

RAMAZAN ASMATULU, PhD

Department of Mechanical Engineering
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EDUCATION

Ph.D., Department of Materials Science and Engineering (MSE), Virginia Polytechnic Institute and State University (**Virginia Tech**), Blacksburg, VA, August 1997–March 2001

M.S., Department of Mining Engineering (MSE concentration), **Istanbul Technical University**, June 1992–June 1995

B.S., Department of Mining Engineering (MSE concentration), **Istanbul Technical University**, September 1988–June 1992

RESEARCH INTERESTS

Mechanics of Nanomaterials

Mechanics of Nanofibers, Nanofilms, Nanoparticles, Nanoflakes, Nanocomposites, Nanotubes, Nanowires, and Nanomembranes

Mechanics of Composites

Mechanics of Laminate and Honeycomb Composites, Modeling of Composites, Curing Kinetics of Composites, Electrically and Thermally Conductive Composites, Self-Healing of Composites, Low-Impact Energy Composites, Flame-Retardant Composites, Hybrid Composites, and Thermoplastic Composites

Mechanics of Biomaterials

Mechanics of Biocomposites, Biodegradable and Biocompatible Materials, Targeted Drug Delivery Systems, Hydrogels, Scaffolding (PCL, PEEK, and UHMWPE), Dental Composites, and Layer-by-Layer (LBL) Biofilms

Energy Materials and Systems

Nanoemulsion-based Biofuel, Dye-Sensitized Solar Cells (DSSC), Proton-Exchange Membrane (PEM) Fuel Cells, Hydrogen Production (Electrolysis and Photoelectrolysis), Wind Energy (Composite Turbine Design and Nanocomposite Coating), Energy Storage (Supercapacitors and Lithium-Ion Batteries), Microorganisms (Algae-Based Biodiesel), and Clean Coal Technology

HONORS AND AWARDS

1. **Boeing Global Engineering Professor**, College of Engineering, Wichita State University, October 8, 2018.
2. **2017 WSU Ventures Innovation Award**, Wichita State University, October 24, 2017.
3. **Academy for Effective Teaching (AET) Award**, Wichita State University, May 5, 2017 (most prestigious award at WSU).
4. **Excellence in Research Award**, Wichita State University, May 5, 2017 (most prestigious research award at WSU).
5. **Shocker Composites First Dollar Award, WSU Ventures**, Wichita State University, November 29, 2016.
6. **Dwane and Velma Wallace 2015 Experience-Based Learning Award**, College of Engineering, Wichita State University, May 9, 2015.
7. **Polished Professor**, Department of Mechanical Engineering, Wichita State University, 2015.
8. **Young Faculty Scholar Award of the University** for Academic Year 2013-14, Wichita State University, Wichita, KS, May 2014 (most prestigious award at WSU for a young faculty member).
9. **Coleman Fellows Program Award**, Center for Entrepreneurship, Wichita State University, Wichita, KS, May 2014.
10. **John A. See Research Award**, "Size Dependent Nanoparticles Intervention with Breast and Prostate Cancer Cells," Wichita State University, Wichita, KS, May 2014.
11. **Second Place Poster Presentation Winner**, "Evaluating Nanosafety of Nanomaterials by In-Vitro Cytotoxicity Tests on Fibroblast Cells," International Society for the Advancement of Material and Process Engineering (SAMPE) Technical Conference (M. Srikanth, H.E. Misak, and **R. Asmatulu**), Wichita, KS, October 21-24, 2013.
12. **First Place Poster Presentation Winner**, "Characterization of Oligodendrocyte Progenitor Cell Differentiation on Co-Electrospun Nanofibers of PCL with Gelatin," Ninth Graduate Research and Scholarly Projects (GRASP) Symposium (B. Shrestha, M. Ceylan, A. Moon, **R. Asmatulu**, and L. Yao), Wichita State University, Wichita, KS, May 8, 2013.
13. **Student Government Association for the Exceptional Education Award**, Wichita State University, April 11, 2013.

14. **Best Presentation Award**, “Characterization of Oligodendrocyte Progenitor Cell Differentiation on Co-Electrospun Nanofibers of PCL with Gelatin,” K-INBRE 2013 Symposium (B. Shrestha, M. Ceylan, A. Moon, H. Wang, Q. Lu, **R. Asmatulu**, and L. Yao), Mantattan, KS, January 18, 2013.
15. **Second Place Poster Presentation Winner**, “Recent Progress in Self-Healing Process of Composite Wind Turbine Blades,” International SAMPE Technical Conference, Student Poster Competition (V. R. Patlolla and **R. Asmatulu**), Charleston, NC, October 22-25, 2012.
16. **Air Force Summer Faculty Fellowship Program (SFFP) Award**, Dayton, OH, May 2012.
17. **Faculty Fellowship Award**, “Nanocomposite Spheres for Self-Healing of Composite Wind Turbine Blades,” WSU Center for Innovation and Enterprise Engagement, May 1, 2012.
18. **College of Engineering Excellence in Research Award**, Wichita State University, May 4, 2012 (most prestigious research award of the college).
19. **Dwane and Velma Wallace 2012 Outstanding Educator Award**, College of Engineering, Wichita State University, May 4, 2012 (most prestigious teaching award of the college).
20. **First Place Poster Presentation Winner**, “New Progress in Self-Healing Technology of Composite Wind Turbine Blades,” of the Graduate Research and Scholarly Projects Symposium at Wichita State University (V. R. Patlolla, and **R. Asmatulu**), Wichita, KS, April 18, 2012.
21. **First Place Poster Presentation Winner**, “The Benefits of Magnetic/Protein Targeted Drug Delivery in Treating Skin Cancer In-Vivo,” Ninth Annual Capitol Graduate Research Summit (H. E. Misak and **R. Asmatulu**), Topeka, KS, February 16, 2012.
22. **Air Force Summer Faculty Fellowship Program (SFFP) Award**, Dayton, OH, May 2011.
23. **First Place Presentation Winner**, “Albumin Associated Magnetic Drug Delivery Systems for Cancer Therapy,” 2011 Nanotechnology Entrepreneurship Forum, Pittsburg State University (H. E. Misak, F. Abedin, and **R. Asmatulu**), Pittsburg, KS, April 2011.
24. **First Place Poster Presentation Winner**, “Characterization of Drug-Carrying Nanocomposite Spheres for Targeted Drug Delivery,” the winner of the Graduate Research and Scholarly Projects Symposium at Wichita State University (J. S. Gopu, H.E. Misak, and **R. Asmatulu**), Wichita, KS, April 2010.

25. **First Place Poster Presentation Winner**, “Synthesis of Highly Ordered Titanium Dioxide Nanotubes for Solar Cell Applications,” the winner of the 7th Annual Capitol Graduate Research Summit (S. I. Khan and **R. Asmatulu**), Topeka, KS, March 2010.
26. **Second Place Poster Presentation Winner**, “Improving the Wind Power Blade Life Duration Using Advanced Coating Materials,” of the 2010 Wichita Regional Energy and Sustainability Conference (**R. Asmatulu** and Z. Bangwei), Wichita, KS, January 2010.
27. **Second Place Poster Presentation Winner**, “Increasing the Coating Resistance against UV Degradation and Corrosion Using Nanocomposite Coating,” the winner of the 2010 Wichita Regional Energy and Sustainability Conference (**R. Asmatulu**, G. A. Mahmud, F. Abedin, and M. R. Anwar), Wichita, KS, January 2010.
28. **Best in Show Award and First Place Presentation Award in the College of Engineering**, “Developing a Targeted Drug Delivery System for Rheumatoid Arthritis,” Senior Design Project, Wichita State University, May 2009 (B. Copper mentored by **R. Asmatulu** and H. E. Misak).

ACADEMIC EXPERIENCE

- **Professor**, Department of Mechanical Engineering, Wichita State University, Wichita, KS, July 2017-present.
- **Visiting Scholar**, Department of Mechanical Engineering, Tokyo Institute of Technology, Tokyo, Japan, May 2109-August 2019.
- **Affiliated Faculty**, Department of Biomedical Engineering, Wichita State University, Wichita, KS, July 2013-present.
- **Associate Professor**, Department of Mechanical Engineering, Wichita State University, Wichita, KS, July 2012-July 2017.
- **Visiting Scholar**, Air Force Summer Faculty Fellowship Program, Air Force Institute of Technology (AFIT), Wright-Patterson, OH, May 2012-August 2012.
- **Visiting Scholar**, Air Force Summer Faculty Fellowship Program, AFIT, Wright-Patterson, OH, May 2011-August 2011.
- **Visiting Professor**, Department of Materials Science and Engineering, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 2009-September 2009.
- **Visiting Professor**, Harvard School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, May 2007-September 2007.

- **Assistant Professor**, Department of Mechanical Engineering, Wichita State University, Wichita, KS, August 2006-July 2012.
- **Research Faculty/Postdoctoral Research Associate**, Department of Electrical Engineering, Yale University, New Haven, CT, January 2006-August 2006.
- **Postdoctoral Research Associate**, Institute of Materials Science (IMS), the University of Connecticut (UCONN), Storrs, CT, April 2005-January 2006.
- **Postdoctoral Research Associate**, Fiber and Electro-Optics Research Center, Virginia Tech, Blacksburg, VA, March 2001-April 2005 (jointly worked as **Research Scientist** with technology company, NanoSonic, Inc., Blacksburg, VA).

PUBLICATIONS

Journal Articles Published

1. **Asmatulu, R.**, Erukala, K.S., I.M., Shinde, M., Gorji, M.R., and Alarifi, I.M. “Investigating the Effects of Surface Treatments on Adhesion Properties of Protective Coatings on Carbon Fiber-Reinforced Composite Laminates,” *Surface and Coatings Technology*, 2019 (in press).
2. Uddin, M.N., Dhanasekaran, P.S., and **Asmatulu, R.** “Mechanical Properties of Highly Porous PEEK Bio-nanocomposites Incorporated with Carbon and Hydroxyapatite Nanoparticles for Scaffold Applications,” *Progress in Biomaterials*, 2019 (in press).
3. Uddin, M.N., George, J.M., Patlolla, V.R., and **Asmatulu, R.** “Investigating the Effects of UV Light and Moisture Ingression on Low-Impact Resistance of Three Different Carbon Fiber-Reinforced Composites,” *Advanced Composites and Hybrid Materials*, 2019 (in press).
4. Alamir, M.A., Alarifi, I.M., Khan, W.A., Khan, W.S., and **Asmatulu, R.** “Electrospun Nanofibers: Preparation, Characterization and Atmospheric Fog Capturing Capabilities,” *Fibers and Polymers*, 2019 (in press).
5. Swarna, V.S., Alarifi, I.M., Khan, W.A., and **Asmatulu, R.** “Enhancing Fire and Mechanical Strengths of Epoxy Nanocomposites for Metal/Metal Bonding of Aircraft Aluminum Alloys,” *Polymer Composites*, Vol. 40, pp. 3691-3702, 2019.
6. Chinni, G., Alarifi, I.M., Gorji, M.R., and **Asmatulu, R.** “Investigating the Effects of Process Parameters on Microalgae Growth, Lipid Extraction, and Stable Nanoemulsion Productions,” *Journal of Molecular Liquids*, Vol. 291, pp. 308-315, 2019.

