Mrinal C. Saha

Associate Professor
School of Aerospace and Mechanical Engineering
University of Oklahoma
Norman, OK 73019

Office: 405-325-1098
Cell: 405-414-5563
Fax: 405-325-1088
Email: msaha@ou.edu

EDUCATION

Doctor of Philosophy Mechanical Engineering, Old Dominion University, 2001
Dissertation: Elastic Properties, Strength and Damage Tolerance of Pultruded Composites (Dissertation Abstracts International, volume: 62-03, section: B; number: AAI3008229; ISBN: 9780493177991)

Master of Science Mechanical Engineering, Tuskegee University, 1996
Thesis: Damage Tolerance Study of Advanced Polymeric Composites at Low Velocity Impact

Master of Science Mechanical Engineering, BUET, Bangladesh, 1992
Thesis: Numerical Prediction of Flow Characterization Around Square Cylinders in Tandem

Bachelor of Science Mechanical Engineering, BUET, Bangladesh, 1988

PROFESSIONAL EXPERIENCE

Associate Professor (with Tenure) School of Aerospace and Mechanical Engineering, University of Oklahoma, July 2012–Present

Assistant Professor School of Aerospace and Mechanical Engineering, University of Oklahoma, August 2006– June 2012

Assistant Professor Department of Mechanical Engineering, Tuskegee University, August 2001–July 2006

Instructor Department of Mechanical Engineering, Tuskegee University, September 2000 – July 2001

Academic Faculty Member Tuskegee University Center for Advanced Materials (TU-CAM), July 2001 – July 2006

Assistant Professor Department of Mechanical Engineering, BUET, Bangladesh, October 1992–August 1993

Lecturer Department of Mechanical Engineering, BUET, Bangladesh, August 1988 – September 1992

PUBLICATIONS
(citations = 896; h-index =14; i10-index = 19 Google Scholar accessed on July 19, 2017 https://scholar.google.com/citations?hl=en&user=blUqCEMAAAAJ)

- **Editorial**

E1. Saha, M.C., Altan, M.C. (2011), "Recent Advances in Micro, Nano and Cellular Composite Materials," *Journal of Engineering Materials and Technology* (JEMT), 133(4).

- **Journal Articles**

J1. Barua, B., Saha, M.C. (2017), "Influence of Humidity, Temperature, and Annealing on Microstructure and Tensile Properties of Electrospun Polyacrylonitrile Nanofibers," *Polym. Engg. & Sci.* (IF 1.449).

J2. Chowdhury, S., Olima, M., Liu, Y., Saha, M.C., Bergman, J., Robison, T. (2016), "Poly Dimethylsiloxane/Carbon Nanofiber Nanocomposites: Fabrication and Characterization of Electrical and Thermal Properties," *International Journal of Smart and Nano Material.* 7(4), 236-247. (IF 1.71)

J3. Barua, B., Saha, M.C. (2015), "Investigation on Jet Stability, Fiber Diameter and Tensile Properties of Electrospun Polyacrylonitrile Nanofibrous Yarns," *J. Appl. Polym. Sci.* 132(8), 41918. (Citation 10) (IF 1.86)

J4. Barua, B., Saha, M.C. (2015), "Incorporating Density and Temperature in the Stretched Exponential Model for Predicting Stress Relaxation Behavior of Polymer Foams," *J. Eng. Mater. Technol*, 138(1), 011001. (IF 1.141)

J5. Hossain, Z**.,** Zaman, M., Hawa, T., Saha, M.C. (2014), "Evaluation of Moisture Susceptibility and Healing Properties of Nanoclay Modified Asphalt Binders Through Surface Science Approach**,** J. *Mater. Civ. Eng.*, 0401261. (Citation 9) (IF 1.43)

J6. Guo, J., Saha, P., Liang, J., Saha, M.C., Grady, B.P. (2013), "Multi-Walled Carbon Nanotubes Coated by Multi-Layer Silica for Improving Thermal Conductivity of Polymer Composites," *Journal of Thermal Analysis and Calorimetry*, 113(2), pp 467-474. (Citation 16) (IF 1.953)

J7. Bui, K., Grady, B.P., Saha, M.C., Papavassilliou, D.V. (2013), "Effect of Carbon Nanotube Persistence Length on Heat Transfer in Nanocomposites: A Simulation Approach," *Appl. Phys. Lett.*, 102(20), 203116. (Citation 3) (IF 3.411)

J8. Barua, B., Saha, M.C. (2013), "Ultrasound Assisted Hybrid Carbon Epoxy Composites Containing Carbon Nanotubes," *J. Eng. Mater. Technol*, 135(1), 011009. (Citation 5) (IF 1.141)

J9. Liang, J., Saha, M.C., Altan, M.C. (2013), "Effect of Carbon Nanofibers on Thermal Conductivity of Carbon Fiber Reinforced Composites," Procedia Engineering, 56, 814-820. (Citation 14) (IF 0.74)

J10. Balakrishnan, A., Saha, M.C. (2012), "Influence of Air-Draft on Fabrication of Polyurethane Thin Films via Ultrasonic Atomization," *Atomization and Sprays*, 22(1), pp. 23-35. (Citation 2) (IF 1.235)

J11. Balakrishnan, A., Saha, M.C. (2011), "Effects of Ultrasound and Strain Rates on Tensile Mechanical Behavior of Thermoplastic Polyurethane Thin Films," *J. Eng. Mater. Technol*, 133(4), 041008. (Citation 1) (IF 1.141)

J12. Barua, B., Saha, M.C. (2011), "Tensile Stress Relaxation Behavior of Thermosetting Polyurethane Solid and Foams: Experiment and Model Prediction," *J. Eng. Mater. Technol*, 133(4), 041007. (Citation 2) (IF 1.141)

J13. Aktas, L., Bauman, D.P., Bowen, S.T., Saha, M.C., Altan, M.C. (2011), "Effect of Distribution Media Length and Multiwalled Carbon Nanotubes on the Formation of Void in VARTM Composites," *J. Eng. Mater. Technol*, 133(4), 041006. (Citation 7) (IF 1.141)

J14. Balakrishnan, A., Saha, M.C. (2011), "Tensile and Thermal Conductivity Characterization of Toughened Epoxy/CNT Nanocomposites," *Materials Science & Engineering A*, 528, pp. 906-913. (Citation 40) (IF 3.09)

J15. Saha, M.C., Barua, B., Mohan, S. (2011), "Study on the Cure Kinetic Behavior of Thermosetting Polyurethane Solids and Foams: Effect of Temperature, Density, and Carbon Nanofiber," *Journal of Engineering Materials and Technology*, 133 (4). (Citation 6) (IF 1.141)

J16. Balakrishnan, A., Saha, M.C. (2011 "Processing and Characterization of Thermoplastic Polyurethane Nanocomposite Thin Films" *Journal of Engineering Materials and Technology*, 133(4). (Citation 3) (IF 1.141)

J17. Saha, M.C., Nilufar, S. (2010), "Nanoclay Reinforced Syntactic Foams: Flexure and Thermal Behavior," *Polymer Composites*, 31(8), 1309-1494. (Citation 24) (IF 2.324)

J18. Saha, M.C., Mohan, S., Balakrishnan, A. (2009), "Frequency and Temperature Dependent Dynamic Shear Response of Polyurethane Foams," *International Journal of Materials Engineering Innovation (IJMatEI)*, 1(2), 235-253.

J19. Saha, M.C., Kabir, Md.E., Jeelani, S. (2009), "Effect of Nanoparticles on Mode-I Fracture Toughness of Polyurethane Foams," *Polymer Composites*, 30(8), 1058-1064. (Citation 29) (IF 2.324)

J20. Saha, M.C., Kabir, Md.E., Jeelani, S. (2008), "Study of Debond Fracture Toughness of Sandwich Composites with Nanophased Core," *Materials Letters*, 62(4), 567-570. (Citation 16) (IF 2.572)

J21. Saha, M.C., Nilufar, S., [UG]Major, M., Jeelani, S. (2008), "Processing and Performance Evaluation of Hollow Glass Microspheres Filled Epoxy Composites," *Polymer Composites***,** 29(3)**,** 293-301. (Citation 13) (IF 2.324)

J22. Saha, M.C., Kabir, Md.E., Jeelani, S. (2008), "Enhancement in Thermal and Mechanical Properties of Polyurethane Foam Infused with Nanoparticles," *Materials Science and Engineering A***,** 479, 213-222. (Cited 181) (IF 3.09)

J23. Kabir, Md.E., Saha, M.C., Jeelani, S. (2007), "Effect of Ultrasound Sonication in Carbon Nanofiber/Polyurethane Foam Composites," *Materials Science and Engineering A*, 459(1), 111-116. (Citation 63) (IF 3.09)

J24. Kabir, Md.E., Saha, M.C., Jeelani, S. (2006), "Tensile and Fracture Behavior of Polymer Foams," *Materials Science and Engineering A*, 429, 225-235. (Citation 104) (IF 3.09)

J25. Saha, M.C., Mahfuz, H., Joarder, C., Jeelani, S. (2005), "Manufacturing and Tensile Characteristics of Integral Sandwich Tee Joints," *Journal of Advanced Materials*, 37(1), 53-60.

