

Ahmed Khattab, PhD
Interim Dean of Engineering
BoRSF Endowed Professorship in Engineering
College of Engineering
University of Louisiana at Lafayette
Tel: 337-482-6166
khattab@louisiana.edu

Education

- Ph.D.** Mechanical Engineering, 2005, Department of Mechanical and Aerospace Engineering, University of Missouri-Columbia.
- M.S.** Mechanical Engineering, 1998, College of Engineering, Alexandria University, Egypt.
- B.S.** Mechanical Engineering, 1990, College of Engineering, Alexandria University, Egypt.

Areas of Research Interest

- Research and development of materials processing-structure-property relations
- Nanocomposites and polymer composites manufacturing and process development
- Smart materials processing, characterization and development

Employment History

- 2019-present** **Interim Dean**, College of Engineering, University of Louisiana at Lafayette
- 2015-present** **Associate Dean**, College of Engineering, University of Louisiana at Lafayette
- 2014 - 2016** **Associate Professor and Graduate Coordinator**, Department of Industrial Technology/Graduate Faculty in the Department of Mechanical Engineering, University of Louisiana at Lafayette
- 2014 – 2017** **Interim Director**, Institute for Materials Research and Innovation, University of Louisiana at Lafayette
- 2013 – 2014** **Assistant Professor and Graduate Coordinator**, Department of Industrial Technology/Graduate Faculty in the Department of Mechanical Engineering, University of Louisiana at Lafayette
- 2007 – 2013** **Assistant Professor**, Department of Industrial Technology/Graduate Faculty in the Department of Mechanical Engineering, University of Louisiana at Lafayette

- 2005 – 2006 Research Assistant Professor**, Industrial and Technological Development Center, Department of Mechanical and Aerospace Engineering, University of Missouri-Columbia
- 2000 – 2005 Graduate Research Assistant/Graduate Teaching Assistant**, Department of Mechanical and Aerospace Engineering, University of Missouri-Columbia
- 1997 – 1999 Adjunct Instructor**, Department of Mechanical Engineering, Arab Academy for Science and Technology, Alexandria-Egypt
- 1991 – 2000 Researcher**, Research and Consultation Center, Arab Academy for Science and Technology, Alexandria, Egypt
- 1990 – 1991 Mechanical Engineer**, CATERPILLAR Inc. Dealer, Alexandria, Egypt

Administrative Leadership

- **Interim Dean (January, 2019 - present)**, College of Engineering, University of Louisiana at Lafayette
- **Associate Dean (2015 - present)**, College of Engineering, University of Louisiana at Lafayette

The Associate Dean reports to the Dean of Engineering and coordinates with the Assistant Deans and Department Heads to manage and oversee the College of Engineering undergraduate and graduate academic programs. The Associate Dean works with the Dean to guide the College through planned growth in enrollment and research productivity while maintaining high quality teaching and represents the College in the absence of the Dean.

Major responsibilities:

- **Faculty Mid-Tenure, Tenure and Promotion Evaluation**
Reviews tenure, mid-tenure, and promotion packets providing significant feedback to the Dean.
- **Faculty Annual Performance Evaluation**
Reviews and provides feedback on faculty, department head, and assistant dean annual performance evaluation documents. Compiles annual faculty performance data, prepares individual faculty summary data in teaching, research, and service to the Dean.
- **Student Appeals**
Manages College level undergraduate and graduate student appeals and complaints.
- **Student Evaluation of Instruction (SEI) and Grade Distribution Data**
Reviews the fall, spring, and summer SEI student feedback and grade distributions. Meet with Department Heads to address related concerns to improve the quality of instruction in the college.