7. Kasaragadda, S. Alarifi, I.M., Gorji, M., and **Asmatulu, R.** “Investigating the Effects of Surface Superhydrophobicity on Moisture Ingression of Nanofiber-Reinforced Bio-Composite Structures,” *Microsystem Technologies*, Vol. 25, pp. 1-13, 2019.
8. Uddin, M.N., Gandy, H.T.N., Rahman, M.M., and **Asmatulu, R.** “Adhesiveless Honeycomb Sandwich Structures of Pre-Preg Carbon Fiber Composites for Primary Structural Applications,” *Advanced Composites and Hybrid Materials*, Vol. 2, pp. 339-350, 2019.
9. Alarifi, I.M., Movva, V., Gorji, M.R., and **Asmatulu, R.** “Performance Analysis of Impact-Damaged Laminate Composite Structures for Quality Assurance,” *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, Vol. 41, pp. 345-361, 2019.
10. Saeednia, L., Yao, L., Cluff, K., and **Asmatulu, R.** “Sustained Releasing of Methotrexate from Injectable and Thermosensitive Chitosan-Carbon Nanotube Hybrid Hydrogels Effectively Controls Tumor Cell Growth,” *ACS Omega*, Vol. 4, pp. 4040-4048, 2019.
11. **Asmatulu, R.**, Veisi, Z., Uddin, M.N., and Mahapatro, A. “Highly Sensitive and Reliable Electrospun Polyaniline Nanofiber Based Biosensor as a Robust Platform for COX-2 Enzyme Detections,” *Fibers and Polymers*, Vol. 20, pp. 966-974, 2019.
12. Uddin, M.N., Le, L.N., Nair, R., and **Asmatulu, R.** “Effects of Graphene Oxide Thin Films and Nanocomposite Coatings on Flame Retardancy and Thermal Stability of Aircraft Composites” *Journal of Engineering Materials and Technology*, Vol. 141, pp. 1-7, 2019.
13. Srikanth, M., **Asmatulu, R.**, Cluff, K., and Yao, L. “Material Characterization and Bioanalysis of Hybrid Scaffolds of Carbon Nanomaterials and Polymer Nanofibers,” *ACS Omega*, Vol. 4, 5044-5051, 2019.
14. Van, T. T., Abedin, F., Usta, A., and **Asmatulu, R.** “Polyurethane Nanocomposite Coating with Silanized Graphene and Hexagonal Boron Nitride as Nanoadditives for Improved Resistance against UV Degradation,” *Journal of Composite Materials*, Vol. 53, 2018, <https://doi.org/10.1177/0021998318799402>.
15. Alarifi, I. M., Khan, W.S., and **Asmatulu, R.** “Synthesis of Electrospun Polyacrylonitrile-Derived Carbon Fibers and Comparison of Properties with Bulk Form,” *Plos One*, 2018, Vol. 13(8), pp. e0201345, <https://doi.org/10.1371/journal.pone.0201345>.
16. Alarifi, I. M., Alharbi, A.R., Khan, W.S., Usta, A., and **Asmatulu, R.** “Water Treatment Using Electrospun PVC/PVP Nanofibers as Filter Medium,” *International Journal of Material Science and Research*, Vol. 1(2), pp. 43-49, 2018.
17. Kumar, S .S. A., Uddin, M. N., Rahman, M. M., and **Asmatulu, R.** “Introducing Graphene Thin Films into Carbon Fiber Composite Structures for Lightning Strike Protection,” *Polymer Composites*, 2018, <https://doi.org/10.1002/pc.24850>.

18. Kurt, H. I., Oduncuoglu, Yilmaz, N. F., M., Ergul, E., **Asmatulu, R.** “A Comparative Study on the Effect of Welding Parameters of Austenitic Stainless Steels Using Artificial Neural Network and Taguchi Approaches with ANOVA Analysis,” *Metals*, Vol. 8, 13 pages, 2018.
19. Rahman, A.K.M.S., Mathur, V. and **Asmatulu, R.** “Effect of Nanoclay and Graphene Inclusions on the Low-Velocity Impact Resistance of Kevlar-Epoxy Laminated Composites,” *Composite Structures*, Vol. 187, pp. 481-488, 2018.
20. Moniruddin, M., Ilyassov, B., Zhao, X., Smith, E., Serikov, T., Ibrayev, N., **Asmatulu, R.**, and Nuraje, N. “Recent Progress on Perovskite Nanomaterials in Photovoltaic and Water Splitting Applications,” *Materials Today Energy*, Vol. 7, pp. 246-259, 2018.
21. Mohammad, S., Uddin, M. N., Hwang, G., and **Asmatulu, R.** “Superhydrophobic PAN Nanofibers for Gas Diffusion Layers of Proton Exchange Membrane Fuel Cells for Cathodic Water Management,” *International Journal of Hydrogen Energy*, 2017, <https://doi.org/10.1016/j.ijhydene.2017.07.229>.
22. **Asmatulu, R.**, Khan, A., Adigoppula, V. K., and Hwang, G., “Enhanced Transport Properties of Graphene-Based, Thin Nafion[®] Membrane for Polymer Electrolyte Membrane Fuel Cells,” *International Journal of Energy Research*, Vol. 42, pp. 508-519, 2017.
23. Ye, Z., Chen, Z., **Asmatulu, R.**, and Chan, O. “Robust Control of Dielectric Elastomer Diaphragm Actuator for Human Pulse Signal Tracking,” *Smart Materials and Structures*, Vol. 26, 12 pages, 2017.
24. Seraz, M. S., Uddin, M. N., Yang, S. Y., and **Asmatulu, R.** “Investigating Electrochemical Behavior of Antibacterial Polyelectrolyte-Coated Magnesium Alloys for Biomedical Applications,” *Journal of Environmental Science and Engineering Technology*, Vol. 5, pp. 23-33, 2017.
25. Zhang, B., Soltani, S. A., Le, L.N., and **Asmatulu, R.** “Fabrication and Assessment of a Thin Flexible Surface Coating Made of Pristine Graphene for Lightning Strike Protection,” *Materials Science and Engineering: B*, Vol. 216, pp. 31-40, 2017.
26. Ceylan, M., Yang, S. Y., and **Asmatulu, R.** “Effects of Gentamicin-Loaded PCL Nanofibers on Growth of Gram Positive and Gram Negative Bacteria,” *International Journal of Applied Microbiology and Biotechnology Research*, Vol. 5, pp. 40-51, 2017.
27. Saeednia, L., Yao, L., Berrendt, M., Cluff, K., and **Asmatulu, R.** “Structural and Biological Properties of Thermosensitive Chitosan-Graphene Hybrid Hydrogels for Sustained Drug Delivery Applications,” *Journal of Biomedical Materials Research: Part A*, Vol. 105, pp. 2381-2390, 2017.

28. Ghazinezami, A., Khan, W. S., Jabbaria, A., and **Asmatulu, R.** "Impacts of Nanoscale Inclusions on Fire Retardancy, Thermal Stability, and Mechanical Properties of Polymeric PVC Nanocomposites," *Journal of Thermal Engineering*, Vol. 3, pp. 1308-1318, 2017.
29. Kececi, E., and **Asmatulu, R.** "Effects of Moisture Ingressions on Mechanical Properties of Sandwich Structured Fiber Composites for Aerospace Applications," *International Journal of Advanced Manufacturing Technology*, Vol. 88, pp. 459-470, 2017.
30. Khan, W. S., Ceylan, M., Jabbaria, A., Saeednia, L., and **Asmatulu, R.** "Structural Investigations of Electrospun PAN Nanofibers Incorporated with Various Nanoscale Inclusions," *Journal of Thermal Engineering*, Vol. 3, pp. 1375-1390, 2017.
31. Alharbi, A., Alarifi, I. M., Khan, W.S., Swindle, A., and **Asmatulu, R.** "Synthesis and Characterization of Electrospun Polyacrylonitrile/Graphene Nanofibers Embedded with SrTiO₃/NiO Nanoparticles for Water Splitting," *Journal of Nanoscience and Nanotechnology*, Vol. 17, pp. 1-9, 2017.
32. Usta, A., and **Asmatulu, R.** "Synthesis and Characterization of Electrically Sensitive Hydrogels Incorporated with Cancer Drugs," *Journal of Pharmaceutics & Drug Delivery Research*, 2016, <http://dx.doi.org/10.4172/2325-9604.1000146>.
33. Jabbaria, A., Khan, W. S., Ghazinezami, A., and **Asmatulu, R.** "Investigating the Thermal, Mechanical and Electrochemical Properties of PVdF/PVP Nanofibrous Membranes for Supercapacitor Applications," *Journal of Applied Polymer Science*, 2016, DOI: 10.1002/app.43707.
34. Moulod, M., Jalali, A., and **Asmatulu, R.** "Biogas Derived from Municipal Solid Waste to Generate Electric Power through Solid Oxide Fuel Cells," *International Journal of Energy Research*, Vol. 40, pp. 2091-2104, 2016.
35. Jiang, J., Ceylan, M., Jai, T., Yao, L., **Asmatulu, R.**, and Yang, S.Y. "Poly-ε-Caprolactone Electrospun Nanofiber Mesh as a Gene Delivery Tool," *AIMS Bioengineering*, Vol. 3, pp. 528-537, 2016.
36. Kurt, H. I., Oduncuoglu, M., and **Asmatulu, R.** "Wear Behavior of Aluminum Matrix Hybrid Composites Fabricated through Friction Stir Welding Process," *Journal of Iron and Steel Research International*, Vol. 23, pp. 1119-1126, 2016.
37. Mallonee, E., Barkley, J., and **Asmatulu, R.** "Training Renewable Energy Systems to Midwestern College Students for Engineering Education and Improved Retention Rates," *Transactions on Techniques in STEM Education*, Vol. 2, pp. 4-10, 2016.
38. Alarifi, I. M., Khan, W. S., Rahman, A. K. M., Kostogorova-Beller, Y., and **Asmatulu, R.** "Synthesis, Analysis and Simulation of Carbonized Electrospun Nanofibers Infused Carbon

- Prepreg Composites for Improved Mechanical and Thermal Properties,” *Fibers and Polymers*, Vol. 17, pp. 1449-1455, 2016.
39. **Asmatulu, R.**, Shinde, M. A., Alharbi, A., and Alarifi, I. M. “Integrating Graphene and C₆₀ into TiO₂ Nanofibers via Electrospinning Process for the Enhanced Energy Conversion Efficiencies,” *Macromolecular Symposia*, Vol. 365, pp. 128-139, 2016.
 40. Kurt, H. I., Dere, M., **Asmatulu, R.**, Guzelbey, I., and Salman, S. “Investigating the Relationships between Structures and Properties of Al Alloys Incorporated with Ti and Mg Inclusions,” *Journal of Engineering Materials and Technology*, Vol. 138, 6 pages, 2016.
 41. Mahat, K. B., Alarifi, I. M., Alharbi, A., and **Asmatulu, R.** “Effects of UV Light on Mechanical Properties of Carbon Fiber Reinforced PPS Thermoplastic Composites,” *Macromolecular Symposia*, Vol. 365, pp. 157-168, 2016.
 42. Alarifi, I. M., Alharbi, A., Khan, W. S., Rahman, A. K. M. S., and **Asmatulu, R.** “Mechanical and Thermal Properties of Carbonized PAN Nanofibers Cohesively Attached to Surface of Carbon Fiber Reinforced Composites,” *Macromolecular Symposia*, Vol. 365, pp. 140-150, 2016.
 43. Chinni, G., Belachew, I., and **Asmatulu, R.** “Hands-On Training the Engineering Students on Biodiesel Production Using Waste Vegetable Oils,” *Transactions on Techniques in STEM Education*, Vol. 1, pp. 37-45, 2016.
 44. Alharbi, A., Alarifi, I. M., Khan, W. S., and **Asmatulu, R.** “Synthesis and Analysis of Electrospun SrTiO₃ Nanofibers with NiO_x Nanoparticles Shells as Photocatalysts for Water Splitting,” *Macromolecular Symposia*, Vol. 365, pp. 246-257, 2016.
 45. Alharbi, A., Alarifi, I. M., Khan, W. S., and **Asmatulu, R.** “Highly Hydrophilic Electrospun Polyacrylonitrile/Polyvinylpyrrolidone Nanofibers Incorporated with Gentamicin as Filter Medium for Dam Water and Wastewater Treatment,” *Journal of Membrane and Separation Technology*, Vol. 5, pp. 38-56, 2016.
 46. **Asmatulu, R.**, Diouf, D., Moniruddin, M., and Nuraje, N. “Enhanced Antiweathering Nanocomposite Coatings with Silanized Graphene Nanomaterials,” *International Journal of Engineering Research and Applications*, Vol. 6, pp. 79-91, 2016.
 47. Jabbarnia, A., Khan, W. S., Ghazinezami, A., and **Asmatulu, R.** “Tuning the Ionic and Dielectric Properties of Electrospun PVdF/PVP Nanofibers with Carbon Black Nanoparticles for Supercapacitor Applications,” *International Journal of Engineering Research and Applications*, Vol. 6, pp. 65-73, 2016.
 48. Alarifi, I., Alharbi, A., Khan, W. S., and **Asmatulu, R.** “Carbonized Electrospun PAN Nanofibers as Highly Sensitive Sensors in SHM of Composite Structures,” *Journal of Applied Polymer Sciences*, 2015, DOI: 10.1002/app.43235.