J26. Saha, M.C., Mahfuz, H., Chakravarty, U., Uddin, M., Kabir, Md.E., Jeelani, S. (2005), "Effect of Density, Microstructure, and Strain Rate on Compression Behavior of Polymeric Foams," *Materials Science and Engineering A*, 406, 328-336. (Citation 110) (IF 3.09)

J27. Prabhakaran, R., Saha, M.C., Galloway, T. (2005), "Measurement of In-Plane Elastic Moduli of Composites with a Circular Disk Specimen and Piezoelectric Sensors," *Polymer Composites*, 26, 542-551. (Citation 3) (IF 2.324)

J28. Mahfuz, H., Uddin, M.F., Rangari, V, Saha, M.C., Zainuddin, S., Jeelani, S. (2005), "High Strain Rate Response of Sandwich Composites with Nanophased Cores," *Applied Composite Materials*, 12, 193-211. (IF 1.217)

J29. Mahfuz, H., Islam, S, Saha, M.C., Carlsson, L., Jeelani, S. (2005), "Buckling of Sandwich Composites; Effect of Core-Skin Debonding and Core Density," *Applied Composite Materials*, 12, 73-91. (Citation 22) (IF 1.217)

J30. Mahfuz, H., Islam, M., Rangari, V., Saha, M.C., Jeelani, S. (2004), "Response of Sandwich Composites with Nanophased Cores under Flexural Loading," *Composites: Part B*, 35, 543-550. (Citation 78) (IF 4.727)

J31. Mahfuz, H., Majumdar, P., Saha, M.C., [UG]Shamery, F., Jeelani, S. (2004) "Integral Manufacturing of Composite Skin-Stringer Assembly and Their Stability Analyses," *Applied Composite Materials*, 11, 155-171. (Citation 13) (IF 1.217)

J32. Saha, M.C., Prabhakaran, R., Waters, A.Jr. (2004), "Compressive Behavior of Pultruded Composite Plates with Circular Holes," *Composite Structures***,** 65(1), 29-36. (Citation 28) (IF 3.86)

J33. Chakravarty, U., Mahfuz, H., Saha, M.C., Jeelani, S. (2003), "Strain Rate Effects on Sandwich Core Materials: An Experimental and Analytical Investigation," *Acta Materialia***,** 51(5), 1469-1479. (Citation 23) (IF 5.301)

J34. Prabhakaran, R., Saha, M.C., Douglas, M., Nettles, A. (2002), "Damage Resistance and Damage Tolerance of Pultruded Composite Sheet Materials," *ASTM STP, Composite Materials: Testing, Design, and Acceptance Criteria*, 1416, 139-155.

J35. Saha, M.C., Prabhakaran, R., Waters, A.J. (2000), "Compressive Properties of Pultruded Composites," *Mechanics of Composite Materials*, 36(6), 781-791. (Citation 6) (IF 0.834)

J36. Mahfuz, H., Saha, M.C., Biggs, R., Jeelani, S. (1998), "Damage Tolerance of Resin Infiltrated Composites under Low Velocity Impact - Experimental and Numerical Studies," *Key Engineering Materials*, 141(1), 209-234. (Citation 10)

J37. Mahfuz, H., Saha, M.C., Haque, A., Vaidya, U.K., Yu, D., Jeelani, S. (1995), "Fatigue Damage and Residual Strength Evaluation of Resin Transfer Molded (RTM) Composites under Reversed Cyclic Loading," *Journal of Innovative Processing and Characterization of Composite Materials*, 20, 77-88.

J38. Saha, M.C., Islam, A.K.M.S., Naser, N.A. (1993), "Investigation of Flow Around Square Cylinders in Tandem Arrangement Employing κ- ε and a Two-Layer Model," *Journal of Institution of Engineers*, 74, 77-81.

- **Journal Articles Under Review**

UR1. Barua, B. and Saha, M.C. (2017), "Studies of Reaction Mechanisms during Stabilization of Electrospun Polyacrylonitrile Carbon Nanofibers*," Polym. Engg. & Sci. (in press).*

- **Articles in Conference Proceedings (peer reviewed)**

C1. Demirtas, M.S., Saha, M.C. (2016), "Effect of Collector Plate Geometry and RPM on Orientation, Diameter and mechanical Properties of E-Spun, Stabilized and Carbonized Nanofiber." *Proceedings of the American Society for Composites 31st Technical Conference*, Paper number 1805, Williamsburg, VA, Sept 19 - 22.

C2. Chowdhury, S., Olima, M., Liu, Y., Saha, M.C. (2016), "Graphene and PDMS based Nanocomposite with Sensing Functions," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, IMECE2016-67604, Phoenix, AZ, Nov 11 – 17.

C3. Perry, K., Burnett, M., Demirtas, M., Liu, Y., Saha, M.C. (2015), "Improved Mechanical Properties in Fiber Reinforced Composites using Spray Coated CNTs," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, IMECE2015-51165, Houston, TX, Nov 13 – 19.

C4. Dimirtas, M. S., Barua, B., Saha, M.C. (2015), "Electrospun Carbon Nanofibers from Polyacrylonitrile Solution: Influence of Relative Humidity on Morphology and Mechanical Properties." *Proceedings of the American Society for Composites 30th Technical Conference*, Paper number 1748, East Lansing, MI, Sept 28 – 30.

C5. Webster, J.W., Barua, B., Saha, M.C. (2015), "Ultrasonic Energy Assisted Synthesis of Zinc Oxide Nanoparticles." *Proceedings of the American Society for Composites 30th Technical Conference*, Paper number 1751, East Lansing, MI, Sept 28 - 30.

C6. Whetsell, J., Saha, M.C., Altan, M.C., Liang, J., Pan, C. (2015), "Investigation of Hygrothermal Effects on the Thermal Conductivity Characteristics of Insulation Materials." *Proceedings of the ASHRAE Annual Conference*, AT-15-C045, Atlanta, GA, June 27 – July 1.

C7. Hossain, Z., Zaman, M, Saha, M.C., Hawa, T. (2015), "Evaluation of Moisture Susceptibility and Healing Properties of Nanoclay Modified Asphalt Binders," *Proceedings of the International Foundations Congress and Equipment Exposition*, San Antonio, TX, March 18-21.

C8. Barua, B. and Saha, M.C. (2014), "Investigation of Stabilization Conditions of Electrospun Carbon Nanofibers for Improved Mechanical Performance," *Proceedings of the American Society for Composites 29th Technical Conference*, La Jolla, CA, Sept 8-10.

C9. Whetsell, J., Liang, J., Saha, M.C., Altan, M.C. (2014), "Effects of Sizing on Thermal Conductivity of Single Carbon Fiber in Longitudinal and Radial Directions," *Proceedings of the American Society for Composites 29th Technical Conference*, La Jolla, CA, Sept 8-10.

C10. Hossain, Z., Zaman, M., Saha, M.C., Hawa, T. (2014), "Evaluation of Moisture Susceptibility of Nanoclay Modified Asphalt Binders," *GeoHubei International Conference on Sustainable Civil Infrastructures: Innovative Technologies and Materials*, Hubei, China, July 20-22.

C11. Hossain, Z., Zaman, M., Saha, M.C., Hawa, T. (2014), "Evaluation of Moisture Susceptibility of Nanoclay Modified Asphalt Binders," *Application of Nanotechnology in Pavements, Geological Disasters and Foundation Settlement Control Technology*, Paper number GSP 244, pp. 1-8.

C12. Hossain, Z., Zaman, M., Saha, M.C., Hawa, T. (2014), Evaluation of Viscosity and Rutting Properties of Nanoclay Modified Asphalt Binders, *Proceedings of the Geo-Congress on Geo-Characterization and Modeling for Geo-Sustainability*, Paper number GSP 234, Atlanta, GA, Feb 23-26.

C13. Hossain, Z., Zaman, M., Saha, M.C. (2013), Evaluation of Rutting and Moisture Susceptibility of Nanoclay Modified Asphalt Binders, *Proceedings of International Road Federation (IRF) World Meeting & Exposition*, Riyadh, Saudi Arabia, Nov 10-14.

C14. Fuad, K., Barua, B., Saha, M.C., Robison, T., Wells, S. (2013), "Investigation of Mechanical Properties of Nanoclay Incorporated Room Temperature Vulcanized Silicone Foams," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, IMECE2013-65879, San Diego, California, Nov 15-21.

C15. Afzal, F.I., Saha, M.C., Altan, M.C. (2013), "Effect of Sizing Removal Method and POSS Coating on Flexure Properties of Carbon Fiber Epoxy Composites," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, IMECE2013-65879, San Diego, California, Nov 15-21.

C16. Barua, B., Saha, M.C. (2013), "Electrospun Polyacrylonitrile Nanofibers Containing Multiwalled Carbon Nanotubes," *Proceedings of the American Society for Composites 28th Technical Conference*, College Park, PA, Sept 9-11.

C17. Liang, J., Saha, M.C., Altan, M.C. (2013), "Measurement of Thermal Conductivity of Carbon Fibers using Wire-based 3ω Method," *Proceedings of the American Society for Composites 28th Technical Conference*, College Park, PA, Sept 9-11.

C18. Siddique, Z., Saha, M.C., Akasheh, F., Arif, S., Barua, B., Hurdelbrink, K. (2012), "Scenario-Based Learning Environment to Support Peer-Learning," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, IMECE2012-88669, Houston, TX, Nov 9-15.

C19. Liang, J., Saha, M.C., Altan, M.C. (2012), "Effect of Carbon Nanofibers on Thermal Conductivity of Carbon Fiber Reinforced Composites," *5th BSME International Conference on Thermal Engineering*, Dhaka, Bangladesh, Dec 21-23.

C20. Adeoye, S.G., Saha, M.C., Altan, M.C. (2012), "Effect of Gauge Length and Sizing on Tensile Properties of PAN-Based Carbon Fibers," *27th ASC Annual Technical Conference, 15th US-Japan Conference on Composite Materials and ASTM-D30 Meeting*, Arlington, TX, October 1-3.

C21. Liang, J., Saha, M.C., Altan, M.C. (2012), "Application of Wire-Based 3-Omega Method for Measuring Thermal Conductivity of Carbon Fiber Reinforced Composites," *27th ASC Annual Technical Conference, 15th US-Japan Conference on Composite Materials and ASTM-D30 Meeting*, Arlington, TX, October 1-3.