- **Other Responsibilities**
 - Signature authority for the College
 - Address faculty and staff concerns
 - Participate in new faculty/department head/staff hires
 - Manage General Engineering courses
 - Coordinated all specialty Minors updates and creating new ones
 - Manage catalog changes, and articulation agreements
 - Manage and oversee freshman student advising and orientation sessions
 - Oversee accreditation activities to ensure University and College resources are available for program review
 - Represent the College of Engineering as a member of ASEE Engineering Research Council
 - Conduct recruiting visits to high schools and community colleges across the State of Louisiana
 - Participate in on-campus recruiting events and engineering and technology week
 - Conduct college tours for prospective students and parents
- **Interim Director (2014-2017), Institute for Materials Research and Innovation (IMRi), University of Louisiana at Lafayette**
 - Developed the Mission statement for the IMRi
 - Established IMRi research emphases areas that represent greatest strength and potential for growth, excellence and commercialization
 - Coordinated and established a core membership of eighteen faculty with shared expertise and resources for IMRi
 - Promoted the IMRi in Louisiana and Mexico
 - Organized and hosted a faculty workshop targeting NSF and CAREER development proposals in 2015 (cosponsored by UL Research Office and LTRC). Over forty UL faculty and researchers participated in the workshop.
 - Provided seed money and matching funds for IMRi member development
 - Recruited a Research Scientist, Dr. Dilip Depan, for the IMRi
 - Reallocated major research equipment to different laboratories or centers to better service the need, usage and maintenance of the equipment
 - Provided access to shared materials laboratories for IMRi faculty and research staff
 - Louisiana Board of Regents Steering Committee Member for statewide 2014 EPSCoR Industry-Academia Workshop on Advanced Materials and Manufacturing promoting dialogue and collaboration between Louisiana's universities and industry. Participated in organizing the workshop, coordinated and recruited industry speakers for the workshop
 - Louisiana Board of Regents Advanced Materials and Manufacturing (AM&M) Task Force Committee Member to set the research strategies for

the State of Louisiana in the areas of advanced materials and manufacturing

- **Graduate Coordinator (2013-2016)**, Department of Industrial Technology, University of Louisiana at Lafayette
 - One of the major authors of Letter of Intent (LOI) for Systems Technology program submitted to UL Board of Supervisors and Board of Regents
 - One of the major authors of the full proposal for Systems Technology program submitted to UL Board of Supervisors and Board of Regents
 - Worked with the UL upper administration for SACSCOC's approval of Systems Technology
 - Developed the graduate program brochures and promoted the program across the state
 - Established a database of Department of Industrial Technology alumni for direct mail and emails for a recruiting campaign
 - Developed two-year course rotation schedule for the Systems Technology program
 - Recruited the first cohort of Systems Technology graduate students
 - Primary Advisor all entering graduate students in the program
 - Increasing the enrollment in three years to the third largest M.S. program in the College
- **Acting Department Head (Summer 2013, 2014, and 2015)**, Department of Industrial Technology, University of Louisiana at Lafayette
 - Managed day-to-day activities in the Department
 - Coordinated all summer freshman and transfer orientation advising sessions
 - Managed student grade appeals and continuing student schedule adjustments
 - Met with transfer students to discuss the undergraduate curriculum and evaluate potential transfer credit

Honors and Awards

- Leadership Lafayette, Class XXXI, Leadership Institute of Acadiana, One Acadiana, November 2018.
- Certificate of Achievement in Innovation, in recognition of involvement in advancing the innovation agenda for the University of Louisiana at Lafayette, 2017.
- BoRSF Endowed Professorships in Engineering, University of Louisiana at Lafayette:
 - ACIM/LEQSF Regents Endowed Professorship in Engineering, 2016-2019.
 - M. Eloi Girard/BoRSF Endowed Professorship in Engineering III, 2013-2019.
 - Lee & Ken Matherne/BoRSF Endowed Professorship in Engineering, 2010-2019.
 - CBIT/BoRSF Professorship in Engineering II, 2013-2016.

- Outstanding Faculty of the Year for Student Outreach Award, College of Engineering, University of Louisiana at Lafayette, May 2014.
- Outstanding Teacher of the Year Award, College of Engineering, University of Louisiana at Lafayette, May 2012.
- Outstanding Faculty Advisor, National Society of Black Engineers, Students Chapter of the University of Louisiana at Lafayette, 2011
- Outstanding Academic Advisor Award, University of Louisiana at Lafayette, April 2008.
- Best Paper Award, the 4th International Conference on Virtual Concept, November 2006.
- Certificate of Achievement from Program of Excellence in Teaching, University of Missouri, January 2005.

Teaching Experience

Dr. Khattab's teaching experience spans three universities, University of Louisiana at Lafayette, University of Missouri, and Arab Academy for Science and Technology, Egypt (AAST). Dr. Khattab's first teaching assignment was an adjunct faculty at AAST teaching Engineering Graphics. His teaching experience expanded at the University of Missouri to include laboratory instruction for Manufacturing Methods.

His excellence in teaching was recognized, early in his career, by being appointed as an instructor for new teaching assistants through the College Teaching Institute (CTI)–Program for Excellence in Teaching at the University of Missouri. Over five years with CTI, Dr. Khattab participated in one week workshops, before every semester, to provide instruction about teaching and learning issues, led micro-teaching sessions, explored challenging teaching for lectures and laboratory courses.