49. Zhang, B., **Asmatulu, R.**, Le, L. N., Kumar, S. S. A., and Soltani, S. A. "Mechanical and Thermal Properties of Hierarchical Composites Enhanced by Pristine Graphene and Graphene Oxide Nano-inclusions," *Journal of Applied Polymer Science*, 2014, DOI: 10.1002/app.40826.
50. Hughes, S. M., Pham, A., Nguyen, K. H., and **Asmatulu, R.** "Training Undergraduate Engineering Students on Biodegradable PCL Nanofibers through Electrospinning Process," *Transactions on Techniques in STEM Education*, 2016, Vol. 1, pp. 19-25, 2016.
51. Alarifi, I., Alharbi, A., Alsaiari, O., and **Asmatulu, R.** "Training the Engineering Students on Nanofiber-Based SHM Systems," *Transactions on Techniques in STEM Education*, Vol. 1, pp. 59-67, 2016.
52. Jabbarnia, A., and **Asmatulu, R.** "Synthesis and Characterization of PVdF/PVP-Based Electrospun Membranes as Separators for Supercapacitor Applications," *Journal of Material Science and Technology Research*, Vol. 2, pp. 43-51, 2015.
53. **Asmatulu, R.**, Khan, W.S., and Ghaddar, M.H. "Changes in Surface Energy Densities of Carbon and Glass Fiber Reinforced Composites under UV Degradations," *Journal of Research in Applied Sciences*, Vol. 2, pp. 119-130, 2015.
54. Alarifi, I., Alharbi, A., Khan, W.S., Swindle, A. and **Asmatulu, R.** "Thermal, Electrical and Surface Properties of Electrospun Polyacrylonitrile Nanofibers for Structural Health Monitoring," *Materials*, Vol. 8, pp. 7017-7031, 2015.
55. **Asmatulu, R.**, Khan, W.S., Reddy, R.J., and Ceylan, M., "Synthesis and Analysis of Injection-Molded Nanocomposites of Recycled High-Density Polyethylene Incorporated with Graphene Nanoflakes," *Polymer Composites*, Vol. 36, pp. 1565-1573, 2015.
56. Misak, H.E., **Asmatulu, R.**, and Mall, S. "Tensile Behavior of Carbon Nanotube Multi-yarn Coated with Polyester," *Journal of Composite Materials*, Vol. 49, pp. 1787-1793, 2015.
57. Abedin, F., Anwar, R., **Asmatulu, R.**, and Yang, S.Y. "Albumin-Based Micro-Composite Drug Carriers with Dual Chemo-Agents for Targeted Breast Cancer Treatment," *Journal of Biomaterials Applications*, Vol. 30, pp. 38-49, 2015.
58. Yang, T., Ge, J., **Asmatulu, R.**, Yu, H., Wooley, P.H., and Yang, S-Y. "Magnetically Inducible Nanocomposite Scaffolds for Improved Bone Regenerations," *Advanced Science, Engineering and Medicine*, Vol. 7, pp. 790-796, 2015.
59. **Asmatulu, R.**, Patrick, S., Ceylan, M., Ahmed, I., Yang, S.Y., and Nuraje, N. "Antibacterial Polycaprolactone/Natural Hydroxyapatite Nanocomposite Fibers for Bone Scaffoldings," *Journal of Bionanoscience*, Vol. 9, pp. 1-7, 2015.

60. Lie, Y., **Asmatulu, R.**, and Nuraje, N. "Photo-Active Metal Oxide Nanomaterials for Water Splitting," *ScienceJet*, Vol. 4, pp. 169-173, 2015.
61. Khan, W.S., Garikapati, A., Misak, H.E., Yang, S.Y. and **Asmatulu, R.** "Cytotoxicity Studies on Sol-Gel Driven Magnetic Nanocomposite Spheres for Biomedical Applications," *International Journal of Biotechnology and Bioengineering Research*, Vol. 6, pp. 1-11, 2015.
62. Misak, H., **Asmatulu, R.**, Whitman, J., and Mall, S. "High Temperature Cross-linking of Carbon Nanotube Yarns Using Polyvinylpyrrolidone as a Binding Agent," *Journal of Nanoscience and Nanotechnology*, Vol. 15, pp. 2283-2288, 2015.
63. **Asmatulu, R.** "Enhancing Properties and Value of Recycled Plastics," *SPE Plastics Research Online*, Vol. 10.2417, 2 pages, 2014.
64. Srikanth, M., and **Asmatulu, R.** "Recent Cheating Techniques, Their Adverse Effects on Engineering Education and Preventions," *International Journal of Mechanical Engineering Education*, Vol. 42, pp. 129-140, 2014.
65. Khan, W.S., **Asmatulu, R.**, Rodriguez, V., and Ceylan, M. "Enhancing Thermal and Ionic Conductivities of Electrospun PAN and PMMA Nanofibers by Graphene Nanoflake Additions for Battery-separator Applications," *International Journal of Energy Research*, Vol. 38, pp. 2044-2051, 2014.
66. Khan, W.S., **Asmatulu, R.**, Davuluri, S., and Dandin, V.K. "Enhancing the Physical Properties of Recycled Polystyrenes Incorporated with Nanoscale Inclusions via Electrospinning Process," *Journal of Materials Science & Technology*, Vol. 30, pp. 854-859, 2014.
67. Kececi, E., and **Asmatulu, R.** "Effects of Moisture Ingression on Mechanical Properties of Polymeric Laminate Composite Structures and Its Prevention by Hydrophobic Barrier Films," *International Journal of Advanced Manufacturing Technology*, Vol. 73, pp. 1657-1664, 2014.
68. Misak, H.E., **Asmatulu, R.**, O'Malley, M., Jurak, E., and Mall, S. "Functionalization of Carbon Nanotube Yarns by Acid Treatments," *International Journal of Smart and Nano Materials*, Vol. 5, pp. 34-43, 2014.
69. Asaduzzaman, A., **Asmatulu, R.**, and Rahman, M. "Teaching Parallel Programming for Time-Efficient Computer Applications," *International Journal of Computer Applications*, Vol. 90, pp. 18-25, 2014.

70. Li, Y., Ceylan, M., Sherstha, B., Wang, H., Lu, Q.R., **Asmatulu, R.**, and Yao, L. "Nanofibers Support Oligodendrocyte Precursor Cell Growth and Function as a Neuron-Free Model for Myelination Study," *Biomacromolecules*, Vol. 15, pp. 319-326, 2014.
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PRESENTATIONS AND ABSTRACTS

1. Brauning, K.A., Kunza, A., Rahman, M.M. and **Asmatulu, R.** “Edge Treatments of Machine Damaged Fiber Reinforced Composites,” 2019 TechConnect World Innovation Conference and Exposition, National Harbor, MD, October 8-10, 2019 (abstract published).
2. Gong, X., Jiang, J., Ceylan, M., Dart, B., **Asmatulu, R.** and Yang, S.Y. “IL-21 Vector-tethering Nanofibers for Cancer Treatment Including Osteosarcoma,” Society for Biomaterials, 2019 Annual Meeting and Exposition, Seattle, WA, April 3-6, 2019 (extended abstract published).
3. **Asmatulu, R.** “Progress in Physical Properties of CNT Wires and Fiber Reinforced Composites,” Tokyo Institute of Technology, Tokyo, Japan, July 23, 2019.
4. Kunza, A., and **Asmatulu, R.** “Nano-Engineered Composites with Enhanced Mechanical Properties,” 15th Graduate Research and Scholarly Projects (GRASP) Symposium, Wichita State University, Wichita, KS, April 26, 2019 (extended abstract published).
5. Miller, L., Khan, Z., Rahman, M.M. and **Asmatulu, R.** “Employing 3D Printing for Low Cost Permanent Dental Repairs,” 2019 Industrial Engineering and Management Systems (IEMS) Conference, Clearwater Beach, FL, March 17-19, 2019 (extended abstract published).
6. **Asmatulu, R.** “Physical Properties of Fiber Reinforced Composites Incorporated with Graphene Nanoflakes,” Wichita State University, Wichita, KS, October 5, 2018.
7. **Asmatulu, R.** “Engineering Education for Future Generation,” Humane Water Educational Seminar, Wichita, KS, April 28, 2018.
8. Jurak, E., Jurak, S., and **Asmatulu, R.** “Method of Cleaning Water through Addressing Nitrogen Contributions to Water Sources,” 14th GRASP Symposium, Wichita State University, Wichita, KS, April 27, 2018 (extended abstract published).
9. Jurak, S., Jurak, E., and **Asmatulu, R.** “Designing and Evaluating of Superhydrophobic Coating Systems for Corrosion Mitigation of Aluminum Alloys,” 14th GRASP Symposium, Wichita State University, Wichita, KS, April 27, 2018 (extended abstract published).
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14. Jurak, E., Jurak, S., and **Asmatulu, R.** “Proposed Method for Clean Water by Addressing Nitrogen Contribution to Surface Water Contaminations,” 15th Annual Capitol Graduate Research Summit, Topeka, KS, February 2016, 2018.
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16. Uddin, M.N., and **Asmatulu, R.** “Graphene-Oxide Thin Film: The Next Generation Membrane for Water Purification,” International Humane Water Conference, Wichita, KS, October 28, 2017.
17. **Asmatulu, R.** “Recent Progress in Various Properties of CNT Wires and Fiber Reinforced Composites,” Department of Mechanical and Aerospace Engineering, North Carolina State University, Raleigh, NC, October 28, 2016.
18. Patlolla, V.R., and **Asmatulu, R.** “Reinforcing the Interlaminar Tensile Strengths of Curved Laminate Composites,” Wichita SAMPE Chapter Meeting, Wichita, KS, October 25, 2016.
19. Usta, A., and **Asmatulu, R.** “Magnetic Nanocomposite Drug Delivery Systems,” Healthcare Innovation Summit, Wichita, KS, June 1, 2016.
20. Usta, A., and **Asmatulu, R.** “Synthesis and Analysis of Electrically Sensitive Hydrogels for Advanced Drug Delivery Systems,” 12th GRASP Symposium, Wichita State University, Wichita, KS, April 29, 2016 (extended abstract published).
21. Alharbi, A., Alarifi, I., and **Asmatulu, R.** “Highly Hydrophilic Electrospun Polyacrylonitrile/Polyvinylpyrrolidone Nanofibers Incorporated with Gentamicin as Filter Mediums for Drinking and Wastewater Treatment,” 12th GRASP Symposium, Wichita State University, Wichita, KS, April 29, 2016 (extended abstract published).

22. Alarifi, I., Alharbi, A., and **Asmatulu, R.** “Fabrication and Characterization of Carbonized Polyacrylonitrile Nanofibers for Composite Aircraft and Wind Turbine Manufacturing,” 12th GRASP Symposium, Wichita State University, Wichita, KS, April 29, 2016 (extended abstract published).
23. Tran, T.V., Usta, A., and **Asmatulu, R.** “Multifunctional Protective Nanocoatings of Modified Graphene and Boron Nitride on Plastic Surfaces,” 12th GRASP Symposium, Wichita State University, Wichita, KS, April 29, 2016 (extended abstract published).
24. **Asmatulu, R.** “Nanotechnology for the Future Engineers,” Department of Mechanical Engineering, Kansas State Polytechnic, Kansas State University, Salina, KS, April 22, 2016.
25. **Asmatulu, R.** “Recent Developments in Physical Properties of CNT Wires and Fiber-reinforced Composites,” Department of Mechanical and Aerospace Engineering, West Virginia University, Morgentown, WV, April 19, 2016.
26. **Asmatulu, R.** “Advancements in Manufacturing of Fiber Reinforced Composites for Aircraft and Wind Turbine Industries,” Wichita SAMPE Chapter Meeting, Wichita, KS, December 1, 2015.
27. Amarasekara, A., and **Asmatulu, R.** “Converting Naturally Grown Algae Biomass into Activated Carbon via Briquetting and Carbonization Processes,” 2015 ASME International Mechanical Engineering Congress and Exposition, Houston, TX, November 13-19, 2015.
28. Shinde, M.A., and **Asmatulu, R.** “Integrating C₆₀ Nanoparticles into TiO₂ Nanofibers via Electrospinning Process for Enhanced Energy Conversion Efficiencies,” 2015 ASME International Mechanical Engineering Congress and Exposition, Houston, TX, November 13-19, 2015.
29. Alharbi, A., Alarifi, I.M., Khan, W.S., and **Asmatulu, R.** “Synthesis and Analysis of Electrospun SrTiO₃ Nanofibers with NiOx Nanoparticle Shells as Photocatalysts for Water Splitting,” 23rd World Forum on Advanced Materials (PolyChar 23), Lincoln, NE, May 11-15, 2015.
30. Shinde, M.A., Alharbi, A., Alarifi, I.M., and **Asmatulu, R.** “Integrating C₆₀ Nanoparticles into TiO₂ Nanofibers via Electrospinning Process for Enhanced Energy Conversion Efficiencies,” 23rd World Forum on Advanced Materials (PolyChar 23), Lincoln, NE, May 11-15, 2015.
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34. Usta, A., Nair, R., and **Asmatulu, R.** “Surface Functionalization of ZnO Nanoparticles for the Cytotoxicity of Cancer Cells,” 23rd Annual Research Forum, Wichita, KS, April 29, 2015.
35. Srikanth, M., Li, Y., and **Asmatulu, R.** “Role of Electrospun Artificial Scaffolds to Induce Nerve Tissue Growth,” 23rd Annual Research Forum, Wichita, KS, April 29, 2015.
36. Saeednia, L., Li, Y., and **Asmatulu, R.** “Injectable Chitosan-Based Hydrogel for Breast Cancer Treatment,” 23rd Annual Research Forum, Wichita, KS, April 29, 2015.
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38. **Asmatulu, R.** “CNT Wires, Properties and Future Industrial Applications,” Wichita ASME Chapter Meeting, Wichita, KS, March 24, 2015.
39. **Asmatulu, R.** “Recent Progress on Magnetic Targeted Drug Delivery Systems,” invited talk by Department of Chemistry, Wichita State University, Wichita, KS, March 11, 2015.
40. **Asmatulu, R.** “Nanotechnology and Nanomaterials,” invited talk by Osmaniye Korkutata University, Osmaniye, Turkey, December 23, 2014.
41. **Asmatulu, R.** “Recent Progress on Mechanical Properties of CNT Wires and Fiber-reinforced Composites,” invited talk by Department of Mechanical and Nuclear Engineering, Kansas State University, Manhattan, KS, October 21, 2014.
42. Saeednia, L., Mehraein, H., Abedin, F., Cluff, K., and **Asmatulu, R.** “Simulation and Experimental Analysis of Drug Release Rates from Magnetic Nanocomposite Spheres,” COMSOL Conference, Boston, MA, October 8-10, 2014.
43. Saeednia, L., Mehraein, H., **Asmatulu, R.** and Cluff, K. “Modeling of Hydrogel-Based Controlled Drug Delivery System for Breast Cancer Treatment,” COMSOL Conference, Boston, MA, October 8-10, 2014.