C22. Balakrishnan, A., Grady, B.P., Saha, M.C., Madden, A.S. (2012), "AFM and SAXS Investigations of Ultrasonically Spray Deposited Thin Polyurethane Films," Proceedings of the *27th ASC Annual Technical Conference, 15th US-Japan Conference on Composite Materials and ASTM-D30 Meeting*, October 1-3, Arlington, TX, USA.

C23. Siddique, Z., Saha, M.C., Akasheh, F., Barua, B., Arif, S. (2011), "Interactive Scenario Based Teaching of Metal Casting Process," *Proceedings of the ASME International Design Engineering Technical Conference & Computers and Information in Engineering Conference*, DETC2011-48265, Washington, DC, USA.

C24. Hart, M.C., Altan, M.C., Saha, M.C. (2011), "Mode II Interlaminar Fracture Toughness of Woven Carbon/Epoxy Laminates Fabricate**d** Using VARTM," *Proceedings of the 26th ASC Annual Technical Conference*, Sept. 26-28, Montreal, Canada.

C25. Barua, B., Saha, M.C. (2011), "Stress Relaxation Behavior of Polyurethane Foams in Tension and Shear: Experiment and Model Prediction," *Proceedings of the 26th ASC Annual Technical Conference*, Sept. 26-28, Montreal, Canada, 2011.

C26. Barua, B., Saha, M.C. (2011), "Manufacturing and Flexure Properties Characterization of Hybrid Micro-/Nano-Fiber Reinforced Epoxy Composites," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, Paper Number IMECE2011-64191, Denver, Colorado, November 11-17.

C27. Hart, M.C., Altan, M.C., Saha, M.C. (2011), "Effect of Testing Parameters on Interlaminar Shear Properties of Woven Carbon /Epoxy Composites," *Proceedings of 2011 SAMPE Conference*, May 23-26, Long Beach, California.

C28. Saha, M.C., Siddique, Z., Barua, B., Arif, S.M., Akasheh, F. Daniels, A., Heisser, C. (2011), "Interactive Scenario Based Teaching of Metal Casting Process," *118th ASEE Annual Conference & Exposition*, Vancouver, B.C., Canada, June 26-29, 2011, Paper ID # 937.

C29. Aktas, L., Bauman, D.P., Bowen, S.T., Saha, M.C., Altan, M.C. (2010), "Vacuum Assisted Resin Transfer Molding of Micro and Nanocomposite Laminates," *2nd Polymeric Composites Symposium – Exhibition and Brokerage Event* (International Participation), Page 3-1426-28 November, Turkey.

C30. Balakrishnan, A., Saha, M.C. (2010), "Effect of Ultrasound and Strain Rate on Tensile Behavior of Neat Thermoplastic Polyurethane Thin Films," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, Paper Number IMECE2010-3997, Vancouver, British Columbia, Canada, November 12-18.

C31. Barua, B., Saha, M.C. (2010), "Tensile Stress Relaxation of Thermosetting Polyurethane Solid and Foam," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, Paper Number IMECE2010-39419, Vancouver, British Columbia, Canada. November 12-18.

C32. Saha, M.C., Siddique, Z., Barua, B., Akasheh, F. (2010), "Create Your Scenario Interactively (CSI) – A Teaching Module for Manufacturing Processes," *Proceedings of the 2010 ASEE Annual Conference & Exposition*, Paper Number AC 2010-638, Louisville, Kentucky, June 20-23.

C33. Siddique, Z., Saha, M.C., Barua, B., Akasheh, F. (2010), "Learning Casting Through Interactively Creating a Scenario," *Proceedings at the 2010 ASME IDETC/CIE Conference*, Paper Number DETC2010-28593, Montreal, Quebec, Canada, August 15-18.

C34. Siddique, Z., Hardre, P., Bradshaw, A., Saha, M.C., Mistree, F. (2010), "Fostering Innovation Through Experiential Learning," *Proceedings of the 2010 ASME IDETC/CIE Conference*, Paper Number DETC2010-28892, Montreal, Quebec, Canada August 15-18. (**Best Paper award**)

C35. Balakrishnan, A., Saha, M.C. (2010), "Fabrication and Tensile Characterization of Thin Thermoplastic Polyurethane Films, *Proceedings of the 2010 ASME ECTC*, Tulsa, Oklahoma, March 25-27.

C36. Barua, B., Saha, M.C. (2010), "Tensile Stress Relaxation of Thermosetting Polyurethane Foams," *Proceedings of the 2010 ASME ECTC*, Tulsa, Oklahoma, March 25-27.

C37. Mohan, S., Saha, M.C. (2009), "Cure Kinetics and Dynamic Viscoelastic Shear Behavior of Rigid Polyurethane Foams at Different Temperature," *Proceedings of the 24th Annual Technical Conference, American Society for Composites*, Newark, Delaware.

C38. Balakrishnan, A., Saha, M.C. (2009), "Dynamic Mechanical Behavior of Thermoplastic Thin Polyurethane Films, *Proceedings of the SEM X Annual Conference & Exposition on Experimental and Applied Mechanics,* Albuquerque, New Mexico, June 1-4.

C39. Mohan, S. and Saha, M.C. (2009), "Effect of Cure Temperature on Dynamic Mechanical Behavior of Rigid Polyurethane Foams," *Proceedings of the 2009 SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Albuquerque, New Mexico, June 1-4.

C40. Saha, M.C., Barua, B., Balakrishnan, A. (2009) "Stress Relaxation Behavior of Thermoset Polyurethane Foams," *Proceedings of the 2009 SEM X Annual Conference & Exposition on Experimental and Applied Mechanics*, Albuquerque, New Mexico, June 1-4.

C41. Anderson, J., Saha, M.C. (2009), "Characterization and Finite Element Analysis of Pultruded Composite Decking," *SAMPE Fall Conference & Exhibition,* Wichita, Kansas, October 19-22.

C42. Mohan, S., Balakrishnan, A., Saha, M.C. (2008), "Cure Kinetics of Neat and Nanophased Polyurethane Foams," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition,* Boston, Massachusetts, *October 31 – November 6.*

C43. Balakrishnan, A., Saha, M.C. (2008), "Fracture and Thermal Conductivity Characterization of SC-15/MWNT Composites," Proceedings of the *SEM XI International Congress & Exposition on Experimental and Applied Mechanics*, Orlando, Florida, June 2-5.

C44. [UG]Hickman, D., Balakrishnan, A., Saha, M.C. (2008), "Moisture Absorption Behavior and Its Effects on Flexural Properties of Polyurethane Foams," Proceedings of the *SEM XI International Congress & Exposition on Experimental and Applied Mechanics,* Orlando, Florida, June 2-5.

C45. Balakrishnan, A., Mohan, S., Saha, M.C. (2008), "Investigation on the Moisture Absorption Behavior of Polyurethane Foams Infused with Nanoparticles," *Proceedings of the 23rd Annual Technical Conference, American Society for Composites*, Memphis, Tennessee, Sept. 15-17.

C46. Sabrina Nilufar, M. C. Saha, S. Jeelani, "Investigation on Flexural and Thermo Mechanical Properties of SiO2 Nanoparticles Infused Epoxy Syntactic Foams," *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, v2, 1133-1143, 2007, Springfield, Massachusetts.

C47. Md. E. Kabir, M. C. Saha, S. Jeelani, "Effect of Nanoparticles on Mode-I Fracture Toughness of PUR Foams," *SEM Annual Conference & Exposition on Experimental and Applied Mechanic*s, v3, 1412-1420, 2007.

C48. Saha, M.C., Kabir, Md.E., Jeelani, S. (2007), "Experimental Investigation of Mode-I Fracture Toughness of Polyurethane Foams with Nanoparticles," Proceedings of the 22nd Annual *Technical Conference American Society for Composites*, Seattle, Washington, Sept. 17-20.

C49. Saha, M.C., Nilufar, S., Jeelani, S. (2006), "Processing and Performance Evaluation of Syntactic Foams Infused with Nanoclay," *Proceedings of the 21st Annual Technical Conference American Society for Composites*, Dearborn, Michigan, Sept. 17-20.

C50. Saha, M.C., Nilufar, S., Jeelani, S. (2006), "Effect of Strain Rate on Compressive Behavior of Syntactic Foam," *2006 SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, 604-611, Saint Louis, Missouri.

C51. Saha, M.C., Kabir, Md.E., Mahfuz, H., Jeelani, S. (2006), "Effect of Strain Rate, Density, and Microstructure on Fracture Behavior of Polymer Foams," *SAMPE Technical Conference Proceedings: Advancing Materials in the Global Economy – Applications, Emerging Markets and Evolving Technologies*, p 2253-2266.

C52. Saha, M.C., Kabir, Md.E., Jeelani, S. (2006), "Core/Skin Debond Fracture Toughness of S2-Glass/Epoxy Sandwich Composites with Nanophased Polyurethane Foam," *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, v1, p 111-117, 2006.

C53. Saha, M.C., Nilufar, S., Jeelani, S. (2006), " Studies on Processing and Characterization of Hollow Glass Microballoons Filled Composites," Proceedings of the *ASME International Mechanical Engineering Congress and Exposition*, Chicago, Illinois, November 5-10.

C54. Saha, M.C., Nilufar, S., Jeelani, S. (2006), "Effect of Strain Rate on Compressive Behavior of Syntactic Foam," *SEM Annual Conference & Exposition on Experimental and Applied Mechanics*, Saint Louis, Missouri.

C55. Saha, M.C., Nilufar, S., Jeelani, S. (2006), "Manufacturing and Characterization of Hollow Spheres Filled Epoxy Composites," *Twenty Second Southeastern Conference on Theoretical and Applied Mechanics*, May 21-23, Puerto Rico.

C56. Saha, M.C., White, E., Mahfuz, H., Rangari, V., Jeelani, S. (2005), "Manufacturing and Characterization of SC-15 Epoxy Nanocomposites," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, Orlando, Florida, November 5-11.

