. S., Gonzalez, J. A., Gaytan, S. M., Lin, Y., Choudhuri, A., and Wicker, R., 2014, "Stop and Go Process to Fabricate Smart Parts using Electron Beam Melting", ISAs 56th Power Industry Division Symposium, June 1-6, Scottsdale, AZ.
15. Sarker, M., Sandoval, S., Love, N., Lin, Y., 2014, " Wireless Temperature Sensor Measurements through Various Materials Using a Lithium Niobate Pyroelectric Ceramic", ISAs 56th Power Industry Division Symposium, June 1-6, Scottsdale, Arizona.
16. Shuvo, M. Mendoza, M., Khan, M., and Lin, Y., 2013, "Development of Graphene Nanowires Composites for Enhanced Energy Storage Applications," 2013 SPIE Smart

Materials/NDE, March 15th, San Diego, CA.

17. Mendoza, M., Khan, M., Shuvo, M. and Lin, Y., 2012, "Fabrication and Characterization of nanowire polymer composites for high energy density capacitors," 2012 ASME IMECE, November 15th, Houston, TX.
18. Shuvo, M., Mendoza, M., Khan, M. A. and Lin, Y., 2012, "Characterization of Graphene/Nanowire hybrids for Supercapacitor," 2012 ASME IMECE, November 15th, Houston, TX.
19. Tang, H., Lin, Y. and Sodano, H.A., 2011, "Enhanced Energy Storage in Nanocomposites through aligned PZT nanowires," ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), September 18th-21st, Scottsdale, AZ.
20. Lin, Y., Zhou, Z., Romero J. and Sodano, H.A., 2011, "Multifunctional Structural Capacitors consisting of Barium Titanate and Barium Strontium Titanate Coated Carbon Fibers," 18th International Conference on Composite Materials, August 21st-26th, Jeju Island, Korea.
21. Liao, Y., Lin, Y., and Sodano, H.A., 2011, "Optimal Parameters and Power Characteristics of Piezoelectric Energy Harvesters with an RC Circuit," SPIE's 18th Annual International Symposium on Smart Structures and Materials/NDE, March 6th-10th, San Diego, CA.
22. Tang, H., Lin, Y., and Sodano, H.A., 2011, "Improved energy density and d_{33} property of nanocomposites with aligned PZT nanowires," SPIE's 18th Annual International Symposium on Smart Structures and Materials, March 6th-10th, San Diego, CA.
23. Lin, Y. and Sodano H.A., 2011, "Multifunctional Structural Capacitors Consisting of Barium Strontium Titanate Coated SiC Fibers," Electronic Materials and Applications 2011, Jan. 19th-21st Orlando, FL (Invited presentation only).
24. Ehlert, G.J., Lin, Y. and Sodano H.A., 2010, "Self-Assembly of Carbon Nanotubes to Aramid Fibers for Enhanced Electrical Conductivity," Materials Research Society Fall Meeting, Nov 29th-Dec 3rd, Boston, MA.
25. Tang, H., Lin, Y., Andrews, C. and Sodano, H.A., 2010, "Characterization of PZT Nanocomposites for Enhanced Energy Storage," ASME 2010 Conference on Smart Materials, Adaptive Structures and Intelligent Systems, September 28th-October 1st, Philadelphia, PA.

26. Lin, Y. Ehlert, G. and Sodano, H.A., 2010, "Piezoelectric Nanowire Interface for Increased Strength and Multifunctionality," Proceedings of the 2010 M&M International Symposium for Young Researchers, March 1-3, 2010, California Institute of Technology, Pasadena, CA, USA.
27. Andrews, C., Lin, Y. and Sodano, H.A., 2009, "Effect of aspect ratio on the electroelastic properties of piezoelectric nanocomposites," SPIE's 16th annual International Symposium on Smart Structures and Materials, March 8th-12th, San Diego, CA.
28. Lin, Y. and Sodano, H.A., 2009, "Electromechanical Characterization of a Single Fiber Lamina for Multifunctional Composites," SPIE's 16th annual International Symposium on Smart Structures and Materials, March 8th-12th, San Diego, CA.
29. Lin, Y. Ehlert, G. and Sodano, H.A., 2009, "Advanced Multiscale Carbon Fiber Composites with a ZnO Nanowire Interface," 17th International Conference on Composite Materials, July 27th- 31st, Edinburgh, UK.
30. Galan U., Ehlert, G., Lin, Y. and Sodano, H.A., 2009, "Effect of Size and Morphology of ZnO Nanowire Interfaces in Carbon Fiber Composites," Materials Research Society Spring Meeting, April 13th-17th, San Francisco, CA.
31. Lin, Y. and Sodano, H.A., 2009, "Characterization of Multifunctional Structural Capacitors for Embedded Energy Storage," ASME 2009 Conference on Smart Materials, Adaptive Structures and Intelligent Systems, September 21st-23rd, Oxnard, CA.
32. Shaffer, J., Lin, Y. and Sodano, H.A., 2009, "Electromechanical Characterization of Single Active Structural Fiber for Multifunctional Composites," 20th International Conference on Adaptive Structures and Technologies, October 20th-22nd, Hong Kong.
33. Lin, Y. and Sodano H.A., 2009, "Double Inclusion Model for Multifunctional Piezoelectric Composites," Proceedings of the 50th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference (SDM), May 4-7th, Palm Springs, CA.
34. Lin, Y. and Sodano, H.A., 2008, "Fabrication and Electromechanical Characterization of a Piezoelectric Structural Fiber for Multifunctional Composites," 2008 SAMPE Fall Technical Conference, Sept. 8-11th, Memphis, TN.