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45. Coskun, T., and **Asmatulu, R.** “Effects of Infrared Lights on Reduction of Graphene Oxide Nanoflakes for High Storage Supercapacitor Fabrications,” 10th GRASP Symposium, Wichita State University, Wichita, KS, April 25, 2014 (extended abstract published).
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47. Ye, Z., Faisal, M.S.S., Chen, Z. and **Asmatulu, R.** “Artificial Muscles of Dielectric Elastomers Attached to Artificial Tendons of Functionalized Carbon Fibers,” 10th GRASP Symposium, Wichita State University, Wichita, KS, April 25, 2014 (extended abstract published).
48. Jiang, J., Ceylan, M., Wooley, P.H., **Asmatulu, R.**, and Yang, S.Y. “Poly- ϵ -caprolactone (PCL) Electrospun Nanofiber as a Gene Delivery Tool,” 60th Annual Meeting of the Orthopedic Research Society, New Orleans, LA, March 15-18, 2014 (extended abstract published).
49. Srikanth, M., Misak, H., and **Asmatulu, R.** “Evaluating Nanosafety of Nanomaterials by In-vitro Cytotoxicity Tests on Fibroblast Cells,” 11th Annual Capitol Graduate Research Summit, Topeka, KS, February 13, 2014.
50. Husain, M., **Asmatulu, R.**, Asaduzzaman, A., Usta, A., and Faisal, M.S.S. “Invention of Nanotechnology Based Arsenic Treatment and Pathogen Removal System,” Seminar for Worldwide Danger of Arsenic Poisoning in Water and Sustainable Solutions, Wichita, KS, December 7, 2013.
51. Djam, K.H., Dirks, J., Khan, S.I., and **Asmatulu, R.** “Fabrication of Larger Diameter TiO₂ Nanotubes during the Electrochemical Anodization,” 2013 ASME International Mechanical Engineering Congress and Exposition, San Diego, CA, November 15-21, 2013.
52. Jabbaria, A., Coskun, T., Ghazinezami, A., and **Asmatulu, R.** “Physical Properties of Electrospun Nanofiber Separators for Graphene-Based Supercapacitors,” 2013 ASME International Mechanical Engineering Congress and Exposition, San Diego, CA, November 15-21, 2013.
53. Husain, M., **Asmatulu, R.**, Asaduzzaman, A., Asmatulu, E., Morrison, E., Bridge, T., Begum, L., Agrama, H., and Uddin, J. “Magnetite Nanoparticles-Based Water Treatment System for Arsenic Removal,” Governor’s Conference on the Future of Water in Kansas, Manhattan, KS, October 24-25, 2013.

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55. **Asmatulu, R.** “Electrospun Nanocomposite Nanofibers for Renewable Energy Systems,” NSF EPSCoR Kansas Center for Solar Energy Research’s Annual Program Meeting, Lawrence, KS, October 7-8, 2013.
56. Srikanth, M., Misak, H., Yang, S.Y., and **Asmatulu, R.** “Evaluating Nanosafety by In-Vitro Cytotoxicity Tests on Fibroblast Cells,” 9th GRASP Symposium, Wichita State University, Wichita, KS, May 8, 2013 (extended abstract published) (**Third Place Poster Presentation Winner**).
57. Shrestha, B., Ceylan, M., Moon, A., Yao, Li., and **Asmatulu, R.** “Characterization of Oligodendrocyte Progenitor Cell Differentiation on Co-Electrospun Nanofibers of PCL with Gelatin,” 9th GRASP Symposium, Wichita State University, Wichita, KS, May 8, 2013 (extended abstract published) (**First Place Poster Presentation Winner**).
58. Ghazinezami, A., Jabbarnia, A., and **Asmatulu, R.** “Fire Retardancy of Nanocomposites Incorporated with Graphene and Nanoclay Inclusions,” 9th GRASP Symposium, Wichita State University, Wichita, KS, May 8, 2013 (extended abstract published).
59. Ceylan, M., Jiang, J., Yang, S.Y., and **Asmatulu, R.** “Gene Delivery with PCL Nanofiber in Vitro,” 9th GRASP Symposium, Wichita State University, Wichita, KS, May 8, 2013 (extended abstract published).
60. Nageshkar, V.V., Jurak, E., Srikanth, M., and **Asmatulu, R.** “Splitting the Water Molecules via Conductive Nanoparticles,” 9th GRASP Symposium, Wichita State University, Wichita, KS, May 8, 2013 (extended abstract published).
61. Saeednia, L., Usta, A., and **Asmatulu, R.** “Injectable Thermosensitive Hydrogels as Drug Delivery Systems,” 9th GRASP Symposium, Wichita State University, Wichita, KS, May 8, 2013 (extended abstract published).
62. Djam, K.H., Dirks, J., Khan, I.S., and **Asmatulu, R.** “Optimizing the Growth Parameters of Highly Ordered TiO₂ Nanotubes during the Electrochemical Anodization,” 9th GRASP Symposium, Wichita State University, Wichita, KS, May 8, 2013 (extended abstract published).
63. Shrestha, B., Ceylan, M., Moon, A., Wang, H., Lu, Q., **Asmatulu, R.**, and Li, Y. “Characterization of Oligodendrocyte Progenitor Cell Differentiation on Co-Electrospun PCL Nanofibers with Gelatin,” Kansas-IDeA Network of Biomedical Research Excellence (K-INBRE) 2013 Symposium, Mantattan, KS, January 18, 2013 (**First Place Presentation Award**).

64. Zhang, B., Kumar, S.S.A., Patlolla, V.R., and **Asmatulu, R.** “The Electromagnetic Shielding Effects of Graphene Films,” 2012 ASME International Mechanical Engineering Congress and Exposition, Houston, TX, November 9-15, 2012.
65. Shinde, M., Mathur, V., and **Asmatulu, R.** “Efficiencies of Electrospun Nanofiber-Based DSSC Incorporated with Conductive Nanoscale Inclusions,” SAMPE Technical Conference, Student Poster Competition, Charleston, NC, October 22-25, 2012.
66. Patlolla, V.R., and **Asmatulu, R.** “Recent Progress in Self-Healing Process of Composite Wind Turbine Blades,” SAMPE Technical Conference, Student Poster Competition, Charleston, NC, October 22-25, 2012 (**Second Place Poster Presentation Winner**).
67. Patlolla, V.R., and **Asmatulu, R.** “Integrating the Self-healing Technology into Fiber Reinforced Aircraft Composites,” Wichita SAMPE Chapter Meeting, Wichita, KS, October 16, 2012.
68. Patlolla, V.R., and **Asmatulu, R.** “New Progress in Self-Healing Technology of Composite Wind Turbine Blades,” 2012 Kansas Statewide Wind Energy Forum, September 26-28, 2012, Manhattan, KS.
69. Shinde, M., Dirks, J.R., and **Asmatulu, R.** “Enhancement of DSSC Efficiencies via Nanofibers Incorporated with Nanoparticles,” 2012 Kansas Statewide Wind Energy Forum, September 26-28, 2012, Manhattan, KS.
70. **Asmatulu, R.**, Shinde, M., Djam, K.H., and Dirks, J.R. “TiO₂ Nanowires Incorporated with C₆₀ and Graphene Nanoflakes for High Solar Energy Conversion,” NSF EPSCoR Kansas Center for Solar Energy Research’s Annual Program Meeting, Wichita, KS, June 10-11, 2012.
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73. Patlolla, V.R., and **Asmatulu, R.** “New Progress in Self-healing Technology of Composite Wind Turbine Blades,” 7th GRASP Symposium, Wichita State University, Wichita, KS, April 18, 2012 (extended abstract published) (**First Place Poster Presentation Winner**).

74. Misak, H.E., and **Asmatulu, R.** “The Benefits of Magnetic/Protein Targeted Drug Delivery in Treating Skin Cancer In-Vivo,” 9th Annual Capitol Graduate Research Summit, Topeka, KS, February 16, 2012 (**First Place Poster Presentation Winner**).
75. Zhang, B., Le, L., and **Asmatulu, R.** “Nanocomposites for the Improved Strength of Composite Wind Turbine Blades,” Annual NSF EPSCoR Statewide Conference, Wichita, KS, January 12-13, 2012.
76. Ceylan, M., Asmatulu, E., and **Asmatulu, R.** “Nanotechnology to Address the Global Warming,” Annual NSF EPSCoR Statewide Conference, Wichita, KS, January 12-13, 2012.
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78. Patlolla, V.R., Chiao, D., and **Asmatulu, R.** “Galvanic Corrosion between Carbon Fibers and Copper/Aluminum Meshes in Aggressive Conditions,” ASME International Mechanical Engineering Congress and Exposition, Denver, CO, November 11-17, 2011 (extended abstract published).
79. **Asmatulu, R.** “Graphene-Based Nanocomposites for Future Structural Applications of Aircraft,” Wichita SAMPE Chapter Meeting, Wichita, KS, October 25, 2011.
80. Nuraje, N., **Asmatulu, R.**, Cohen, R., and Rubner, M. “Layer-by-Layer Assembled Polymeric Coatings for Antifog Application,” 4th International Workshop, Specialty Polymers for Environment Protection, Oil Industry, Bio-Nanotechnology and Medicine, Almaty, Kazakhstan, August 16-17, 2011.
81. **Asmatulu, R.**, Misak, H.E., and Abedin, F. “Albumin Associated Magnetic Drug Delivery Systems for Cancer Therapy,” 2011 Nanotechnology Entrepreneurship Forum, Pittsburg State University, Pittsburg, KS, April 2011 (**First Place Oral Presentation Winner**).
82. **Asmatulu, R.**, Zhang, B., and Anwar, R. “Cohesively Bonded Nanocomposite Films on the Surface of Composite Wind Blades,” 2011 Nanotechnology Entrepreneurship Forum, Pittsburg State University, Pittsburg, KS, April 2011.
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86. **Asmatulu, R.** "Nanotechnology, the Future," presentation to freshman students in the College of Engineering, Wichita State University, Wichita, KS, October 2010.
87. **Asmatulu, R.**, Anwar, R.M., and Misak, H.E. "UV Prevention of Fiber Reinforced Composites Using Nanocomposite Coatings," 2010 Nanotechnology Entrepreneurship Forum, Pittsburg State University, Pittsburg, KS, April 2010.
88. Khan, S.I., and **Asmatulu, R.** "Synthesis of Highly Ordered Titanium Dioxide Nanotubes for Solar Cell Applications," 7th Annual Capitol Graduate Research Summit, Topeka, KS, March 2010 (**First Place Poster Presentation Winner**).
89. **Asmatulu, R.**, Gopu, J. S., and Misak, H. "Characterization of Drug Carrying Nanocomposite Spheres for Targeted Drug Delivery," 6th GRASP Symposium, Wichita State University, Wichita, KS, April 2010 (extended abstract published) (**First Place Poster Presentation Winner**).
90. Khan, S.I., and **Asmatulu, R.** "Synthesis of Highly Ordered Titanium Dioxide Nanotubes: Impact of Process Parameters," 6th GRASP Symposium, Wichita State University, Wichita, KS, April 2010 (extended abstract published).
91. Zhang, B., and **Asmatulu, R.** "Using Graphene in Coating Materials to Prevent UV Degradation on Advanced Composite Materials," 6th GRASP Symposium, Wichita State University, Wichita, KS, April 2010 (extended abstract published).
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93. **Asmatulu, R.**, and Bangwei, Z. "Improving the Life Duration of Wind Generator Blades Using the Advanced Coating Materials," 2010 Wichita Regional Energy and Sustainability Conference, Wichita, KS, January 2010 (**Second Place Poster Presentation Winner**).
94. **Asmatulu, R.**, Mahmud, G.A., Abedin, F., and Anwar, M.R. "Increasing the Coating Resistance against the UV Degradation and Corrosion Using Nanocomposite Coatings," 2010 Wichita Regional Energy and Sustainability Conference Wichita, KS, January 2010 (**Second Place Poster Presentation Winner**).