C57. Saha, M.C., Kabir, Md.E., Jeelani, S. (2005), "Manufacturing and Debonding Fracture Toughness of Nanophased Polyurethane Foam Core Sandwich Composites," *Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, Orlando, Florida, November 5-11.

C58. Saha, M.C., Nilufar, S., Kabir, Md.E., Major, M., Jeelani, S. (2005), "Manufacturing and Dynamic Compression Responses of Syntactic Foams*," Proceedings of the ASME International Mechanical Engineering Congress & Exposition*, Orlando, Florida, November 5-11

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C91. Mahfuz, H., Saha, M.C., Vaidya, U.K., Jeelani, S., Biggs, R., Neighbors, J.K. (1995), "Prediction of the Dynamic Response of Toughened Graphite/Epoxy Composite Plates at Low Velocity Impact-A Numerical Study," *27th International SAMPE Technical Conference*, pp 830-842.

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C94. Saha, M.C., Islam, A.K.M.S., Naser, N.A. (1993), "Investigation of Flow Around Square Cylinders in Tandem Arrangement Employing κ- ε and a Two-Layer Model," *International Congress on Computational Methods in Engineering*, pp 105-112.

- **Conference Publications with Abstract Review**

P1. Saha, M.C., Olima, M., Chowdhury, S., Liu, Y. (2016), "Investigation on Mechanical and Piezoresistive Properties of Carbon Nanofibers and Polydimethylsiloxane based Nanocomposites for Sensor Applications," *43rd Polymeric Materials, Adhesives, and Composites (PolyMAC) Conference,* National Security Campus, Kansas City, MO, June 14-16.

P2. Luo, W., Byrne, I., Saha, M.C., Liu, Y. (2016), "Hydrothermal Synthesis of PZT Nanocrystals for Energy Applications," *ASME International Mechanical Engineering Congress & Exposition (IMECE)*, Phoenix, AZ, November 11 – 17, IMECE2016-67958.

P3. Chowdhury, S., Olima, M., Liu, Y., Saha, M.C. (2016), "Carbon Nanofiber and PDMS based Nanocomposites with Sensing Functions," *36th Oklahoma AIAA/ASME Symposium, Norman,* OK, April 16.

P4. Olima, M., Chowdhury, S., Liu, Y., Saha, M.C. (2016), "Fabrication and Characterization of Carbon Nanofiber Reinforced Polydimethylsiloxane Thin Films," 36th Oklahoma *AIAA/ASME Symposium, Norman,* OK, April 16.

P5. Demirtas, M.S., Barua, B., Saha, M.C. (2016), "Effect of Relative Humidity on Mechanical Properties and Morphology of PAN based Carbon Nanofiber," 36th Oklahoma *AIAA/ASME Symposium, Norman,* OK, April 16.

P6. Luo, W., Demirtas, M.S., Byrne, I., Liu, Y., Saha, M.C. (2016), "Hydrothermal Synthesis of PZT Nanocrystals for Energy Applications." 36th Oklahoma *AIAA/ASME Symposium, Norman,* OK, April 16.

P7. Saeidijavash, M., Saha, M., Garg, J. (2015), "High Thermal Conductivity of Aligned Polymers." *AIAA/ASME Oklahoma Symposium XXXV,* Stillwater, Oklahoma, April 18.

P8. Barua, B. Dimirtas, M.S., Saha, M.C. (2015), "Effect of Electric Field and Flow Rate on Fiber Diameter Distribution and Tensile Properties of Electrospun Polyacrylonitrile Nanofibrous Yarns." *AIAA/ASME Oklahoma Symposium XXXV,* Stillwater, Oklahoma, April 18.

P9. Barua, B., Saha, M.C. (2015), "Investigating Morphology, Internal Structure, and Tensile Properties of Electrospun Polyacrylonitrile Nanofibrous Yarns." *AIAA/ASME Oklahoma Symposium XXXV,* Stillwater, Oklahoma, April 18.

P10. Hossain, Z., Zaman, M., Saha, M., Hawa, T. (2014), "Preparation and Evaluation of Nanoclay-modified Asphalt Binders." *ODOT-OTC Research Day,* OKC, OK, October 4.

P11. Webster, J., Barua, B., Saha, M.C. (2014), "Ultrasound Synthesis of Zinc Oxide Nanoparticles," XXXIV Oklahoma AIAA/ASME Symposium, March 29, Oklahoma Christian University.

P12. Barua, B., Saha, M.C. (2014), "Effect of Relative Humidity on Morphology and Mechanical Properties of Electrospun PAN Nanofiber Yarn," XXXIV Oklahoma AIAA/ASME Symposium, March 29, Oklahoma Christian University.

P13. Liang, J., Saha, M.C., Altan, M.C. (2014), "Application of 3ω Method on the Measurement of Transverse Thermal Conductivity of Individual Carbon Fiber," XXXIV Oklahoma AIAA/ASME Symposium, March 29, Oklahoma Christian University.

P14. Whetsell, J., Liang, J., Saha, M.C., Altan, M.C. (2014), "Effects of Sizing on Thermal Conductivity of Individual Carbon Fiber in Longitudinal and Radial Directions," XXXIV Oklahoma AIAA/ASME Symposium, March 29, Oklahoma Christian University.

P15. Zaman, M., Saha, M.C. (2013), Evaluation of Rutting and Moisture Susceptibility of Nanoclay-Modified Asphalt Binders, 17th International Road Federation World Meeting & Exhibition, November 10-14, Riyadh, Saudi Arabia.

P16. Guo, J., Saha, P., Liang, J., Saha, M.C., Grady, B.P. (2012), "Multi-Walled Carbon Nanotubes Coated by Multi-Layer Silica for Improving Thermal Conductivity of Polymer Composites, " 2012 Annual Meeting of the American Institute of Chemical Engineers (AIChE's), in from Sunday, October 28 – November 2, Pittsburgh, PA.

P17. Balakrishnan, A., Grady, B.P., Saha, M.C. (2012), "Mechanical, Calorimetric and WAXs Investigations of Thin Polyurethane Films," To be presented at the 2012 ASME International Mechanical Engineering Congress & Exposition, November 9-15, Houston, TX, USA, IMECE2012-88568.

P18. Balakrishnan, A., Saha, M.C. (2011), "Influence of Temperature and Dynamic Mechanical Properties of Ultrasound Assisted Spray Deposited Thin Polyurethane Films," Accepted for Presentation at the ASME *IMECE, 2011*, Paper Number IMECE2011-64222, November 11-17, Denver, Colorado, USA.

P19. Smith, D.L., Saha, M.C., Resasco, D.E., Altan, M.C. (2011), "Controlled Growth of Carbon Nanofibers on Carbon Fiber Fabric by Chemical Vapor Deposition," AIAA/ASME Oklahoma Symposium XXXI, April 9, University of Oklahoma.

P20. Balakrishnan, A., Saha, M.C. (2011), "Optical Microscopy of Ultrasonically Deposited Thin Polyurethane Films," AIAA/ASME Oklahoma Symposium XXXI April 9, University of Oklahoma.

P21. Adeoye, S., Aktas, L., Saha, M.C., Altan, M.C. (2011), "Tensile Properties of T650 Micro Carbon Fibers," AIAA/ASME Oklahoma Symposium XXXI April 9, University of Oklahoma.

P22. Hart, M.C., Altan, M.C., Saha, M.C. (2011), "Influence of Specimen Quality and Testing Parameters on Shear Properties of Woven Carbon/Epoxy Laminates," AIAA/ASME Oklahoma Symposium XXXI April 9, University of Oklahoma.

P23. Liang, J., Saha, M.C. (2011), "Measurement of Thermal Conductivity of Carbon Epoxy Composites Using Wire Based Three Omega Method," AIAA/ASME Oklahoma Symposium XXXI April 9, University of Oklahoma.

P24. Barua, B., Saha, M.C. (2011), "Manufacturing and Flexure Properties of Hybrid Nano-/Micro-Fiber Reinforced Epoxy Composites," AIAA/ASME Oklahoma Symposium XXXI April 9, University of Oklahoma.

P25. Saha, M.C., Siddique, Z., Barua, B., Arif, S.F., Akasheh, F. (2011), "Create Your Scenario Interactively (CSI) – A Teaching Nodule for Manufacturing Processes," Presented at the *2011 CCLI-TUES PI's Conference*, January 26-28, Washington, D.C.

P26. Saha, M.C., Altan, M.C., Resasco, D.E., Grady, B.P., Papavassiliou, D., Mullen, K., Striolo, A.L. (2010), "Experimental and Theoretical Studies of Carbon Nanotube Hierarchical Structures in Multifunctional Hybrid Composites," 25th Annual Technical Conference on American Society for Composites, September 20-23, Dayton, Ohio.

P27. Barua, B., Saha, M.C. (2010), "Manufacturing and Flexure Properties of Hybrid Nano/Micro-Fiber Reinforced Epoxy Composites," *25th Annual Technical Conference on American Society for Composites*, September 20-23, Dayton, Ohio.

P28. Thorbole, C.K., Saha, M.C., Bhonge, P.H. (2010), "Performance Evaluation of a Nano Based Enhanced Foam for Helmet Padding Application using Computational Modeling," Paper number 11B-0243, *SAE 2011 World Congress & Exhibition*, April 12-14, Detroit, Michigan.

P29. Saha, M.C., Barua, B. (2009), "Effect of Carbon Nanofibers on Cure Kinetics, Viscoelastic Behavior and Mechanical Properties of Rigid Polyurethane Foams," *2009 ASME IMECE*, November 13-19, Lake Buena Vista, Florida.

P30. Saha, M.C., Balakrishnan, A. (2009), "Thermoplastic Polyurethane /Carbon Nanofiber Nanocomposites Thin Films via Ultrasonic Atomization," *2009 ASME IMECE, November 13-19*, Lake Buena Vista, Florida.