His performance in teaching is always outstanding based on student evaluation of instruction (SEI). As a UL certified online instructor, Dr. Khattab developed and taught the first online graduate course in the College of Engineering in fall 2014. Dr. Khattab was recognized as the 2012 Outstanding Teacher of the Year for the College of Engineering, UL Lafayette.

Courses Taught at UL by Dr. Khattab:

- Introductory Graphics (ITEC 100 level required course)
- Fundamentals of Hydraulic/Pneumatic (ITEC 200 level required course)
- Introduction to CAD (ITEC 200 level required course)
- Fluid Power Systems (ITEC 300 level required course)
- Advanced CAD (3D Modeling) (ITEC 300 level elective course)
- Practical Stress Analysis (Finite Element) (ITEC 400G level elective course)
- Applied Composite Materials (ITEC 400G level elective course)
- Composite Materials (MCHE 400G level elective course)
- Design Process (STEC 500 level graduate online course)

Courses Developed at UL by Dr. Khattab:

- Fluid Power Systems (ITEC 300 level required course)
- 3D Modeling (ITEC 300 level elective course)
- Practical Stress Analysis (Finite Element) (ITEC 400G level elective course)
- Applied Composite Materials (ITEC 400G level elective course)
- Composite Materials (MCHE 400G level elective course)
- Design Process (STEC 500 level graduate online course)

Courses Taught at the University of Missouri, 2000-2005:

- Manufacturing Methods (Required course), TA Lab Instructor

Courses Taught at Arab Academy for Science and Technology (Egypt), 1997-1999:

- Engineering Graphics

Research Experience

Dr. Khattab has over 25 years in Research and Development (R&D) with over 15 years of experience in the fields of advanced materials processing, polymer composites and processing and characterization of nanoparticles reinforced polymer composites. His research focuses on understanding the fundamental knowledge of the processing-structure-performance relationships of composite materials which is required in order to tailor material properties to meet the needs of specific applications.

Establishment of the Laboratory for Composite Materials (LCM)

In 2007, Dr. Khattab created the Laboratory for Composite Materials (LCM). As the founding director, he established an interdisciplinary collaboration environment between several engineering disciplines in mechanical engineering, chemical engineering, civil engineering, electrical engineering, and industrial technology. LCM has research collaborators from UL Lafayette and also from outside the University. LCM established collaborations with a NASA research center and with Wuhan Institute of Technology in China. Over the last twelve years, more than 60 students (18 graduate and 43 undergraduate students) from different engineering disciplines, have been trained in LCM and worked as graduate or undergraduate research assistants. Currently, LCM has an associate director, several faculty collaborators, two graduate research assistants and five undergraduate research assistants.

Peer-Reviewed Journal Publications

1. Depan, D., Khattab, A., Simoneaux, A., Chirdon, W., "Crystallization Kinetics of High-Density and Low-Density Polyethylene on Carbon Nanotubes," *Polymer Crystallization*, DOI: 10.1002/pcr2.10062, 2019.
2. Zhang, P., Moulero, A., Khattab, A., "Recyclability/malleability of crack healable polymer composites by response surface methodology," *Composites Part B*, DOI: 10.1016/j.compositesb.2018.12.04, 2018.
3. Zhang, P., Arceneaux, D.J., Liu, Z., Nikaen, P., Khattab, A., Li, G., "A Crack Healable Syntactic Foam Reinforced by 3D Printed Healing-Agent Based Honeycomb," *Composites Part B*, 10.1016/j.compositesb.2018.06.005, 2018.