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96. **Asmatulu, R.** "Electrospinning for an Advanced Nanomaterials Fabrication," Materials Sciences and Engineering, Massachusetts Institute of Technology, Cambridge, MA, June 2009 (invited talk).
97. **Asmatulu, R.** "Nanomaterials Fabrication and Characterization for Advanced Manufacturing," 2009 Nanotechnology Entrepreneurship Forum, Pittsburg State University, Pittsburg, KS, April 2009.
98. Khan, W.S., Ceylan, M. and **Asmatulu, R.** "Dielectric Properties of MWCNTs Reinforced Polyacrylonitrile (PAN) Nanofibers at Various Temperatures," 5th Annual GRASP Symposium, Wichita State University, Wichita, KS, April 2009 (extended abstract published).
99. Ho, J.C., El-tabey, M.M., Hamdeh, H.H., **Asmatulu, R.**, Wu, S.H., and Chen, Y.Y. "Mossbauer and Magnetic Studies of $(\text{Ni}_{0.6-x}\text{Co}_x)\text{Zn}_{0.4}\text{Fe}_2\text{O}_4$ Nanoparticles," American Physics Society March Meeting, March 16-20, 2009, Pittsburg, PA (abstract published).
100. **Asmatulu, R.** "Magnetic Nanocomposite Spheres for Targeted Drug Delivery," invited talk, Department of Biological Sciences, Wichita State University, Wichita, KS, September 2008.
101. **Asmatulu, R.** "Fabrication and Characterization of Electrospun Nanocomposite Fibers and Their Future Applications," Department of Mechanical Engineering, Cukurova University, Adana, Turkey, August 2008 (invited talk).
102. Fakhari, A., and **Asmatulu, R.** "Biodegradable Magnetic Nanocomposite Spheres Fabrication by O/O Emulsion/Solvent Evaporation Technique for Drug Delivery Purposes," 2008 Design of Medical Devices Conference, Twin Cities, MN, April 2008 (extended abstract published).
103. **Asmatulu, R.**, and Fakhari, A. "Neutral pH Ferrofluid Fabrication for Biomedical Applications," 2008 Design of Medical Devices Conference, Twin Cities, MN, April 2008 (extended abstract published).
104. **Asmatulu, R.**, "Properties of TiO_2 Nanotubes for Solar Cell Applications," invited talk, Department of Chemistry, Wichita State University, Wichita, KS, October 2007.
105. Rashidi, N., Soltani, S.A., and **Asmatulu, R.** "Crevice Corrosion Theory, Mechanisms and Prevention Methods," 3rd Annual GRASP Symposium, Wichita State University, Wichita, KS, April 2007 (extended abstract published).

106. **Asmatulu, R.** “2-D Colloidal Photonic Crystals Fabrication Using DNA Molecules,” invited talk, Special Engineering Seminar, Wichita State University, Wichita, KS, April 2007.
107. **Asmatulu, R.** “Fabrication and Defect Designs on DNA Linked 2-D Colloidal Photonic Crystals Using a Nd:YAG Pulsed Laser,” Special Engineering Seminar, Department of Mechanical Engineering, University of Arkansas, Fayetteville, AR, March 2007 (invited talk).
108. **Asmatulu, R.** “Nanotechnology for Future Engineers,” presentation to Wichita High School Students, Wichita Art Museum, Wichita, KS, February 2007.
109. **Asmatulu, R.** “Nanocomposite Fabrications and Characterizations for Future Applications,” Wichita SAMPE Chapter Meeting, Wichita, KS, November 2006.
110. Mao, L., **Asmatulu, R.**, Kose, A.R., and Koser, H. “A Fast and Selective Assay for Ligand-Receptor Interactions Using Ferrofluids,” 2nd International Conference on Bio-Nano-Informatics Fusion, Beijing, China, October 2006.
111. Mao, L., **Asmatulu, R.**, and Koser, H. “Ferrofluids: Science and Applications,” State of Connecticut Science Competition, West Haven, CT, May 2006.
112. **Asmatulu, R.**, Kim, S., Bright, R., Papadimitrakopoulos, F., and Marcus, H.L. “Synthesis and Controlled Defect Insertion in 2-D Photonic Crystals,” Connecticut State Conference of NAACP Branches, Hartford, CT, September 2005.
113. **Asmatulu, R.** “Synthesis and Characterization of Bio- and Nano-Structured Materials,” Department of Mechanical Engineering, Auburn University, Auburn, AL, March 2005 (invited talk).
114. **Asmatulu, R.** “Synthesis, Characterization and Targeting of Biodegradable Magnetic Nanocomposite Spheres,” Department of Chemical Engineering and Materials Science, Michigan State University, East Lansing, MI, April 2005 (invited talk).
115. **Asmatulu, R.** “Chemical Dewatering of Fine Coal Particles,” IX International Mineral Processing Symposium, Cappadocia, Turkey, September 2002 (extended abstract published).
116. Yoon, R.H., Asmatulu, R., B. Basim, Luttrell, G.H., and A. Walters, “Pilot-scale Testing of Novel Dewatering Aids,” XIV International Coal Preparation Congress and Exhibition, Johannesburg, South Africa, March 11-15, 2002.
117. Yoon, R.H., Asmatulu, R., and Luttrell, G.H. “Extending the Upper Particle Size Limit for Flotation,” XIV International Coal Preparation Congress and Exhibition, Johannesburg, South Africa, March 11-15, 2002.

118. Yoon, R.H., **Asmatulu, R.**, and Luttrell, J. “Development of Novel Fine Coal Dewatering Aids,” 18th International Coal Preparation Exhibition and Conferences, Coal Prep’ 2001, Pittsburg, PA, May 2001.
119. Yoon, R.H., **Asmatulu, R.**, Luttrell, J., and Walters, T. “Advanced Fine Coal Dewatering Technologies Developed at Virginia Tech,” International Pittsburgh Coal Conference, Pittsburgh, PA., September 2000.
120. Onal, G., Mustafaev, I., **Asmatulu, R.**, Yildirim, I., Acarkan, N., and Celik, M.S. “Desulfurization of Turkish Coals by Semicoking,” 8th Isparta Engineering Conference, Isparta, Turkey, May 1994 (extended abstract published).

CITATIONS OF WORK

To date, scholarly activities have been cited more than **2,800 times**, in peer-reviewed journal articles, conference proceedings, patents, and Ph.D. dissertations (<http://scholar.google.com/citations?user=yIEhmJwAAAAJ&hl=en>).

TEACHING EXPERIENCE

Undergraduate Courses Taught

- **ME 250 Materials Engineering** (class notes entirely updated), Department of Mechanical Engineering, Wichita State University.
- **ME 460B Hands-on Nanotechnology Experience** (developed), Department of Mechanical Engineering, Wichita State University.
- **ME 670 Introduction to Nanotechnology** (developed), Department of Mechanical Engineering, Wichita State University.
- **ME 581 Introduction to Corrosion** (developed), Department of Mechanical Engineering, Wichita State University.
- **ME 651 Biomaterials** (developed), Department of Mechanical Engineering, Wichita State University.
- **ME 665 Selection of Materials for Design and Manufacturing** (class notes entirely updated), Department of Mechanical Engineering, Wichita State University.

- **Mechanical Properties of Materials I** (class notes entirely updated), Department of Mechanical Engineering, Wichita State University.

Graduate Courses Taught

- **ME 750P Failure Analysis** (class notes entirely updated), Department of Mechanical Engineering, Wichita State University.
- **ME 751B Advanced Energy Systems** (developed), Department of Mechanical Engineering, Wichita State University.
- **ME 753 Advanced Materials for Energy Systems** (developed), Department of Mechanical Engineering, Wichita State University.
- **ME 844 Advanced Biomaterials** (developed), Department of Mechanical Engineering, Wichita State University.
- **ME 760 Fracture Mechanics** (class notes entirely updated), Department of Mechanical Engineering, Wichita State University.
- **ME 850AP Advanced Failure Analysis** (developed), Department of Mechanical Engineering, Wichita State University.
- **ME 865 Corrosion Science and Engineering** (developed), Department of Mechanical Engineering, Wichita State University.
- **ME 850N Nanomaterials Fabrication and Characterization** (developed), Department of Mechanical Engineering, Wichita State University.

Teaching Evaluations

Received high and excellent teaching evaluations from students in the College of Engineering at Wichita State University, a trend that has continuously increased based on teaching experiences:

- Undergraduate courses: High
- Graduate courses: Excellent

FORMER STUDENTS, POSTDOCS, AND PROFESSORS

Served as advisor and supervisor on various projects for the following B.S., M.S., and Ph.D. students, as well as postdocs and research associates:

Master of Science Students

1. Harika Vadla, "Recovering the Dissolved Elements of Produced Water for Future Industrial Applications," M.S. Project, Wichita State University, May 10, 2019.
2. Ganiyu Alimi, "Inspecting the Cracks and Dents of Teeth through Dye Penetrant Liquids without X-Ray Imaging," M.S. Project, Wichita State University, May 9, 2019.
3. Tyler McCune, "An Evaluation of Salt Spray Corrosion Effects on Steel Sheets with Varying Galvanic Coatings and Paint Finishes," M.S. Project, Wichita State University, May 7, 2019.
4. Aditi Shiromani, "Converting Hard Graphite Powder into Graphene Nanoflakes via Cryogenic Milling for Highly Stiff Hydrogel Productions," M.S. Project, Wichita State University, May 3, 2019.
5. Punit D. Singh, "Cryogenic Milling of Soft Graphite Powder into Graphene Nanoflakes for Improved Corrosion Resistance of Copper Plates," M.S. Project, Wichita State University, May 3, 2019.
6. Rajan Shrestha, "3D Structured Superhydrophobic Electrospun Nanofiber Mats for Environmental Remediation," M.S. Thesis, Wichita State University, April 26, 2019.
7. Sameed Cheema, "Testing and Evaluating the Mineral Concentrations of Produced Water," M.S. Project, Wichita State University, April 26, 2019.
8. Kiran Nepal, "Design and Evaluation of Portable Nanofilter Systems for Continuous Water Supplies in Water-Scare Locations," M.S. Thesis, Wichita State University, October 19, 2018.
9. Raj Kumar Bhatta, "Investigating the Electrical Behavior of Nanoplatelet Infused Holes of Carbon Fiber Reinforced Composites during Fatigue Loadings," M.S. Thesis, Wichita State University, July 20, 2018.
10. Balakrishnan Subeshan, "Highly Robust Superhydrophobic Coating of Aluminum 2024-T3 Alloy for Corrosion Prevention, Deicing and Self-Cleaning of Aircraft," M.S. Thesis, Wichita State University, February 26, 2018.
11. Fairus S. Tanzim, "Investigating the Effects of Carbon Felt and Other Carbonaceous Materials on Desalination Rates of Salt Water under Sunlight Simulation," M.S. Thesis, Wichita State University, December 15, 2017.
12. Mohammed A. Alamir, "Designing and Evaluating of Superhydrophilic Nanofiber Mats for Fog Catching in the Atmosphere," M.S. Thesis, Wichita State University, December 11, 2017.