P31. Mohan, S., Balakrishnan, A., Saha, M.C. (2009), "Dynamic Mechanical Behavior of Polyurethane Foams as a Function of Cure Temperature," *Twenty Ninth AIAA/ASME Symposium*, April 11, Oklahoma Christian University, Edmond, Oklahoma.

P32. Barua, B., Saha, M.C. (2009), "Shear Stress Relaxation Behavior of Cellular Thermoset Polyurethanes," *Twenty Ninth AIAA/ASME Symposium*, April 11, Oklahoma Christian University, Edmond, Oklahoma.

P33. Balakrishnan, A., Saha, M.C. (2009), "Shear Testing of Thin Polyurethane Films," *Twenty Ninth AIAA/ASME Symposium*, April 11, Oklahoma Christian University, Edmond, Oklahoma.

P34. Anderson, J., Saha, M.C. (2009), "Mechanical Characterization and Finite Element Analysis of Pultruded I-Beam," *Twenty Ninth AIAA/ASME Symposium*, April 11, Oklahoma Christian University, Edmond, Oklahoma.

P35. Balakrishnan, A., Saha, M.C. (2008), "Dynamic Mechanical Behavior of Thermoplastic Thin Polyurethane Films, *Micro/Nanotechnology Society Wide Forum, ASME IMECE*, November 2-6, 2008, Boston, MA.

P36. Mohan, S., [UG]Hickman, D.L., Balakrishnan, A., Saha, M.C. (2008), "Effect of Moisture Absorption Characteristics on Flexure Properties of Polyurethane Foams," 28th *AIAA/ASME Symposium*, March 8, Oral Roberts University, Tulsa, Oklahoma.

P37. Balakrishnan, A., Saha, M.C. (2008), "Tensile Fracture and Thermal Conductivity Characterization of SC-15/MWNT Composites," 28th *AIAA/ASME Symposium*, March 8, Oral Roberts University, Tulsa, Oklahoma.

P38. Saha, M.C., [UG]Granados, S., Balakrishnan, A. (2007), "Moisture Absorption Study of Nanoparticles Infused Polyurethane Foam Composites," *Oklahoma Symposium XXVII*, March 31, University of Tulsa, Tulsa, Oklahoma.

P39. Saha, M.C., Kabir, Md.E., Jeelani, S. (2007), "Improvement in Fracture Toughness of Polyurethane Foams Using Nanoparticles," *Oklahoma Symposium XXVII*, March 31, University of Tulsa, Tulsa, Oklahoma.

P40. Saha, M.C., Kabir, Md.E., Jeelani, S. (2007), "Effect of Ultrasound Sonication in Carbon Nanofibers/Polyurethane Foam Composites," *ASME IMECE 2007*, November 10-16, Seattle, Washington.

P41. Saha, M.C., Uddin, U., Kabir, Md.E., White, E., Jeelani, S. (2005), "Manufacturing and Characterization of Polymer Nanocomposites," *Partners in Technology Forum*, April 21-22, Oak Ridge, Tennessee.

P42. Chakravarty, U., Mahfuz, H., Saha, M.C., Jeelani, S. (2002), "Microstructure, Density, and Strain Rate Effects on Sandwich Core Materials," *2002 ASME International Mechanical Engineering Congress and Exposition*, November 17-22.

P43. Saha, M.C. (1999), "Compression Testing of Pultruded Composite Materials," International Student Paper Competition, *1999 SEM Spring Conference and Exhibit*, Cincinnati, Ohio, June 07-10.

P44. Saha, M.C. (1995), "Response of Advanced Polymeric Composites Plate at Low-Velocity Impact," International Student Paper Competition, *1995 SEM Spring Conference and Exhibit*, June 12-14.

- **Other Technical Presentations**

  - Saha, M.C. (2011), "Composite and Nanocomposite Materials Research," *Scott Air Force Base*, Aug. 30, Illinois.

  - Saha, M.C. (2011), "Composite and Nanocomposite Materials Research," *Army Research Laboratory*, Invited Talk, Aug. 4, Aberdeen Province Ground, Maryland.

  - Saha, M.C. (2011), "Composite and Nanocomposite Materials Research," *Research briefing to the Kansas City Plant (KCP)*, April 25, Kansas, Missouri.

  - Saha, M.C. (2011), "Composite and Nanocomposite Materials Research," *Baker Hughes*, Feb. 18, Houston, Texas.

  - Saha, M.C., Altan, M.C., Resasco, D., Grady, B.P., Papavassiliou, D., Mullen, K., Striolo, A.L. (2011), "Experimental and Theoretical Studies of Carbon Nanotube Hierarchical Structures in Multifunctional Hybrid Composites," *AFOSR Low Density Materials Program Review*, Jan. 4-5, Arlington, Virginia.

  - Saha, M.C. (2011), Composite and Nanocomposite Materials Research and Facilities, *Research briefing to Cameron International*, February 11, Norman, Oklahoma.

  - Saha, M.C. (2010), Composite and Nanocomposite Materials Research and Facilities, *Research briefing to Cameron International*, November 26, Norman, Oklahoma.

  - Saha, M.C., Altan, M.C., Resasco, D., Grady, B.P., Papavassiliou, D., Mullen, K., Striolo, A.L. (2010), "Experimental and Theoretical Studies of Carbon Nanotube Hierarchical Structures in Multifunctional Hybrid Composites," *AFOSR Annual Grantee/Contractor Meeting, Mechanics of Multifunctional Materials & Microsystems*, Aug. 1-5, Arlington, Virginia.

  - Saha, M.C., Altan, M.C., Resasco, D., Grady, B.P., Papavassiliou, D., Mullen, K., Striolo, A.L. (2010), "Experimental and Theoretical Studies of Carbon Nanotube Hierarchical Structures in Multifunctional Hybrid Composites," *AFOSR Annual Grantee/Contractor Meeting, Mechanics of Multifunctional Materials & Microsystems*, May 10-12, Reston, Virginia.

  - Saha, M.C. (2008), "Development of Structural Composites and Nanocomposites," *NanoFocus & OK NSF EPSCoR Annual State Conference*, Invited Talk, March 6, Oklahoma City, Oklahoma.

- **Technical Reports**

  - Saha, M.C. (2016), "Stress Sensing Silicone Films," Final Technical Report, Honeywell Federal Manufacturing & Technologies, Kansas City Plant, November 2016.

  - Altan, M.C., Saha, M.C. (2014), "Thermal Conductivity of Insulation Materials at Different Temperatures and Moisture Contents, Final Technical Report," ConocoPhillips, April 2014.

  - Saha, M.C. (2013), "Nanofibers for Advanced Materials Composites," Final Technical Report, Honeywell Federal Manufacturing & Technologies, Kansas City Plant, November 2013.

  - Saha, M.C. (2012), "Nanofibers for Advanced Materials Composites," Final Technical Report, Honeywell Federal Manufacturing & Technologies, Kansas City Plant, November 2012.

  - Saha, M.C., Siddique, Z. (2011), CSI Module to Enhance Students Learning Materials, Design, and Manufacturing," Annual Progress Report, NSF, May 2011.

  - Saha, M.C., Altan, M.C., Resasco, D., Grady, B.P, Papavassiliou, D., Mullen, K., Striolo, A.L. (2010), "Experimental and Theoretical Studies of Carbon Nanotube Hierarchical Structures in Multifunctional Hybrid Composites," Annual Technical Report, AFOSR, December 2010.

  - Saha, M.C., Barua, B. (2010), "Improving Mechanical Properties and Thermal Conductivity of Composites Structure Using Carbon Nanotubes, " Annual Progress Report, DoE, March 2010.

  - Saha, M.C., Siddique, Z. (2010), "CSI Module to Enhance Students Learning Materials, Design, and Manufacturing," Annual Progress Report, NSF, March 2010.

  - Saha, M.C. (2009), "The Use of Carbon Foam as Gas Diffusion Layer (GDL) in Fuel Cell Stacks, " University of Dayton Research Institute, Dayton, OH, March 2009.

  - Saha, M.C. (2008), "Carbon Foams for Thermal Management Applications, Research Initiation grant, " Oklahoma NASA Space Grant, 2008.

  - Mahfuz, H., Saha, M.C., Jeelani, S. (1996), "Impact Response and Damage Tolerance Study of Resin Infiltrated Woven Carbon Fiber Reinforced Composites," *Lockheed Martin Manned Space Systems*, New Orleans, Louisiana, July 1996.

  - Mahfuz, H., Saha, M.C., Jeelani, S. (2001), "Effect of Interface Strength on Solder Joint Reliability of Flip Chip Packages," *National Science Foundation (NSF),* Arlington, VA, November, 2001.

- Mahfuz, H., Saha, M.C., Jeelani, S. (2003), "Acquisition of High Speed Imaging System for Dynamic Characterization of Advanced Materials," *U.S. Navy, Office of Naval Research*, Arlington, VA 22217-5660, June 2003.