35. Lin, Y. and Sodano, H.A., 2008, "Concept and Model of a Piezoelectric Structural Fiber for Multifunctional Composites," SPIE's 15th annual International Symposium on Smart Structures and Materials, March 9th-13th, San Diego, CA.
36. Wells, L., Lin, Y., Sodano, H.A. and Youn, B., 2007, "Geometric Optimization of a Piezoelectric Power Harvesting Plate for Increased Bandwidth," Proceedings of the International Design Engineering Technical Conference, Sept. 4-7, Las Vegas, NV, USA.

Abstracts

1. Gonzalez, J. A., Hossain, M. S., Martinez, R., Rodriguez, G., Shuvo, M.A.I., Mireles, J., Wicker, R., Choudhuri, A., Lin, Y. 2015, "Investigation on Smart Parts with Embedded Piezoelectric Sensors via Additive Manufacturing: Characterization of Smart Parts", 5th Southwest Energy Science and Engineering Symposium (SESES), April 4th, El Paso, TX.
2. Delfin D., Karim, H., Chavez, L. A., Romero, J. A., Enriquez, R. E., Martinez, R., Sarker, R., Shuvo, M.A.I., Rumpf, R., Lin, Y., 2015 " A Passive Wireless Temperature Sensor for Harsh Environment Applications Based on Frequency Selective Surface Structures" 5th Southwest Energy Science and Engineering Symposium (SESES), April 4th, El Paso, TX.
3. Hossain, M. S., Gonzalez, J. A., Mireles, J., Lin, Y., Choudhuri, A., and Wicker, R., 2015, "Smart Part Fabrication using Electron Beam Melting Additive Manufacturing Technology", 5th Southwest Energy Science and Engineering Symposium, El Paso, TX.
4. Gonzalez, Jose A., Mireles J., Lin Y., Wicker R.B., 2015, "Fabrication of Ceramic Components Using Binder Jetting Additive Manufacturing Technology." 5th Southwest Energy Science and Engineering Symposium (SESES), April 4th, El Paso, TX.
5. Shuvo, M., Karim, H., Rodriguez, G., and Lin, Y., 2015. "High-Performance Hybrid Super-Capacitors for Energy Storage" 5th Southwest Energy Science and Engineering Symposium (SESES), April 4th, El Paso, TX.
6. Rodriguez-Melo, G., Shuvo, M. Karim, A., Islam, M., Nandasiri, M., Schwarz, A., Devaraj, A., Noveron, J., Vijayakumar, M., and Lin, Y., 2015, "Porous Carbon/CeO₂ Composites for Li-ion Battery Application," 5th Southwest Energy Science and Engineering Symposium (SESES), April 4th, El Paso, TX.
7. Sarker, M., Karim, H., Martinez, R., Delfin, D., Enriquez, R., Shuvo, M., Love, N., and Lin, Y., 2015, "Temperature Measurement Using a Lithium Niobate Pyroelectric Ceramic", 5th