13. Ankit Khadak, "Effects of Superhydrophobic Coatings on De-Icing of Carbon Fiber-Reinforced Composite Aircraft," M.S. Thesis, Wichita State University, December 1, 2017.
14. Tharun R. Chillakuru, "A Study on Viscoelastic Properties of Epoxy Nanocomposites via Dynamic Shear Rheological Analysis," M.S. Project, Wichita State University, November 30, 2017.
15. Vinay Patil, "Enhancing the Evaporation Rate at the Air-Water Interface with Use of Nanoparticles for Improved Desalination Process," M.S. Thesis, Wichita State University, October 26, 2017.
16. Guven Yay, "Modeling and Analysis of 30 Ply Twisted CNT Wires Subjected to External Loads," M.S. Project, Wichita State University, July 21, 2017.
17. Iheanyi Onwubiko, "Low-temperature Carbon-Based Counter Electrodes for Hole Transport Free Perovskite Solar Cells Fabricated in Ambient Conditions," M.S. Thesis, Wichita State University, April 28, 2017.
18. Tyler Alexander, "The Effects of Porosity and Micro-Scale Sodium Chloride Inclusions on the Figure of Merit of Bismuth Telluride," M.S. Thesis, Wichita State University, March 3, 2017.
19. Neda Seyedhassantehrani, "Introducing Carbonized Electrospun PAN Nanofibers as Flow Battery Electrodes," M.S. Thesis, Wichita State University, November 22, 2016.
20. Kavya S. Erukala, "Pre-Surface Treatments of Carbon Fiber Reinforced Composites for Enhancement of Adhesion between Coatings and Adherents," M.S. Thesis, Wichita State University, November 22, 2016.
21. Tanner D. Harpool, "Observing the Effects of Infill Shapes on Tensile Characteristics of 3D Printed Plastic Parts," M.S. Thesis, Wichita State University, September 23, 2016.
22. Praveen Kumar Bollavaram, "Lightning Strike Protection and Electromagnetic Interference Shielding for Composite Structures Using Metallic Submicrofilm and Nanofilm," M.S. Thesis, Wichita State University, July 29, 2016.
23. Nikhil Paranjpe, "Strength and Failure Mode Analysis of Single Lap Joints between Composites and Composite-to-metals with Different Surface Treatments," M.S. Thesis, Wichita State University, July 22, 2016.
24. Azhar Hussain Mohammed, "Tuning the Energy Band Gaps of Sol-Gel Based TiO₂ Nanocomposite Particles Incorporated with C₆₀, SWCNT and ITO Inclusions," M.S. Thesis, Wichita State University, June 2, 2016.

25. Shravani Kasaragadda, "Investigating the Effects of Surface Superhydrophobicity on Moisture Ingression of Fiber Reinforced Laminate Composites," M.S. Thesis, Wichita State University, April 29, 2016.
26. Yashwanth Reddy Bathula, "Recycling and Reusing Outdated Pre-Preg Carbon Fiber Reinforced Composites for Soccer Shin-Guard Fabrications," M.S. Project, Wichita State University, April 29, 2016.
27. Abhijit Chowdary Singamaneni, "Studying Mechanical Properties of Virgin and Recycled Chopped Fiber Reinforced Composites," M.S. Project, Wichita State University, April 29, 2016.
28. Nasrin Baratzadeh Khorasgani, "Briquetting and Characterization of Leaf and Grass Biomass for Fuel and Activated Carbon Applications," M.S. Project (jointly advised with Dr. K. Krishnan, Department of Industrial and Manufacturing Engineering), Wichita State University, April 28, 2016 (**Co-Chair**).
29. Bahareh Karimibavani, "Converting Orange and Banana Peels in Briquettes and Activated Char Coals as Sustainable Carbon and Fuel Sources," M.S. Project (jointly advised with Dr. K. Krishnan, Department of Industrial and Manufacturing Engineering), Wichita State University, April 28, 2016 (**Co-Chair**).
30. Vijay Sai Swarna, "Epoxy Nanocomposites for Enhanced Fire Retardancy and Metal-Metal Bonding Properties of Aircraft Aluminum Alloys," M.S. Thesis, Wichita State University, April 28, 2016.
31. Janakinandan Nookala, "Effects of Tilt Angles on Self-Cleaning of Superhydrophobic Composite Surfaces," M.S. Project, Wichita State University, April 28, 2016.
32. Shawn M. Hughes, "Electrospun PCL Nanofibers Incorporated with Natural and Synthetic Calcium Hydroxyapatite Particles for Human Tooth Regeneration," M.S. Thesis, Wichita State University, April 27, 2016.
33. Goutham Chinni, "Microalgae Growth, Lipid Extraction and Stable Nanoemulsion Productions for Various Industrial Applications," M.S. Thesis, Wichita State University, April 27, 2016.
34. Gopi Krishna Mandadi, "Melting Temperature Dependent Separations of Metallic Electronic Wastes and Wires Using Induction Heating and Centrifugal Forces," M.S. Thesis, Wichita State University, April 25, 2016.
35. Md. Shafinur Murad, "Investigating Corrosion Behaviors of Anodized Metallic Implants by Electrochemical Analysis," M.S. Thesis, Wichita State University, April 21, 2016.

36. Christopher Downing, "Sealing the Holes of Carbon Fiber Composites Using Epoxy Nanocomposites Incorporated with Layered Nanoscale Inclusions," M.S. Project, Wichita State University, April 15, 2016.
37. Vibhakar Seewogolam, "Highly Robust Electrospun Nanofibers for Development of Lightweight MAV Wings," M.S. Project, Wichita State University, April 8, 2016.
38. Edward D. Harrison, "Investigating Temperature Dependent Frictional Coefficients of Thermoset Polymers Incorporated with Chopped Carbon Fiber and Silicon Carbide Whisker Reinforcements for Clutch Break Applications," M.S. Project, Wichita State University, December 11, 2015.
39. Thu Van Tran, "Multi-functional Protective Nanocomposite Coatings of Modified Graphene and Hexagonal Boron Nitride Nanoparticles on Transparent Plastics," M.S. Thesis, Wichita State University, November 24, 2015.
40. Rifath Mahmud Rony Shagor, "Effects of Graphene Functionalization on Mechanical Properties of Carbon Fiber Laminate Composites," M.S. Thesis, Wichita State University, November 23, 2015.
41. Salahuddin Mohammad, "Investigating Superhydrophobic Behaviors of Carbonized PAN Nanofibers on Gas Diffusion Layers of PEM Fuel Cells," M.S. Thesis, Wichita State University, November 23, 2015.
42. Md. Shahnewaz Sabit Faisal, "Studying Activated Carbons of Natural Sources for Supercapacitor Applications," M.S. Thesis, Wichita State University, November 23, 2015.
43. Jason Yeoh, "Sealing the Machine Damaged Edges of Fiber Reinforced Composites via High Strength Adhesives for Better Mechanical Properties," M.S. Project, Wichita State University, July 17, 2015.
44. Ugochukwu Njoku, "Edge and Hole Sealing of Carbon Fiber Reinforced Composites Using Nanocomposite Sealants," M.S. Project, Wichita State University, May 8, 2015.
45. Aybala Usta, "Synthesis, Analysis and Characterization of Electrically Sensitive PVA Hydrogels Loaded with MTX Cancer Drugs," M.S. Thesis, Wichita State University, November 26, 2014.
46. Khairul B. Mahat, "Effects of UV Exposure on Properties of Carbon Fiber/PPS Thermoplastic Composites," M.S. Project, Wichita State University, December 1, 2014.
47. Asanga M. Amarasekara, "Briquetting and Carbonization of Naturally Grown Algae Biomass for Activated Carbon Applications," M.S. Project, Wichita State University, December 1, 2014.

48. Ka Pho Man (Michelle), "Investigating the Drug Loaded Magnetic Nanocomposite Spheres for Collagen Induced Arthritis Murine Model," M.S. Thesis, Wichita State University, July 2014.
49. Toan P. Dhin, "Effects of Carbon Black Nanoparticles on Physical Properties of Biodegradable Polymeric Nanocomposites," M.S. Project, Wichita State University, July 2014.
50. Temmuz Coskun, "Investigating Solid-state Supercapacitors Constructed with PVA/CNT Nanocomposite Electrolytes," M.S. Thesis, Wichita State University, April 2014.
51. Seyed Alireza Razinobakht, "Silanization Effects of Carbon Black Nanoparticles on Curing Kinetics of Nanocomposites," M.S. Thesis, Wichita State University, April 2014.
52. Emil Jurak, "Studying the Effects of Acid Treatments on the Electrical Behaviors of CNT Wires," M.S. Thesis, Wichita State University, April 2014.
53. Jessica Irving, "Improving the Efficiency of Water Electrolysis via Conductive Nanoadditives and Carbon Fiber Electrodes," M.S. Project, Wichita State University, April 2014.
54. Jithin Mathew George, "Effects of UV Light and Moisture Absorptions on Impact Resistances of Three Different Carbon Fiber Reinforced Composites," M.S. Thesis, Wichita State University, March 2014.
55. Daouda Diouf, "Investigating the Effects of Silanized Graphene Nanocomposite Coatings on Fiber Reinforced Composites Exposed to UV Light and Salt Fog Environments," M.S. Thesis, Wichita State University, February 2014.
56. Vishal V. Nageshkar, "Enhancing the Splitting Efficiency of Water Molecules Using Conductive Nanomaterials," M.S. Thesis, Wichita State University, December 2013.
57. Ali Ghazinezami, "Fire Retardancy, Thermal Stability and Mechanical Properties of Polymeric Based Nanocomposites," M.S. Thesis, Wichita State University, December 2013.
58. Virat Mathur, "Effects of Nanoscale Inclusions on Impact Resistance of Kevlar-Epoxy Laminate Composites," M.S. Thesis, Wichita State University, December 2013.
59. Waseem Mohammed, "Fabrication and Characterization of TiO₂ Nanofibers Incorporated with ITO Nanoparticles," M.S. Project, Wichita State University, December 2013.
60. Manish Shinde, "Synthesis and Analysis of Electrospun TiO₂ Nanofibers Incorporated with Nanoscale Inclusions for Improved DSSC Efficiencies," M.S. Thesis, Wichita State University, December 2013.

61. Gena N. Le, "Investigating the Mechanical Properties of Out-of-Autoclave Pre-Preg NCF Composites," M.S. Project, Wichita State University, December 2013.
62. Louie Nghia Le, "Nanocomposites and Graphene Oxide Thin Film Coatings on the Surface of Fiber Reinforced Composites for Enhanced Flame Retardancy," M.S. Thesis, Wichita State University, May 2013.
63. Zeinab Veisi, "Detection of Cox-2 Enzyme Using Highly Sensitive Electrospun Polyaniline Nanofiber-Based Biosensor," M.S. Thesis, Wichita State University, May 2013.
64. Md Syef Seraz, "Electrochemical Analysis of Antibacterial Polyelectrolyte Coated Mg Alloys for Cardiovascular Applications," M.S. Thesis, Wichita State University, May 2013.
65. Kevin Andrew Brauning, "Mitigation of Machining Damage on Delamination of Fiber Reinforced Composite Tensile Coupons," M.S. Thesis, Wichita State University, May 2013.
66. Michael Lee Jenkinson, "Electrochemical Evaluation of the Aircraft Al Alloys Surfaces Treated with Metallic and Nanocomposite Coatings," M.S. Project, Wichita State University, May 2013.
67. Stephanie Patrick, "Fabrication and Characterization of Antibacterial Polycaprolactone and Natural Hydroxyapatite Nanofibers for Bone Tissue Scaffolds," M.S. Thesis, Wichita State University, May 2013.
68. Sachin Sharma Ashok Kumar, "Incorporation of Graphene Thin Films into the Carbon Fiber Reinforced Composite via 3D Composite Concept against the Lightning Strikes of Composite Aircraft," M.S. Thesis, Wichita State University, December 2012.
69. Vamsidhar R. Patlolla, "Improvements and Effects of Porosity on Interlaminar Tensile Strength of Curved Beam Carbon Fiber Composites," M.S. Thesis, Wichita State University, November 2012.
70. Angelie Marie Vincent, "Evaluation of Residual Stresses on Welded Aircraft Titanium Alloy Sheets via Hole-drilling Strain Gage Method," M.S. Project, Wichita State University, November 2012.
71. Suhasini Pyarasani, "Antibacterial Hydrogels Reinforced by Electrospun Nanofibers," M.S. Project, Wichita State University, August 2012.
72. Helene T. Ndjountche Gandy, "Adhesiveless Honeycomb Sandwich Structure with Carbon Graphite Pre-preg: A Comparative Study to the Use of Adhesive Film," M.S. Thesis, Wichita State University, May 2012.