4. Depan, D., Hebert, B., Conlin, A., Chirdon, W., Khattab, A., "Pressure-induced crystallization of low density polyethylene on carbon nanotubes and carbon nanofibers," *Polymer Composites*, Volume 39, 1, pp. 192-200, 2018.
5. Shou, W., Zhang, P., Khattab, A., "Parametric Study of an Automated Nanoparticles Spray Process for Nanofibers/Fabric Reinforced Composites," *Polymer Composites*, DOI: 10.1002/pc.24797, 2018.
6. Zhang, P., Gao, Z., Zhang, Q., Khattab, A., Li, G., "Fracture Behavior Characterization of Arcan Polycaprolactone Based Polymer Composites Prepared by Polymerization Induced Phases Separation," *Polymer Composites*, DOI: 10.1002/pc.24831, 2018.
7. Zhang, P., Khattab, A., "Characteristics of Process-induced Properties in Carbon Nanofiber Aqueous Dispersion," *Micro & Nano Letters*, Volume 13, 4, pp. 524-529, DOI: 10.1049/mnl.2017.0585, 2018.
8. Zhang, P., Arceneaux, D. J., Khattab, A., "Mechanical Properties of 3D Printed Polycaprolactone Honeycomb Structure," *Journal of Applied Polymer Science*, DOI: 10.1002/app.46018, 2017.
9. Rizvi, H., Khattak, M. J., Madani, M., Khattab, A., "Piezoresistive response of conductive Hot Mix Asphalt mixtures modified with carbon nanofibers," *Construction and Building Materials*, Volume 106, pp. 618–631, 2016.
10. Hardy, D.K., Fadden, M.F., Khattak, M.J., Khattab, A., "Development and characterization of self-sensing CNF HPFRCC," *Materials and Structures Vol 49*, 12, pp. 5327–5342, 2016.
11. Khattak, M. J., Khattab, A., Rizvi, H., Das, S., and Bhuyan, M., "Imaged-based discrete element modeling of hot mix asphalt mixtures," *Materials and Structures*, Volume 48, No. 8, pp. 2417-2430, 2015.
12. Khattab, A., Zhang, P., Shou, W., and Khattak, M. J., "Process Development and Characterization of Spraying Carbon Nanofibers over Fabrics for Reinforcing Polymer Composites," *Polymer Composites*, Volume 35, 8, pp. 1629–1635, 2014.
13. Khattab, A., Liu, C., Chirdon, W., and Hebert C., "Mechanical and Thermal Characterization of Carbon Fiber Reinforced Polyethylene Composites," *Journal of Thermoplastic Composite Materials*, Volume 26, No. 7, pp. 954-967, 2013.
14. Khattak, M. J., and Khattab, A., "Modeling Tensile Response of Fiber-Reinforced Polymer Composites Using Discreet Element Method," *Polymer Composites*, Vol 34, No 6, pp. 877–886, 2013.
15. Khattak, M. J., Khattab, A., Rizvi, H., "Characterization of carbon nano-fiber modified hot mix asphalt mixtures," *Construction and Building Materials*, Volume 40, pp. 738-745, 2013.
16. Khattak, M. J., Khattab, A., Zhang, P., Rizvi, H., and Pesacreta, P., "Microstructure and Fracture Morphology of Carbon Nano-fiber Modified Asphalt and Hot Mix Asphalt Mixtures," *Materials and Structures*, Volume 46, Issue 12, pp. 2045-2057, 2013
17. Khattab, A., "Cure Cycle Effect on High Temperature Polymer Composite Structures Molded by VARTM," *Journal of Composites*, Vol 2013, Article ID 162657, 6 pages, DOI:10.115/2013/162657, 2013.

18. Khattak M. J., Khattab, A., Rizvi, H., and Zhang, P., "The Impact of Carbon Nano-Fiber Modification on Asphalt Binder Rheology," *Construction and Building Materials*, Volume 30, pp. 257-264, 2012.
19. Khattab, A., Khattak M. J., and Fadhil, M. I., "MicroMechanical Discrete Element Modeling of Fiber Reinforced," *Polymer Composites*, Volume 32, pp. 1532-1540, 2011.
20. Khattab, A., and El-Gizawy, A. S., "Characterization Process-induced Properties in Vacuum Assisted Resin Infusion Molding of High Temperature Polymer Composites," *Journal of Advanced Materials*, Volume 40, No. 3, pp. 51-68, 2008.
21. Khattab, A., and El-Gizawy, A. S., "Analytical and Experimental Evaluation of Elastic Properties of Vacuum Assisted Resin Infusion Molded Polymer Composites with Eight Harness Woven Fiber Mats," *Polymer Composites*, Volume 29, pp. 63-71, 2008.
22. Khattab, A., and El-Gizawy, A.S., "Development of Vacuum Assisted Resin Infusion Molding Process for High Temperature Polymer Composites," *Transactions of the NAMRI/SME*, Volume 34, pp.205-212, 2006.