Southwest Energy Science and Engineering Symposium, April 4, El Paso, TX

8. Karim, H., Delfin, D., Shuvo, M., Choudhuri, A., Wicker, R., Lin, Y., 2014, "Concept and Model of a Metamaterial Based Passive Wireless Temperature Sensor", 4th Southwest Energy Science and Engineering Symposium (SESES), March 22nd, El Paso, TX.
9. Martinez, R., Rajib M.D., Shuvo, M.A.I., Karim, H., Delfin, D., Afrin, S., Rodriguez, G., Lin, Y., 2014, "Enhanced Energy Storage of Dielectric Nanocomposites at Elevated Temperatures" 4th Southwest Energy Science and Engineering Symposium (SESES), March 22nd, El Paso, TX.
10. Hossain, M. S., Gaytan, S. M., Lin, Y., and Wicker, R., 2014, "Conceptual Design to Fabricate Smart Parts for High Efficiency System Using Electron Beam Melting", 4th Southwest Energy Science and Engineering Symposium (SESES), March 22nd, El Paso, TX.
11. Gonzalez, Jose A., Gaytan S. M., Lin Y., Wicker R.B. 2014, "Literature Review of Mechanical Testing of Ti-6Al-4V Fabricated by Electron Beam Melting" 4th Southwest Energy Science and Engineering Symposium (SESES), March 22nd, El Paso, TX.
12. Delfin, D., Karim, H., Shuvo, M.A.I., Cadena, M., Gaytan S., Lin, Y., 2014, "Fabrication and preliminary testing of metamaterial based passive wireless temperature sensors" Southwest Energy Science and Engineering Symposium (SESES), March 22nd, El Paso, TX.
13. Shuvo, M., Rajib, M., Karim, H., Morton, P., and Lin, Y., 2014. "Flexible Super-capacitor for Energy Storage Application" 4th Southwest Energy Science and Engineering Symposium (SESES), March 22nd, El Paso, TX.
14. Rodriguez-Melo, G., Shuvo, M.A.I., Lin, Y., 2014 "A Basic Introduction To Graphene And Its Application In Graphene Composites," 4th Southwest Energy Science and Engineering Symposium (SESES), March 22nd 2014, El Paso, TX.
15. Rajib, M., Marinez, R., Shuvo, M., Karim, H., Delfin, D., Afrin, S., and Lin, Y., 2014. "Enhanced Energy Storage of Dielectric Nanocomposited at Elevated Temperatures". 4th Southwest Energy Science and Engineering Symposium (SESES), March 22nd, El Paso, TX.
16. Sarker, M., Sandoval S., Love, N., and Lin, Y., 2014, "Development of a Wireless Temperature Sensor using a Lithium Niobate Pyroelectric Ceramic", 4th Southwest Energy Science and Engineering Symposium, March 22nd, El Paso, TX
17. Karim, H., Shuvo, M., Rajib, M., Delfin, D., Lin, Y., Rumpf, R., 2013, "Development of

Metamaterial Based Passive Wireless Temperature Sensor” 3rd Southwest Energy Science and Engineering Symposium (SESES), April 27th, El Paso, TX

18. Delfin, D., Mendoza M., Khan, A., Shuvo, M. Guerrero, A., and Lin, Y., 2013, “The Effect of Lead-Free Nanowire Fillers in Dielectric Capacitors” Southwest Energy Science and Engineering Symposium (SESES), April 27th, El Paso, TX.
19. Shuvo, M., Rajib, M., Karim, H., Morton, P., and Lin, Y., 2013. “Flexible Nanowire Hybrid Super-capacitor for Energy Storage”. 3rd Southwest Energy Science and Engineering Symposium (SESES), April 27th, El Paso, TX.
20. Rajib, M., Shuvo, M., Karim, H., and Lin, Y., 2013. “Fabrication of Barium Titanate Nanocomposite for Dielectric Capacitor”. 3rd Southwest Energy Science and Engineering Symposium (SESES), April 27th, El Paso, TX.
21. Khan, M.R., Mendoza, M., Shuvo, M.I., Garcia, M., Wilson, T., and Lin, Y., 2012, "Control study of hierarchical structural fiber for electrochemical energy storage," 2nd Southwest Energy Science and Engineering Symposium, March 24th, El Paso, TX.
22. Shuvo, M., Mendoza, M., Khan, M., Garcia, M. A., Wilson, T., Lin, Y., 2012, “Synthesis and Characterization Of Graphene Aerogel For High Performance Energy Storage Application,” 2nd Southeast Energy Science & Engineering Symposium, March 24th, El Paso, TX.
23. Mendoza, M., Khan, A., Shuvo, M., Garcia, M., Wilson, T. and Lin, Y., 2012. “Development of TiO₂ Nanowires on Carbon Fiber Substrate Utilizing Different Titanium Precursors”. 2nd Southwest Energy Science and Engineering Symposium (SESES), March 24th, El Paso, TX.