TEACHING AND SUPERVISORY EXPERIENCE

- **Course Instructor:**

  - AME2113: Statics, University of Oklahoma – Fall 2006, Summer 2009, Summer 2010, Summer 2015, Summer 2016
  - AME2213: Thermodynamics, University of Oklahoma – Fall 2012, Fall 2013, Fall 2014, Fall 2015
  - AME2303/ISE2302: Design, Materials, and manufacturing Processes, University of Oklahoma – Spring 2008, Spring 2009, Spring 2010, Spring 2011, Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2017
  - AME4143/AME5143: Nanocomposites, University of Oklahoma – Fall 2007, Fall 2011, Fall 2012, Fall 2015
  - AME4553: Design Practicum, University of Oklahoma – Spring 2007, Spring 2008, Spring 2008, Spring 2009
  - AME4832: Micro and Nano Materials Laboratory, University of Oklahoma – Spring 2010, Spring 2011, Spring 2012, Fall 2015, Fall 2016
  - AME5203: Elastic Stress Analysis, University of Oklahoma – Fall 2008, Fall 2010, Spring 2013, Spring 2014, Fall 2016
  - MENG0131: Engineering Graphics, Tuskegee University – Fall 2001
  - MENG0132: Freshman Design, Tuskegee University – Spring 2002, Spring 2003, Spring 2004, Spring 2005
  - MENG0211: Statics, Tuskegee University – Spring 2001
  - MENG0212: Dynamics, Tuskegee University – Fall 2005
  - MENG0301: Experimental Mechanics Laboratory, Tuskegee University – Fall 2000, Fall 2001, Fall 2003
  - MENG0319: Advanced Materials Laboratory, Tuskegee University – Spring 2002, Spring 2003, Fall 2003, Spring 2004, Fall 2004, Spring 2005, Fall 2005, Spring 2006
  - MENG0420: Computer Aided Design, Tuskegee University – Fall 2000, Spring 2001, Fall 2001, Spring 2002, Fall 2002, Spring 2003, Fall 2003, Spring 2004, Fall 2004, Spring 2005, Fall 2005, Spring 2006
  - MNG0421: Design for Manufacturing and Assembly, Tuskegee University – Fall 2001, Spring 2002, Fall 2002, Spring 2003, Fall 2003, Spring 2004, Fall 2005
  - MENG0520: Mechanical Vibration, Tuskegee University – Fall 2000, Fall 2002, Spring 2006
  - MENG0220: Solid Mechanics Laboratory, Old Dominion University – Fall 1996, Spring 1997, Fall 1997, Spring 1998, Fall 1998, Spring 1999, Fall 1999, Spring 2000

- **Graduate Advisees**

Ph.D.

In progress:

- Demirtas Mehmet, Manufacturing and Characterization of Carbon Nanofibers for Improved Mechanical Performance. (Passed General Exam 2015. Expected Completion: Summer 2018)
- Marashizadeh Parisa. Multiscale Modeling of PDMS/CNF Nanocomposites. (Started 2017, Co-Advisor with Dr. Liu)
- Mohammad Abshirini. Design and Analysis of Direct-ink Write for Flexible Pressure Sensors. (Started Fall 2017, Co-Advisor with Dr. Altan)

Completed:

- Bipul Barua. Investigation of Electrospinning Parameters and Studies on Stabilization Kinetics of Polyacrylonitrile Based Electrospun Carbon Nanofibers. (2015, ME)
- Junfeng Liang. Characterization of Thermal Conductivities of Carbon Nanofiber Modified Carbon Fibers and Their Composites with 3ω Method and Modeling. (2013, ME)
- Samuel G. Adeoye. Characterization of the Mechanical Properties of Microscale Carbon Fiber and Carbon-Nanotubes Grafted Fiber. (2012, ME)
- Anandh Balakrishnan. Development and Characterization of a Layer by Layer Ultrasound Assisted Spray Deposition Process for Thin Polymer Films. (2012, ME)

M.S.

In Progress:

- Wenyuan Luo. Modeling and Characterization of PDMS/CNF Nanocomposite Sensors. (Started 2016, Expected Graduation: Summer 2018, Co-Advisor with Dr. Liu)
- Phuong T. Nguyen. Design and Development of multilayers Polymer Fibers using Co-axial Electrpospinning Process. (Started 2017, Expected Graduation: Summer 2019)
- Mohammad Charara. Design and Development of Micro Sensor using Direct-ink Write Technology. (Started Fall 2017, Expected Graduation: Summer 2019)

Completed:

- Shoieb A. Chowdhury. Polydimethylsiloxane (PDMS)/Carbon Nanofiber Nanocomposite with Piezoresistive Sensing Functions. (2017, ME, Co-Advised with Dr. Liu)
- Mark Olima. Mechanical Characterization of Polydimethylsiloxane Using Non-Contact Strain Measurement Techniques. (2017, ME, Co-Advised with Dr. Liu)
- Jordan A. Whetshell. Diffusion Modeling and Freeze-Thaw Characterization of Closed Cell Polymeric Foam for Water Content Prediction. (2015, M.S.).
- Kaji M. Fuad. Effect of Micro and Nano Scale Fillers on Mechanical Properties of Silicone Foam. (2013, ME)

- Fariz Afzal. Effect of Carbon Nanotube and POSS Coating on Mechanical Properties of Carbon Fiber Epoxy Composites. (2013, ME)
- Marcus C. Hart. Investigation on Interlaminar Properties of VARTM Manufactured Carbon/Epoxy Composites Containing Carbon Nanofibers. (2011, ME)
- Bipul Barua. Stress Relaxation Behavior of Thermosetting Polyurethane Solid and Foams. (May 2011)
- Jacob Anderson. Characterization and Finite Element Analysis of Pultruded Composite Decking. (2009, ME)
- Sriram Mohan. Cure Kinetics and Viscoelastic Behavior of Thermoset Polyurethane Foams. (2009, ME)
- Joshua Webster, (2015 non-thesis ME)
- Md. E. Kabir. Mechanical and Fracture Behavior of Nanophased Polyurethane Foams and Their Sandwiches. (2006, ME @Tuskegee University)
- Sabrina Nilufar. Manufacturing and Characterization of Nanophased Syntactic Foams. (2006, ME@Tuskegee University)
- Chinmoy Joarder. Manufacturing and Characterization of Sandwich Tee Joints. (2002, ME@Tuskegee University. Co-Advised with Mahfuz)
- ABM Khalid Hassan. Modeling of Flip Chip using Finite Element Methods. (2002, ME@Tuskegee University. Co-Advised with Mahfuz).
- Uttam Chakravarty. High Strain Rate Characterization of Cellular Materials. (2003, ME@Tuskegee University. Co-Advised with Mahfuz)
- Prasun K. Majumdar. Manufacturing and Stability Analysis of Composite Skin-Stringer Assembly. (2003, ME@Tuskegee University. Co-Advised with Mahfuz)
- M. Uddin. Ballistic Impact of Nanophased Sandwich Structures. (2004, ME@Tuskegee University. Co-Advised with Mahfuz)

- **Undergraduate Advisees**

- Phuong Nguyen, Carbon based strain sensor. Summer 2016 (admitted to AME's 5 years BS/MS program)
- Andrew Fuller, Carbon based pressure sensor. Summer 2016 (admitted to AME's 5 years BS/MS program)
- Joshua Webster. Synthesis of Zinc Oxide Nanoparticles, 2013 (Undergraduate Research)
- Sunny Chauhan. Synthesis of Zinc Oxide Nanoparticles, 2013 (Undergraduate Researcher)
- Justin Boros. Sonochemical Synthesis of ZnO Nanoparticles, 2012 (Undergraduate Researcher; UROP award)
- Jui-Wen Liu. Thermoplastic Polyurethane Nanocomposite Fiber using Electrospinning Method, 2011.
- Derek Nash. Fabrication of Carbon Nanotube Bucky Paper, 2009 (Undergraduate Research).
- Jesus Elizondo. Design a Control System for Energy Efficient Composite Molding, 2009 (Undergraduate Research).

- Jesus Elizondo. Design and fabrication of Cooling Unit for Tip Sonication, 2008 (Undergraduate Research).
- Kelvin Bengal. Alignment of Carbon Nanotubes in Epoxy using Electric Field, 2007 (Undergraduate Research).
- Travis Jandula, Design of Experiment for Shear Characterization of Laminated Composites, 2010 (Undergraduate Research).
- Kelly Meek. Spin Coated Thermoplastic Polyurethane Thin Films, 2009, (Undergraduate Research Experience; NSF REU Research Program).
- Jennifer Henry. Spin Coated Thermoplastic Polyurethane Thin Films, 2009, (Undergraduate Research Experience; NSF REU Research Program).
- Samira Khan. Ultrasonic Synthesis of Iron Oxide Nanoparticles, 2009, (Undergraduate Research; Honors Research).
- Steven Fisher. In-situ Monitoring of Moisture Content of Polyurethane Foams, 2009, (Undergraduate Researcher; UROP award).
- David Hickman. Effect of Nanoclay on Moisture Behavior of Polyurethane Foams, 2008 (Undergraduate Research; Resulted in two conference publications).
- Sabastian Granados. Moisture Behavior of Thermoset Ployurethane Foams, 2007 (Exchange Student, undergraduate research; Resulted in one conference presentation).

- **Member of Doctoral Committee**

- Jingyu Wang (ME)
- Gorkem Guloglu (ME)
- Maya Pishvar (ME)
- Mehrad Amirkhosravi (ME)
- Qinglu Chen (PE)
- Israel Chavez Sumarriva (2009, CBME).
- Landon Grace (2012, ME).
- Keith Hurdelbrink (2017, ME)
- Wesley Tannysson (2014, ME)
- Matthew Yost (ME).
- Soumitra Nandi (2012, ME).
- Jacob Anderson (2013, ME).
- Neville Tomlinson (2006, Howard University).

- **Member of Master Thesis Committee**

- Wangru Shang (2016, ME)
- Davis Crane (2016, ME)
- Gorkem Guloglu (2014, ME)
- Ryan Smith (2014, ME)
- Dustin Baker (2014, ME)
- Michael Mannas (2014, ME)

- Kolton Landreth (2013, ME)
- Luke Rosenberger (2013, ME)
- Mathew Jones (2013, ME)
- Shashank Ramarao (2013, ME)
- Scott Bowen (2012, ME)
- Daniel Smith (2012, ME)
- Michael Atkinson (2012, ME)
- Adam Kelly (2012, ME)
- Ersin Ozbenli (2012, ME)
- Saiful Arif (ME)
- Sagar Chowdhury (2009, ME.).
- Kavitha Meharwarde (2009, ME).
- Hyun Gwak (2009, ME).
- Jach Butler (2010, ME).
- Grant Wood (2010, ME).
- Felix De La Gruz (2010, ME).
- Charbel Chaghouri (2010, ME).
- Robert Nichols (2011, ME).
- Duane Bauman (2011, ME).