Peer-Reviewed Journal Publications (Under Review)

1. Depan, D., Chirdon, W., Khattab, A., "Morphological and Chemical Analysis of Low-Density Polyethylene Crystallized on Various Nanofillers," *European Polymer Journal*, DOI: Ref: EUROPOL_2019_70, 2019. **Under Review**

Peer-Reviewed Conference Proceedings Publications

1. Qudsi, Y., Khattab, A., Vaughan, J., "Characterization of Carbon Fiber Composites Reinforced with Carbon Nanofiber Using an Automated Spray System," the Proceedings of the Society for the Advancement of Material and Process Engineering (SAMPE) Technical Conference, Baltimore, MD, May 18-21, 2015.
2. Khattab, A., Zhang, P., Khattak, M. J., Wan, S., "Characterization of High-Temperature Polymer composites reinforced with carbon nanofibers using indirect dispersion," the Proceedings of the Society for the Advancement of Material and Process Engineering (SAMPE) Technical Conference, Long Beach, CA, May 6-9, 2013.
3. Khattak, M. J., Khattab, A., Rizvi, H. R., and Pesacreta, T.C., "Effect of Carbon Nanofiber Modification on the Mechanistic Properties of HMA Mixtures," the Proceedings of International Conference on Civil, Offshore and Environmental Engineering (ICCOEE2012), Kuala Lumpur, Malaysia, June 12-14, 2012.
4. Khattab, A., Zhang, P., Khattak, M. J., "Process Development and Characterization of Carbon Nanofibers Sprayed Carbon Fiber reinforced polymer Composites," the Proceedings of the Society for the Advancement of Material and Process Engineering (SAMPE) Technical Conference, Long Beach, CA, May 23-26, 2011.
5. Khattak, M. J., Khattab, A., Rizvi, H., "Mechanistic Characteristics of Asphalt Binder and Asphalt Matrix Modified with Nano-fibers," the Proceedings of Geo-Frontiers Technical Conference, Dallas, Texas, March 2011.
6. Khattab, A., Tiarniyu, O. M., Zhang, P., Liu, C., "Preliminary Process Investigation of Manufacturing High Temperature Polymer NanoComposites," the Proceedings

- of the Society for the Advancement of Material and Process Engineering (SAMPE) Technical Conference, Seattle, Washington, May 2010.
7. Khattab, A., and El-Gizawy, A.S., “Effects of Process Parameters in VARTM of High Temperature Polymer Composites under High Humidity-High Temperature Working Condition,” the Proceedings of the Society for the Advancement of Material and Process Engineering (SAMPE) Technical Conference, Cincinnati, OH, October, 2007.
 8. Khattab, A., Kuan, Y., and El-Gizawy, A.S., “Simulation of Polymer Behavior in Resin Transfer Molding Processes,” Proceeding of the 4th International Conference on Virtual Concept, Playa Del Carmen, Mexico, November, 2006.
 9. Khattab, A., El-Gizawy, A.S., “Development of Virtual Flow Model for Process Design in Vacuum Assisted Resin Infusion Molding Operations,” Proceeding of IDETC/CIE, ASME, Long Beach, CA, September 24-28, 2005.

Other Conference Publications

1. Arceneaux, D. J., Khattab, A., Zhang, P., “3D Structure from Polycaprolactone Filament,” Global Conference on Polymer and Polymer Composites. Guangzhou, Guangdong, China, May 24-26, 2017.
2. Depan, D., Simoneaux, A., Chirdon, W., Khattab, A., “High Yield Synthesis of Nanohybrid Shish-kebab of Polyethylene on Carbon Nanofillers,” 18th International Conference on Nano and Materials Engineering, June 9-10, 2016, San Francisco, CA.

Selected Presentations

- **Invited Speaker:** Dr. Khattab was invited to Technological Institute of Misantla in Mexico during its annual International Engineering Congress. As the Associate Dean of Engineering, Dr. Khattab presented an overview of the University and College of Engineering for student exchange program and possible research collaboration. Also, as Interim Director of IMRI, Dr. Khattab presented an overview of advanced materials research capabilities at the University, 2016.
- **Invited Speaker:** Dr. Khattab was invited to Wuhan Institute of Technology (WIT) to address the faculty and students of WIT about his research focus and research advancements in advanced composite materials processing, 2011.
- **NanoTechnology for Defense Conference:** Towards the 3D Selective Reinforcement of Polymer Nanocomposites by Carbon Nanofibers Sprayed Fabrics, the 12th annual meeting, Chantilly, VA, November 17-20, 2014
- **SAMPE International Technical Conference:** Annual meeting of the Society for the Advancement of Material and Process Engineering:
 - Characterization of Carbon Fiber Composites Reinforced with Carbon Nanofiber Using an Automated Spray System, Baltimore, MD, May 18-21, 2015
 - Characterization of High-Temperature Polymer composites reinforced with carbon nanofibers using indirect dispersion, Long Beach, CA, May 6-9, 2013