Book Chapter

1. Lin, Y., and Sodano, H., “Smart Composites, Mechanics and Design”, CRC Press, Taylor and Francis Group. December 2013, ISBN 9781439895917.
2. Shuvo, M.I.; Puli, V.S.; Khan, M.R.; Karim, H.; and Lin, Y., “Graphene Nanowire Hybrid for High Performance Lithium Ion Battery”, Bentham Science Publishers
3. Shuvo, M.I.; Puli, V.S.; Khan, M.R.; Karim, H.; and Lin, Y., “Investigation of Lead-Free Nanowire Composites for Energy Storage Applications”, Bentham Science Publishers

STUDENT SUPERVISION

Completed Undergraduate Studies

1. Nicholas Grasas
2. Josh Romero
3. Brent Dodson
4. Alberto Guerrero
5. Matthew Garcia
6. Diego Delfin
7. Travis Wilson
8. Leonardo Orea
9. Ivan Gastellum
10. Armando Sandavol
11. Jose Romero
12. Fernando Torres
13. Mingyue Li

Completed Ph.D. Dissertation

1. Mohammad Arif Ishtiaque Shuvo
Dissertation Title: Hybrid Nano Structures for Enhanced Energy Storage.
Currently with Intel as Process Engineer.
2. Ricardo Martinez, Mechanical Engineering
Dissertation Title: Modeling and Characterization of "Smart Parts" with Embedded Sensors.
Currently with Intel as Process Engineer.
3. Hasanul Karim, Mechanical Engineering
Dissertation Title: Wireless Temperature Sensors: Modeling, Fabrication, and Characterization.
Currently with Intel as Process Engineer.
4. Rashdul Sarker, Mechanical Engineering (co-advisor with Dr. Norman Love)
Dissertation Title: Pyroelectric Ceramic Wireless High Temperature Sensors.
Currently Assistant Professor with University of Indianapolis.

Completed MS Thesis

1. Mohammed Ashiqur Rahaman Khan
Thesis Title: *Development of Nanocomposites for Lithium-ion Batteries.*
Currently at General Electric.
2. Miguel Mendoza
Thesis Title: *Development of Polymer Nanocomposites Capacitors.*
Currently at Key Energy.
3. Mohammad Arif Ishtiaque Shuvo
Thesis Title: *Graphene Structures for Energy Storage Applications.*
Continued with Intel as Process Engineer.
4. Md Rajib
Thesis Title: *Advanced Polymer Nanocomposites Capacitors.*
Currently at General Electric.
5. Hasanul Karim
Thesis Title: *Investigation of Passive Wireless Temperature Sensors for Harsh Environment.*
Currently with Intel as Process Engineer.
6. Linda Vera
Thesis Title: *Micromechanics Modeling of Multifunctional Composites.*
Currently Undergraduate Advisor at with College of Engineering at the University of Texas at El Paso.
7. Gerardo Rodriguez-Melo
Thesis Title: *Graphene Material Systems with Enhanced Thermal and Mechanical Performance.*
Currently with NavAir.
8. Diego Delfin
Thesis Title: *Micromechanics Modeling of Multifunctional Composites.*
Currently with Intel as Process Engineer.
9. Emilio Durango
Thesis Title: *Fabrication and Testing of Carbon Fiber Composites with Embedded Sensing.*
Currently with Intel as Product Development Engineer.
10. Jorge Silva
Thesis Title: *Pyroelectric Sensor for Energy Environment Applications.*
Currently with Johnson and Johnson Controls.

Current Undergraduate Students

1. Luis Delfin
2. Mario Garcia
3. Fernando Torres
4. Bethany Wilburn
5. Mariana Casteneda

Current MS Students

Victor Elicerio

Current Ph.D. Students

1. Luis Chavez, Mechanical Engineering
Dissertation Title: *Advanced Functional Composites for Embedded Sensing, Energy Harvesting, and Enhanced toughness.*
Chair
2. Hoejin Kim, Mechanical Engineering
Dissertation Title: *3D printing of active nanocomposites for sensing.*
Co-Chair
3. Carlos Garcia, Electrical Engineering
Dissertation Title: *3D printing of active nanocomposites with self-healing and shape memory properties.*
Co-Chair

SERVICE

Reviewer

Reviewer, Advanced Functional Materials
Reviewer, Journal of Applied Physics
Reviewer, Applied Physics Letters
Reviewer, Composites Science and Technology
Reviewer, Journal of Composite Materials
Reviewer, Composites Part B: Engineering
Reviewer, Smart Materials and Structure
Reviewer, Journal of Intelligent Material Systems and Structures
Reviewer, Nanotechnology
Reviewer, Journal of Materials Science
Reviewer, Journal of Physics: Applied Physics
Grant Panel Reviewer, NSF (DUE's TUES Program, CMMI's MEP Program)

Conference Reviewer, ASME SMASIS Best Student Paper Reviewer (2010, 2011)