NEW COURSE DEVELOPMENT

AME4832 – Micro and Nano Materials Lab.

I developed a new laboratory course (AME 4832 – Micro and Nano Materials Lab.) in 2009 on the processing and characterization of advanced materials including polymer matrix composites and nanocomposites. Senior students take this course to satisfy their experimental elective while graduate students with special interests take this course to gain knowledge in advanced materials and characterization techniques. Students participating in competition teams such as Sooner Powered Vehicle (SPV, Sooner Race Team (SRT), Design, Build and Fly (DBF) also take this course to apply the knowledge gained into their competition design. I have been offering this course on a regular basis in multiple sections, as needed. I often adopt different pedagogical approaches such as including scenario based design of experiment to stimulate motivation and excitement in the class.

AME4143/5143 – Nanocomposites

Nanomaterials and nanocomposites are relatively new areas of research for possible application in structures, sensors, energy storage, and biomedical devices. After joining OU in 2006 I developed a new graduate course, AME4143/AME5143 – Nanocomposites. The course introduces the fundamentals of nanotechnology including nanomaterials, synthesis and processing, interactions between polymer and nanoparticles, and characterization of nanomaterials and nanocomposites. I have developed the entire course content (lecture notes, assignments, and projects) from various published journals, conference papers, and reference

books. I offered this course for the first time at OU in Fall 2007 and since then I have been offering this course on a regular basis. Graduate students from different Schools at OU have taken (or are taking) my nanocomposites course.

Engineering Education Instruction Module

Web-based instruction module *"Create your Scenario Interactively (CSI)"* was developed through the NSF funded project to teach metal casting process. The module was implemented in manufacturing courses at the University of Oklahoma (AME2303/IE2303) and at Tuskegee University (MENG 0314). The CSI module consists of three sub-modules namely, information module, instructor scenario module, and student scenario module. The CSI module is completely web-based for easy access to the students and educators. The information module includes basic principles of casting, while scenario module includes a systematic step-by-step interactive procedure covering the design of casting of some common parts such as brake pedal, piston, and engine block. The expected outcomes from the CSI includes:

- Encourage active and engaging learning
- Bridge the gap between the theory and practice
- Develop key skills including group working and problem solving
- Improve the image of engineering

We have evaluated the impact of the CSI instruction on students' learning and engaging using pre-/post-test and survey questionnaires. It has been found that the CSI instruction has significant impact on student's learning and critical thinking. A total of 6 conference papers have been published in the ASEE conferences.

EDUCATIONAL OUTREACH

- I participated in the Engineering Open House and Summer Engineering and Technology Scholars Academy at Old Dominion University and Tuskegee University. As part of the STEM education, I conducted several lab demonstrations to hundreds of middle school and high school students. I also received certificates of appreciation due to my outstanding service activities.

- I advised the University of Oklahoma's Sooner Powered Vehicle (SPV) students' team from 2006 - 2015. As an advisor, I supervised the design, analysis, construction, and testing the vehicle for the ASME's Human Powered Vehicle Challenge (HPVC) competition. Due to my continuous guidance and inspiration the SPV have used composite materials in designing and constructing their vehicle for significant weight reduction. As an advisor, I always travel to the competition site to show my support and commitment. During my tenure as advisor the SPV team has competed every year in the HPVC competition, and has won several awards and certificates including 5th Design (2013), 7th Innovation and Overall (2013), Sportsmanship Award (2011), 6th Overall (2011), 5th in Utility and Speed Endurance (2011), 7th in Design (2011), Team Spirit Award (2010), 7th Overall (2010), 7th in Design (2010), 6th Overall (2009), 4th in Design (2009), 7th in Utility Endurance (2009), Design Innovation

Award (2008), 3rd in Design (2008), 5th Overall (2008), 2nd Overall (2007), and 2nd in Design (2007). The SPV team projects have also been the point of attraction in many events including Summer School for High Schools and Middle School students

HONORS AND AWARDS

- Junior Faculty Research Award, Research Council, University of Oklahoma, 2010.
- Best Paper Award, Fostering Innovation Through Experiential Learning, (with Z. Siddique, P. Hardre, A. Bradshaw, F. Mistree), ASME 7th Symposium on International Design and Design Education Conference, Montreal, Quebec, Canada, 2010.
- Faculty Performance Award for Research, College of Engineering, Architecture, and Physical Sciences, Tuskegee University, 2005.
- ASME Board of Governors Special Recognition as Student Section Advisor of the ASME Region XI, 2005.
- Outstanding Teaching Assistant Award, College of Engineering and Technology, Old Dominion University, 2000.
- Member of *Sigma Xi*, Scientific Research Society, 1999.
- Special Doctoral Research Assistantship (SDRA) Award, Old Dominion University, 1999.
- America's Registry of Outstanding Professionals, 2003-2004
- Member of Phi Kappa Phi Honor Society, 1998.
- University Merit Scholarship, BUET, Bangladesh, 1983-1988.
- Merit Scholarship of Education Board, Bangladesh, 1980-1982.

PROFESSIONAL SOCIETY MEMBERSHIP

- American Society of Mechanical Engineers (ASME), 2001 – Present.
- American Society for Composites (ASC), 2001 – Present.
- Society for Experimental Mechanics (SEM), 2001 – 2005.
- Society for the Advancement of Materials and Process Engineering (SAMPE), 2001 – 2005.
- American Society for Engineering Education (ASEE), 2010 – 2012.

PROFESSIONAL SERVICE

Society for Composites (ASC)

- Chair, Design and Manufacturing Division of the American Society for Composites (ASC), 2012-2014.
- Chair, Best Paper Award Committee, 2012-2014
- Technical Session Chair, 2014, 2016
- Technical Session Organizer, Design and Manufacturing Division/Track, 2012-2014

American Society of Mechanical Engineers (ASME)

- Associate Editor, Special Issue on Recent Advances in Micro, Nano and Cellular Composite Materials, *Journal of Engineering Materials and Technology (JEMT)*, 2011.

- Chair, Materials Division Technical Committee on *Composites and Heterogeneous Materials,* 2010-2012.
- Vice Chair, Materials Division Technical Committee on *Composites and Heterogeneous Materials*, 2008-2010.
- Member, Materials Division Executive Committee, 2008-2012.
- Technical Symposia Organizer, ASME IMECE Conference – Organized various technical sessions and symposium on Nanocomposites, 2007-current.
- Technical Symposia Organizer, ASME IMECE Conference – Organized various technical sessions and symposium on Dynamic Behavior of Cellular Materials, 2005-2007.
- Chair, ASME Region XI – Chattahoochee Section, 2005 – 2006.
- Treasurer, ASME Region XI – Chattahoochee Section, 2002- 2005.
- Technical Session Chair, ASME IMECE, 2004, 2005, 2006, 2007, 2008, 2009; ASC Technical Conference, 2003. ICCE-10, 2003-2004.
- Secretary and Treasurer, Southeastern Conference on Theoretical and Applied Mechanics (SECTAM XXII), 2004.
- Faculty Advisor, ASME Student Chapter Tuskegee University, 2003-2006.
- Chair, ASME Region XI, 2005-2006.
- Treasurer, ASME Region XI, 2002-2005.
- Judge, Student Research Symposium, Sigma Xi Scientific Society, 2003

<u>Other Professional Service</u>

- Chair and Organizer, 36th Annual Oklahoma AIAA/ASME Symposium, 2016
- Kansas NSF EPSCoR Proposal Review for Young Investigator Award, 2015
- Tenure and Promotion Dossier Review, University of South Alabama, 2014
- Ph.D. Thesis External Reviewer, Howard University, December 2006.
- NSF CCLI (TUES) Proposal Review Panel, 2004, 2005, 2009, 2011
- Research Instrumentation (MRI/SQUIDS) Proposal Review Panel, 2012
- Proposal Reviewer, American Chemical Society Petroleum Research Funding
- Manuscript Reviewer (Journal)
    - *Journal of Composite Materials*
    - *Carbon*
    - *Journal of Composite Science and Technology*
    - *Polymer Composites*
    - *Materials Science and Engineering A*
    - *Journal of Materials Science*
    - *Journal of Biomedical Materials Research: Part A*
    - *Metallurgical and Materials Transactions*
    - *Journal of Engineering Materials and Technology*
- Manuscript Reviewer (Conference)
    - *American Society for Composites, 2012-2014*
    - *ASME International Mechanical Engineering and Congress, 2008-present*
    - *ASME Southeastern Conference on Theoretical and Applied Mechanics (SECTAM XXII), 2004*

DEPARTMENT, COLLEGE AND UNIVERSITY SERVICE

School of Aerospace and Mechanical Engineering, University of Oklahoma

- Chair of Graduate Studies Committee (GSC) and Graduate Liaison: 2017 - present
- Committee A Member: 2014 - 2017
- Director's Advisory Committee Member: 2012 - 2013
- Undergraduate Committee Member: 2012 – 2014
- Graduate Studies Committee Member: 2006 – 2011
- Junior Faculty Mentor: 2014 – present
- Faculty Search Committee Member: 2014, 2016
- Faculty Advisor of Competition Team: 2006 – 2015
- Lab Committee Member: 2006 - present

Gallogly College of Engineering, University of Oklahoma

- Faculty Advisor of the Sooner Powered Vehicle (SPV) team: 2006-2015
- Member of Misconduct/Grade Appeal Committee: 2009-2010
- Chair of Misconduct/Grade Appeal Committee: 2013-2016
- Graduation Ceremony Marshal: 2014
- Dean Evaluation Committee, 2016 – present

University of Oklahoma

- GrEM Member: 2007-2009
- Steering Committee Member, Microfabrication Research & Education Center (MREC), University of Oklahoma, 2014 - present