73. Madhulika Srikanth, "In Vitro Cytotoxicity Tests of Nanomaterials on 3T3 and L929 Cells," M.S. Thesis, Wichita State University, May 2012.
74. Harish Muppalla, "Highly Hydrophilic Electrospun Fibers for the Filtration of Micro and Nanosize Particles Treated with Coagulants," M.S. Thesis, Wichita State University, December 2011.
75. Phuoc Nguyen, "Nanotechnology and Nanosafety in Automotive Industry," M.S. Project, Wichita State University, December 2011.
76. Sarah F. Jurak, "Statistical Analysis of the Mechanical Properties of Friction Stir Welds in 2024 and 2198 Aluminum Alloys," M.S. Thesis, Wichita State University, December 2011.
77. Dominic P. Ha, "Synthesis and Characterization of Graphene Nanoflakes-Based Polycaprolactone Bionanocomposites," M.S. Project, Wichita State University, December 2011.
78. Farhana Abedin, "Magnetic and Albumin Targeted Drug Delivery for Breast Cancer Treatment," M.S. Thesis, Wichita State University, July 2011.
79. Md. Rajib Anwar, "Electrospun Fiber-Based Biosensors for Ultrasensitive Protein Detection," M.S. Thesis, Wichita State University, July 2011.
80. Vincent Rodriguez, "Thermally Conductive Nanocomposite Fibers for Lithium-ion Battery Membranes," M.S. Project, Wichita State University, July 2011.
81. Vinay Kumar Adigoppula, "A Study on Nafion Nanocomposite Membranes for Proton Exchange Membrane Fuel Cells," M.S. Thesis, Wichita State University, May 2011.
82. Kyle Nilsen, "Development of Low Pressure Filter Vessel Using Electrospun Nanofiber Membranes for Water Treatment," M.S. Thesis, Wichita State University, May 2011.
83. Michael Jay Holle, "Effects of Hardness on the Lifetime of Graphite Brushes Used for Aircraft Starter Generators," M.S. Thesis, Wichita State University, May 2011.
84. Darren Chiao, "Corrosion Behavior of Copper and Aluminum Meshes in Different Electrolyte Solutions," M.S. Project, Wichita State University, May 2011.
85. Mohamad H. Ghaddar, "Surface Energy Changes on UV Exposed Nanocomposite Coatings of Fiber Reinforced Composites," M.S. Project, Wichita State University, May 2011.
86. Holly M. Haynes, "Production Alternatives to Screen Printing for Dye Sensitized Solar Cells in Laboratory Testing," M.S. Thesis, Wichita State University, December 2010.

87. Venumadhav Movva, "Evaluation of Advanced Composites Using Destructive and Non-Destructive Testing Techniques," M.S. Project, Wichita State University, December 2010.
88. Shifath Ikram Khan, "A Study on Graphene-Based Nanocomposite Coatings Subjected to UV Degradation," M.S. Thesis, Wichita State University, December 2010.
89. Ramya Jannapu Reddy, "Preparation, Characterization and Properties of Injection Molded Recycled HDPE Graphene Nanocomposites," M.S. Thesis, Wichita State University, October 2010.
90. Shalini Davluri, "CNT-Based Electrospun Nanocomposite Fibers from Recycled Plastics," M.S. Project, Wichita State University, July 2010.
91. Vinay K. Dandin, "Properties of Recycled PVC and PS Nanocomposite Fibers at Various NiZn Ferrite Loadings," M.S. Project, Wichita State University, July 2010.
92. Nguyen The Luc, "Effects of High Speed Centrifugal Forces on Physical Properties of Fibers," MS All Course Work, Wichita State University, May 2010.
93. Anusha Garikapati, "Cytotoxicity of Biodegradable Magnetic Nanocomposite Spheres for Drug Delivery Purposes," M.S. Thesis, Wichita State University, May 2010.
94. Gazi A. Mahmud, "Increasing the Coating Resistance against UV Degradation and Corrosion Using Nanocomposite Coating," M.S. Thesis, Wichita State University, December 2009.
95. Muhammet Ceylan, "Superhydrophobic Behavior of Electrospun Nanofibers with Variable Additives," M.S. Thesis, Wichita State University, December 2009.
96. Kelvin Nguyen, "Fabrication and Characterization of Electrospun Magnetic Nanocomposite Fibers," M.S. Project, Wichita State University, May 2008.
97. Bangwei Zhang "Guiding Nonmagnetic Particles by External Magnetic Field in a Microfluidic Device," M.S. Thesis, Wichita State University, October 2008.
98. Bhargava Venishetty, "Non-Destructive Testing of Composite Materials Using Capacitance Bridge," M.S. Project, Wichita State University, October 2008.
99. Sirisha Gokathoti, "Effect of Temperature and Humidity on the Mechanical Properties of Polymeric Nanocomposites," M.S. Project, Wichita State University, October 2008.
100. Sridhar Chitti, "Recycling Survey in the City of Wichita," M.S. Project, Wichita State University, November 2008.

101. Casey Hille, "Corrosion Protection of Unclad 2024-T3 Aluminum with MWCNT Epoxy Primer Composite and Chromate Conversion Coating," M.S. Project, Wichita State University, December 2008.
102. Heath Misak, "The Distribution and Flow of Nickel Powder and Carbon Nanotubes Mixed in an Aluminum Matrix via Friction Stir Welding," M.S. Thesis, Wichita State University, December 2008.
103. Shashanka Revuri, "Nanocomposite Coating for Corrosion Protection," M.S. Project, Wichita State University, December 2008.
104. Sattar Ali, "Comparison of Different Coating Materials in Salt Fog Chamber," M.S. Project, Wichita State University, December 2008.
105. Steven Smyth, "Hot Temperature Corrosion: Causes, Effects and Preventions," all M.S. coursework, September 2007.
106. Narender Reddy Musku, "Conductive Nanostructured Materials Fabrication and Characterization: Gold, Silver and Platinum," M.S. Project, Wichita State University, September 2007.
107. Ramchander Rao Yerravalli, "Nanofilm Fabrication and Characterization," M.S. Project, Wichita State University, December 2007.
108. Syed Mustafa Hussain, "Non-Destructive Testing and Repair of Composite Materials: A Review," M.S. Project, Wichita State University, December 2007.
109. Hearty Pinnamaneni, "Fabrication and Characterization of Magnetic Nanoparticles," M.S. Project, Wichita State University, December 2007.

Doctor of Philosophy Students

1. Aybala Usta, "Synthesis, Characterization, and Hyperthermia Studies of Thermosensitive Hydrogels Associated with Magnetic Nanoemulsions," Ph.D. Dissertation, Wichita State University, July 13, 2018.
2. Sarah F. Jurak, "Synthesis and Analysis of Superhydrophobic-Based Corrosion Protection Systems for Aluminum Alloys and Their Evaluations on Friction Stir Spot-Welded Metals," Ph.D. Dissertation, Wichita State University, April 27, 2018.
3. Vamsidhar R. Patlolla, "Improving and Predicting the Strengths of Fiber-reinforced Composites Using a Graphene-Based Self-Healing System and Finite Element Analysis," Ph.D. Dissertation, Wichita State University, March 29, 2018.

4. Ibrahim Alarifi, "Fabrication and Characterization of Electrospun Carbonized Polyacrylonitrile Fibers as Strain Gauges in Composite Aircraft for Structural Health Monitoring Applications," Ph.D. Dissertation, Wichita State University, April 4, 2017.
5. Leyla Saeednia, "Investigating the Mechanical and Biological Properties of Nanoparticles-Infused Thermosensitive Chitosan Hydrogels for Targeted Drug Delivery," Ph.D. Dissertation, Wichita State University, April 26, 2016.
6. Abdulaziz R. Alharbi, "Advancements in Electrospun Nanofibers for Water Splitting and Water Treatment," Ph.D. Dissertation, Wichita State University, April 5, 2016.
7. Madhulika Srikant, "Investigating the Regeneration Behaviors of Neuroglial Cells on Artificially Made Electrospun PCL Scaffolds Embedded with Conductive Nanomaterials," Ph.D. Dissertation, Wichita State University, July 10, 2015.
8. Amir Jabbarnia, "Synthesis and Characterization of Electrospun Polyvinylidene Fluoride (PVdF)-Based Polymeric Separators for Supercapacitor Applications," Ph.D. Dissertation, Wichita State University, November 25, 2014.
9. Muhammet Ceylan, "Synthesis and Characterization of Electrospun Nanofibers for Advanced Drug Delivery and Cell Culturing," Ph.D. Dissertation, Wichita State University, April 2014.
10. Puttagounder Swaminathan Dhanasekaran, "Fabrication and Characterization of Highly Porous PEEK Bionanocomposites Incorporated with Carbon and Hydroxyapatite Nanoparticles for Scaffold Applications," Ph.D. Dissertation, Wichita State University, May 2013.
11. Bangwei Zhang, "Manufacturing, Characterization and Modeling of Graphene-Based Nanocomposites for Aircraft Structural and Lightning Strike Applications," Ph.D. Dissertation, Wichita State University, December 2012.
12. Erkan Kececi, "Highly Durable Hydrophobic Thin Films for Moisture Prevention of Composite Structures for Aerospace Applications," Ph.D. Dissertation, Wichita State University, May 2012.
13. Heath E. Misak, "Pre-Clinical Treatment of Skin Cancer by Magnetic-Protein Nanocomposite Drug Delivery System," Ph.D. Dissertation, Wichita State University, December 2011.
14. Waseem S. Khan, "Improving the Physical Properties of Electrospun Fibers by Nanoscale Inclusions," Ph.D. Dissertation, Wichita State University, December 2010.

15. Humphrey L. Wamocho, "Synthesis and Characterization of 5-FU Loaded Magnetic Nanocomposite Spheres for Advanced Drug Delivery," Ph.D. Dissertation, Wichita State University, July 2010.

Research Associates, Postdocs, and Professors

1. Aybala Usta, "Fabrication and Characterization of Drug Loaded Hydrogels for Advanced Therapy," Ph.D. Dissertation, Wichita State University, January 15 2019-May 2019.
2. Mr. Balakrishnan Subeshan, Research Associate, "Synthesis and Analysis of Nanostructured Materials for Energy Conversion and Storage," Wichita State University, March 2018-October 2018.
3. Dr. Leyla Saeednia, Postdoc, "Fabrication and Characterization of Drug Loaded Hydrogels Incorporated with Nanoparticles for Targeted Drug Delivery Systems," Wichita State University, September 2016-May 2017.
4. Dr. Ayse Busra Sengul, Assistant Professor, "Algae-Based Lipid Productions for CO₂ Reduction and Environmental Mitigations," Wichita State University, June 2016-September 2018.
5. Dr. Cumhur Cosgun, Assistant Professor, "Structural Health Monitoring of Infrastructures and Lifetime Predictions Using Highly Sensitive Nanosensors," Wichita State University, August 2015-September 2017.
6. Dr. Yanhong Ding, Associate Professor, "Synthesis and Analysis of Highly Hydrophilic Electrospun PVC Nanofibers Incorporated with PVP Polymer," Tianjin University of Technology, China, March 2015-December 2016.
7. Dr. Xu Ma, Associate Professor, "Energy Band Gap Tuning of Semiconductors via Electrospinning Process for Improved Energy Conversion," Tianjin University of Technology, China, March 2015-December 2016.
8. Dr. Amir Jabbarnia, Postdoc, "Design and Analysis of Nanostructured Materials for Energy Conversion and Storage," Wichita State University, January 2015-December 2015.
9. Dr. Seyed A. Soltani, Postdoc, "Curing Kinetics of Epoxy Nanocomposites Incorporated with Functionalized Nanoparticles," Wichita State University, January 2014-August 2014 (part time).
10. Dr. Heath E. Misak, Postdoc, "Functionalization of CNT Wires for Improved Electrical and Mechanical Strengths," Wichita State University, May 2013-December 2014.
11. Mr. Jianhao Jiang, Research Associate, "Plasmid-Based Gene Delivery by both Nanofibers and Nanocomposite Spheres for Cancer Treatment," Wichita State University, January 2013-July 2013.