Department of Mechanical Engineering, Tuskegee University

- Member, Faculty Steering Committee for Undergraduates, 2005 – 2006

College of Engineering, Architecture and Physical Sciences, Tuskegee University

- Member, Advisory Committee, 2001- 2006
- Member, Web Page committee, 2003
- Faculty Member, PhD Program in Materials Science and Engineering, Tuskegee University, 2002-2006

GRANTS AND CONTRACTS

- **External Grants (At the University of Oklahoma)**

1.	**Title of Project**	**Stress Sensing Silicone Films**
	Sponsor	Honeywell Federal Manufacturing & Technologies, LLC – Kansas City Plant
	Dollar Value	$105,000
	Time Period	2/15/2017 – 9/30/2017
	Investigators	M. C. Saha (PI), Y. Liu

2.	**Title of Project**	**Stress Sensing Silicone Films**
	Sponsor	Honeywell Federal Manufacturing & Technologies, LLC – Kansas City Plant
	Dollar Value	$101,159
	Time Period	2/25/2016 – 9/30/2016
	Investigators	M.C. Saha (PI), Y. Liu
3.	**Title of Project**	**Measurement of thermal conductivity of insulation materials containing moisture at Different Temperatures**
	Sponsor	ConocoPhillips
	Dollar Value	$35,386
	Time Period	7/01/2014 – 12/31/2014
	Investigators	M.C. Saha (PI), M.C. Altan
4.	**Title of Project**	**Measurement of thermal conductivity of insulation materials containing moisture**
	Sponsor	ConocoPhillips
	Dollar Value	$35,000
	Time Period	3/20/2013 – 2/28/2014
	Investigators	M.C. Altan (PI), M.C. Saha
5.	**Title of Project**	**Nanofibers for Advanced Material Composites**
	Sponsor	Honeywell Federal Manufacturing & Technologies, LLC – Kansas City Plant
	Dollar Value	$60,019
	Time Period	4/8/2013 – 9/30/2013
	Investigators	M.C. Saha (PI)
6.	**Title of Project**	**Nanofibers for Advanced Material Composites**
	Sponsor	Honeywell Federal Manufacturing & Technologies, LLC – Kansas City Plant
	Dollar Value	$62,999
	Time Period	4/16/2012 – 9/28/2012
	Investigators	M.C. Saha (PI)
7.	**Title of Project**	**Application of Single-Walled Carbon Nanotubes (CANTEC)**
	Sponsor	DOE
	Dollar Value	$972,000
	Time Period	9/2010 – 8/2012
	Investigators	D. Resasco (PI), M.C. Saha, D. Papavassiliu, D. Schmidtke, B. Starly, A. Strilio

8.	**Title of Project**	**Experimental and Theoretical Studies of Carbon Nanotubes Hierarchical Structures in Multifunctional Hybrid Composites**
	Sponsor	AFOSR
	Dollar Value	$748,179
	Time Period	1/2010 – 12/2013
	Investigators	M.C. Saha (PI), M.C. Altan, D. Resasco, D. Papavassiliu, B.P. Grady, A. Strilio, K. Mullen
9.	**Title of Project**	**CSI Module to Enhance Students Learning Materials, Design, and Manufacturing Engineering**
	Sponsor	NSF
	Dollar Value	$102,779
	Time Period	6/2009 – 5/2012
	Investigators	M.C. Saha (PI), Z. Siddique
10.	**Title of Project**	**Carbon Nanotube Technology Center**
	Sponsor	DOE
	Dollar Value	$924,858
	Time Period	6/2009 – 5/2012
	Investigators	D. Resasco (PI), M.C. Saha, B.P. Grady, D. Papavassiliu, D. Schmidtke, A. Strilio
11.	**Title of Project**	**Acquisition of a Field Emission Scanning Electron Microscope**
	Sponsor	NSF-MRI
	Dollar Value	$533,000
	Time Period	1/2010 – 12/2010
	Investigators	M. Johnson (PI), M.C. Altan, M.C. Saha, B.P. Grady, D. Resasco, M. Santos, W. Merchan-Merchan
12.	**Title of Project**	**Shape Engineering for Advanced Manufacturing (SEAM)**
	Sponsor	Oklahoma EDGE
	Dollar Value	$3,000,000
	Time Period	1/2008 – 12/20
	Investigators	S. Raman (PI), M.C. Saha, M.C. Altan, B. Starly, Z. Siddique
13.	**Title of Project**	**Development of Structural Nanocomposites**

Sponsor	Oklahoma NanoNet
Dollar Value	$44,910
Time Period	9/2008 – 12/2008
Investigators	M. Johnson (PI), D. Resasco, B.P. Grady, M.C. Saha

14. Title of Project **The Use of Conductive Carbon Foam as Gas Diffusion Layer in Fuel Cell Stacks**

Sponsor	University of Dayton Research Institute
Dollar Value	$29,997
Time Period	7/2007 – 7/2008
Investigators	M.C. Saha (PI)

15. Title of Project **Carbon Foam for Thermal Management Applications**

Sponsor	NASA EPSCoR RIG Grant
Dollar Value	$21,000
Time Period	2/2008 – 8/2008
Investigators	M.C. Saha (PI)

16. Title of Project **Carbon Foam for Thermal Management Applications**

Sponsor	NASA EPSCoR Travel Grant
Dollar Value	$1,366
Time Period	7/2007 – 12/2007
Investigators	M.C. Saha (PI)

17. Title of Project **Modular Pallet System Prototype Fabrication**

Sponsor	TSM Corp
Dollar Value	$432,060
Time Period	1/2007 – 12/2008
Investigators	M.C. Altan (PI), M.C. Saha (Co-PI)

18. Title of Project **Modally Tuned Impulse Hammer Kit**

Sponsor	PCB Piezotronics Inc
Dollar Value	$2,155
Time Period	2006
Investigators	M.C. Saha (PI)

- **External Grants (At Tuskegee University)**

19. Title of Project **Synthesis, Manufacturing and Characterization of Structural Nanocomposites**

	Sponsor	NSF-CREST
	Dollar Value	$4,500,000
	Time Period	9/2003–7/2008
	Investigator	S. Jeelani (PI), H. Mahfuz, M.C. Saha, M. Hosur, M. Reeves
20.	**Title of Project**	**Nanophased Skin-Stringer Assembly for Aircraft Structures**
	Sponsor	Federal Aviation Administration (FAA)
	Dollar Value	$225,000
	Time Period	6/2004-5/2007
	Investigator	H. Mahfuz (PI), M.C. Saha
21.	**Title of Project**	**Development of Flexible Extremities Protection utilizing Shear Thickening Fluid/Fabric Composites**
	Sponsor	Army Research Office (ARO)
	Dollar Value	$2,500,000
	Time Period	8/2004–7/2008
	Investigator	H. Mahfuz (PI), M.C. Saha, S. Jeelani, M. Hosur
22.	**Title of Project**	**Multidisciplinary Graduate Education and Research Training in Nanomaterials Science and Engineering**
	Sponsor	National Science Foundation (NSF IGERT)
	Dollar Value	$3,320,000
	Time Period	10/2003 – 9/2008
	Investigators	S. Jeelani (PI), H. Mahfuz, M.C. Saha, P.K. Ray, M. Hosur
23.	**Title of Project**	**Alabama Center for Nanostructured Materials**
	Sponsor	National Science Foundation (NSF EPSCoR)
	Dollar Value	$1,800,000
	Time Period	6/2005 – 5/2008
	Investigators	M. Hosur (PI), S. Jeelani, H. Mahfuz, M.C. Saha
24.	**Title of Project**	**Curriculum Development and Training for Environmental Restoration/Waste Management**
	Sponsor	Department of Energy (DOE))
	Dollar Value	$1,000,000
	Time Period	9/2005 – 8/2007
	Investigators	P.K. Ray (PI), H. Mahfuz, M.C. Saha
25.	**Title of Project**	**Acquisition of Ultrasonic C-Scan System for Research and Educational Training in Structural Nanocomposites**
	Sponsor	National Science Foundation (NSF MRI)
	Dollar Value	$303,733
	Time Period	7/2005-6/2008
	Investigators	M. Hosur (PI), S. Jeelani, H. Mahfuz, M.C. Saha

- **Internal Grants**

26.	**Title of Project**	**Evaluation of Self-Healing Potential of Nanoclay-Modified Asphalts**
	Sponsor	OU Vice President for Research – Research Council Funds – Faculty Investment Program (FIP)
	Dollar Value	$15,000
	Time Period	10/2012 – 9/2013
	Investigators	T. Hawa (PI), M.C. Saha, Z. Hossain, M. Zaman
27.	**Title of Project**	**Development of Multifunctional Pavement Materials using Nanotechnology**
	Sponsor	OU College of Engineering – SEED Program
	Dollar Value	$10,000
	Time Period	6/2012 – 12/2012
	Investigators	M.C. Saha (PI), Z. Hossain)
28.	**Title of Project**	**Thermoplastic Polyurethane Fibers via Electrospinning Process**
	Sponsor	OU College of Engineering -SEED Program
	Dollar Value	$10,000
	Time Period	6/2011 – 12/2011
	Investigators	M.C. Saha (PI), B. Starly
29.	**Title of Project**	**Structural Composites for High Temperature Applications**
	Sponsor	OU Vice President for Research – Junior Faculty Research Program
	Dollar Value	$7,000
	Time Period	6/2010 – 7/2010
	Investigator	M.C. Saha (PI)
30.	**Title of Project**	**Development of Thermoplastic Nanocomposites Thin Films with Improved Functional Properties**
	Sponsor	OU College of Engineering – SEED Funding Program
	Dollar Value	$10,000
	Time Period	6/2009 – 12/2009
	Investigator	M.C. Saha (PI), Ed. O'Rear
31.	**Title of Project**	**Improving Thermal Conductivity of Composites by Nanostructurely Designed Interfaces**

Sponsor	OU College of Engineering – SEED Funding Program
Dollar Value	$10,000
Time Period	6/2007 – 3/2008
Investigator	M.C. Saha (PI), D. Resasco