12. Dr. Kasim Biber, Associate Professor, “Thermal Properties of Nanostructured Materials,” Bartin University, Turkey, June-September 2012.
13. Mr. Kimal Honour Djam, Research Associate, “Development of Highly Ordered TiO₂ Nanotubes for DSSC,” Wichita State University, March-December 2012.
14. Dr. Waseem S. Khan, Postdoc, “Development of Nanocomposite Fiber Catalysts for Water Splitting,” Wichita State University, October 3, 2011-December 2013.
15. Dr. Mahdi S. Kashani, Postdoc/Consultant, “Evaluation of Ti Alloy Sheet Reinforced Fiber Composites Using Finite Element Modeling (ABAQUS),” Wichita State University, April 2011-March 2012 (part time).
16. Mr. Venumadhav Movva, Research Associate, “Destructive and Non-Destructive Testing of Fiber Reinforced Composites for Aircraft Industry,” Wichita State University, January 10-May 9, 2011.
17. Mrs. Lateefah Miller, Research Associate, “High Strength Honeycomb Composite Fabrication for Structural Applications of Aircraft,” Wichita State University, August-December 2010.
18. Mr. Khan Habeeb Ur Rahman, Research Associate, “UV Prevention of Composite Coatings,” Wichita State University, January-November 2009.
19. Dr. Mohamed El-Tabey, Postdoc, “Magnetic Nanocomposite Fiber Fabrication and Characterization,” Wichita State University, May 2008-January 2009.

SERVICES

University-Level Service at WSU

1. Member, Graduate School Dean Search Committee, Wichita State University, August 2018-2019.
2. Member, Academic Affairs, Wichita State University, August 2018-2020.
3. Member, University Research Council, Wichita State University, August 2018-2020.
4. Member, Dorothy and Bill Cohen Honors College Committee, Wichita State University, August 2017-2018.
5. Member, Faculty Senate Standing Committee, Faculty Support, Wichita State University, June 2016-2018.

6. Member, Koch Scholarship Competition Committee, Wichita State University, August 2015-2019.
7. Member, Undergraduate Research and Creative Activity Forum (URCAF), Wichita State University, August 2012-2016.
8. Member, Graduate Research and Scholarly Projects (GRASP) Symposium Organization Committee, Wichita State University, Wichita, KS, August 2012-2016.
9. Member, University Admissions and Exceptions Committee, Wichita State University, August 2012-2015.

College-Level Service at WSU

1. Member, Wallace Invitational Scholarships in Engineering (WISE) Committee, College of Engineering, August 2015-August 2017.
2. Member, College Tenure and Promotion Committee, College of Engineering, August 2014-15.
3. Member, Business Continuity Plan, College of Engineering, August 2013-2014.
4. Member, College of Engineering Business Manager Selection Committee, College of Engineering, November 2013.
5. Member, Awards and Scholarship Committee, College of Engineering, September 2013-15.
6. Member, Engineering Student Success Center, College of Engineering, August 2013-2014.
7. Member, Ad Hoc Committee on Graduate Support, College of Engineering, April 2013-2014.
8. Member, Dean's Faculty Advisory Board, College of Engineering, August 2012-2014.
9. Member, Strategic Planning Graduate Program Development Team, College of Engineering, August 2012-2014.
10. Member, Organizational Structure Team, College of Engineering, August 2012-2014.
11. Member, Retention and Recruitment Search Committee, College of Engineering, March 2012-2015.
12. Judge, Project Lead The Way (PLTW) Competition and Showcase for Local High Schools in South Kansas, College of Engineering, April 2012-May 2015.
13. Member, Composites Committee, College of Engineering, August 2011-15.

14. Member, Safety Committee, College of Engineering, August 2011-14.
15. Member, Strategic Planning Team, Student Advising, College of Engineering, August 2011-14.
16. Member, Strategic Planning Team, Faculty Recruiting and Retention, College of Engineering, August 2011-14.
17. Member, Facility Supervisor/Manager Search Committee, College of Engineering, September 2011.
18. Member, Engineering Council for Undergraduate Students, College of Engineering, September 2008-10.
19. Judge, Wichita State Wallace Invitational Scholarships in Engineering (WISE), College of Engineering, August 2008-15.

Department-Level Service at WSU

1. Chair, Faculty Search Committee, Department of Mechanical Engineering, since August 2014.
2. Member, Mechanical Engineering Revitalization Plan for the Creation of “Department of Mechanical and Materials Engineering,” Department of Mechanical Engineering, February 2013-15.
3. Chair, Nanomaterials Safety Committee, Department of Mechanical Engineering, September 2010-13.
4. Member, Faculty Search Committee, Department of Mechanical Engineering, January 2010-14.
5. Member, Faculty Search Committee, Department of Biological Sciences, January-May 2010.
6. Member, Faculty Search Committee, Biomedical Engineering Program, January-August 2010.
7. Member, Department Curriculum Committee, Department of Mechanical Engineering, January 2009-August 2014.
8. Chair, Laboratory Safety Committee, Department of Mechanical Engineering, since January 2009.

9. Member, Accreditation Board for Engineering and Technology (ABET), Department of Mechanical Engineering, since September 2008.
10. Judge, Engineering Open House for student projects of the Department of Mechanical Engineering, since May 2007.
11. Member, Teaching Laboratory Committee, Department of Mechanical Engineering, since January 2007.

Community Service in the City and State Levels

1. Director of Water, Sanitation and Environmental Program of the Research and Development for the Humane Water, a Non-Profit Organization, Derby, KS, since February 2015.
2. Director of Research and Conference for the Academy of Healthy Water, Ecosystem and Environment Corporation (AHWEEC), a Non-Profit Organization, Derby, KS, December 2013-February 2015.
3. Author of 29-page study manual for the Kansas Science Olympiad Tournament for Materials Science (C) Section (High School), Wichita, KS, October 2013.
4. Director of Wichita SAMPE Chapter (313 professional members in the Midwest), Wichita, KS, since September 2013.
5. Advisor of Wichita SAMPE Student Chapter (42 student members), Wichita, KS, since January 2013.
6. One of the organizers of Kansas Science Olympiad for high school students, Wichita, KS, between October 2012 and October 2014 (<http://webs.wichita.edu/scienceolympiad/>).
7. Vice Chairman of Wichita SAMPE Chapter (313 professional members in the Midwest), Wichita, KS, between September 2012-13.
8. Judge for WSU Shocker MINDSTORMS Challenge between 4th and 8th Grade Students in Lego Competition, Wichita, KS, February 2009-14.
9. Outreach Activities for Nanotechnology for K-12 Students and School Teachers, mainly for underrepresented and underserved larger minority groups and women in Wichita, KS, March 2008-14.
10. Judge for Wichita Regional Science and Engineering Fair for K-12 Students, mainly for the student competition in science in Wichita, KS, May 2008-12.
11. Member of International Student Organization (for international student affairs and housing), Virginia Tech, Blacksburg, VA, August 1999-2001.

ORGANIZATIONS AND CHAIRMANSHIPS

1. Session Chair for “American Society for Engineering Education Midwest Section,” Wichita, KS, September 15-17, 2019.
2. Session Co-Organizer for “Environmental Effects of Aerospace Structures and Materials,” Aerospace Structures and Materials in ASME 2014, Montreal, Canada, November 14-20, 2014.
3. Session Co-Chair for “Environmental Effects of Aerospace Structures and Materials,” Aerospace Structures and Materials in ASME 2014, Montreal, Canada, November 14-20, 2014.
4. Session Chair for “Advances in Aerospace Design and Optimization I,” Advances in Aerospace Technology in ASME 2013, San Diego, CA, November 15-21, 2013.
5. Session Chair for “Advances in Aerospace Design and Optimization II,” Advances in Aerospace Technology in ASME 2013, San Diego, CA, November 15-21, 2013.
6. Session Chair for “Advances in Aerospace Design and Optimization III,” Advances in Aerospace Technology in ASME 2013, San Diego, CA, November 15-21, 2013.
7. Topic Organizer and Session Organizer for “Advances in Aerospace Design and Optimization I,” Advances in Aerospace Technology in ASME 2013, San Diego, CA, November 15-21, 2013.
8. Topic Organizer and Session Organizer for “Advances in Aerospace Design and Optimization II,” Advances in Aerospace Technology in ASME 2013, San Diego, CA, November 15-21, 2013.
9. Topic Organizer and Session Organizer for “Advances in Aerospace Design and Optimization III,” Advances in Aerospace Technology in ASME 2013, San Diego, CA, November 15-21, 2013.
10. Session Co-Chair for “Nanostructured Materials II,” Nanostructured Materials in ASME 2013, San Diego, CA, November 15-21, 2013.
11. Session Co-Organizer for “Nanostructured Materials II,” Nanostructured Materials in ASME 2013, San Diego, CA, November 15-21, 2013.
12. Session Chair for “Alternative and Efficient Energy Technology I,” SAMPE Tech Conference, Wichita, KS, October 21-24, 2013.

13. Session Chair for “Alternative and Efficient Energy Technology II,” SAMPE Tech Conference Wichita, KS, October 21-24, 2013.
14. Session Chair for “Advances in Aerospace Design and Optimization,” Advances in Aerospace Technology in ASME 2012, Houston, TX, November 9-15, 2012.
15. Session Chair for “Aerospace Processes and Optimization,” Advances in Aerospace Technology in ASME 2012, Houston, TX, November 9-15, 2012.
16. Topic Organizer, and Session Organizer for “Advances in Aerospace Design and Optimization,” Advances in Aerospace Technology in ASME 2012, Houston, TX, November 9-15, 2012.
17. Topic Organizer, and Session Organizer for “Aerospace Processes and Optimization,” Advances in Aerospace Technology in ASME 2012, Houston, TX, November 9-15, 2012.
18. Session Chair for “Graphene,” SAMPE Tech Conference, Charleston, SC, October 22-25, 2012.
19. Session Chair for “Biomedical Applications,” SAMPE Tech Conference, Charleston, SC, October 22-25, 2012.
20. Session Chair for “Nanomaterials Health and Safety,” SAMPE Tech Conference, Charleston, SC, October 22-25, 2012.
21. Session chair and co-chair between 2002 and 2011 at several international conferences including ASME, SAMPE, and SME.

GRANT REVIEW PANELS

1. NSF Nanomanufacturing (NM) program panel (Metals and Related Nanostructures B), Arlington, VA, May 13, 2011.
2. NSF Biomedical Engineering (BME) program panel, Arlington, VA, May 3-4, 2011.
3. NSF BME CAREER program panel, Arlington, VA, October 20-21, 2010.

SKILLS

Technical Skills

Experience in and/or ability to operate the following equipment and procedures:

Atomic force microscopy (AFM), scanning electron microscopy (SEM), transmission electron microscopy (TEM), X-ray diffraction (XRD), X-ray photoelectron spectroscopy (XPS), Fourier transform infrared spectroscopy (FTIR), vibrating sample magnetometry (VSM), superconducting quantum interference device (SQUID), chemical vapor deposition (CVD), physical vapor deposition (PVD), differential scanning calorimetry (DSC), thermal gravimetric analysis (TGA), dynamic mechanical analysis (DMA), ellipsometry, UV lithography, lasers (Argon Ion, CO₂ and Nd:YAG Pulsed), corrosion devices (Gamry, EIS and salt spray unit), ultraviolet degradation device, vacuum-assisted resin transfer molding (VARTM), autoclave, coating equipment (nozzle spray, solution casting, and spin coating), layer-by-layer (LBL) coating, ultraviolet-visible (UV-Vis) spectrometer, conductivity and capacitance measurement devices, zeta meter, nanosizer, contact angle goniometers, surface tensiometer, hardness measurement devices, stress-strain measurement devices, creep and fatigue testing devices, temperature and humidity chambers, confocal optical microscopes, hot and cold presses, and metallurgical furnaces.

Computer Skills

ABAQUS CAE, COMSOL Multiphysics, CATIA, Origin, Matlab, Mathematica 4.2, Sigma, and C++.

Machine Shop Skills

Lathe, drill press, milling, molding, CNC, hydraulic press, cutting, arc welding, and friction stir welding

PROFESSIONAL MEMBERSHIPS

- American Society of Mechanical Engineers (ASME) since 2010.
- Society for the Advancement of Material and Process Engineering (SAMPE) since 2009.
- American Society for Engineering Education (ASEE) since 2007.
- Materials Research Society (MRS) since 2000.