- Process Development and Characterization of Carbon Nanofibers Sprayed Carbon Fiber reinforced polymer Composites, Long Beach, CA, May 23-26, 2011
- Preliminary Process Investigation of Manufacturing High Temperature Polymer NanoComposites, Seattle, Washington, May 2010
- Effects of Process Parameters in VARTM of High Temperature Polymer Composites under High Humidity-High Temperature Working Condition, Cincinnati, OH, October, 2007.
- **SME North American Manufacturing Research Conference (NAMRC 34):** Development of Vacuum Assisted Resin Infusion Molding Process for High Temperature Polymer Composites, Milwaukee, WI, May 23-26, 2006.
- **ASME International Design Engineering Technical Conference (IDETC):** Development of Virtual Flow Model for Process Design in Vacuum Assisted Resin Infusion Molding Operations, Long Beach, CA, September 24-28, 2005.
- **Invited Speaker to National Society of Black Engineers (NSBE) UL Lafayette Chapter:** Undergraduate Research in Composite Materials and Why Graduate School, Lafayette, LA, October 2011.
- **Invited Speaker to ASME UL Lafayette Chapter:** Research in Composite Materials and Why Graduate School, Lafayette, LA, December 2010.

Patents (Provisional)

1. Method for Automated Spraying of Nanoparticles, Ahmed Khattab, Wan Shou, Pengfei Zhang, U.S. Provisional Patent.
2. Self-sensing High Performance Fiber Reinforced Geopolymer Composites, Jamal Khattak and Ahmed Khattab, U.S. Provisional Patent.
3. Self-sensing Piezoresistive Hot Mix Asphalt, Jamal Khattak and Ahmed Khattab, U.S. Provisional Patent.

Research & Development Funding (~ \$1,115,000)

Over twelve years at UL I managed and participated in research and development activities with funding of about \$1,115,000 from externally and internally-funded grants and industry support. Each of these projects has been completed on time and within budget constraints.

Externally Funded Grants (~ \$708,000):

1. Organic-Inorganic Nanophase Materials for Injection Molding of High Performance Products, Principal Investigator, BoRSF/ Industrial Ties Research Subprogram (ITRS), \$177,000, (2014-2018).
2. Review of Strategic Technology for Frank's International, Principal Investigator, Frank's International, \$63,000, Task one only contacted till now for \$5000, (2016-2017)
3. X-ray Diffractometer for Research and Training in Oil and Gas Exploration and Materials Evaluation, Co-Principal Investigator, BoRSF/Traditional Enhancement Program (ENH), \$138,359, (2016-2017)
4. Superpave Binder Testing System for the Enhancement of Infrastructure and Materials Testing Laboratories, Co-Principal Investigator, BoRSF/Traditional Enhancement Program (ENH), \$52,043 plus \$10,300 cash from IMRi, (2016-2018)

5. Adsorption Analyzer for Hydraulic Fracturing Flowback Water Treatment Education and Research, Co-Principal Investigator, BoRSF/Traditional Enhancement Program (ENH), \$35,970, (2015-2016)
6. Process Development for Manufacturing Polymer NanoComposites using Vacuum Assisted Resin Transfer Molding, Principal Investigator, NASA/LaSPACE, \$34,767, (2014-2015)
7. Computational investigation of mechanical behavior and plasticity mechanisms of CFRP composite panels during impact and perforation, Principal Investigator, NASA/EPSCoR, \$34,954, (2014-2015)
8. Microstructure-Property Relationships in Aluminum Foam Sandwich Panels during Impact and Perforation, Principal Investigator, NASA/LaSPACE, \$33,922, (2014-2015)
9. Study of impact properties and mechanisms of PP/CNT nanocomposites through multiscale modeling and simulation, Principal Investigator, NSF-LA-EPSCOR, \$10,000, (2014-2015)
10. Process Development and Characterization for Manufacturing Polymer NanoComposites, Principal Investigator, LA EPSCoR-SURE, Program for Undergraduates, \$4,500, (2014-2015)
11. NSF Summer Institute Fellowship on Nanomechanics, Nanomaterials, and Micro/Nanomanufacturing, Additives Manufacturing, Northwestern University, Evanston, Illinois: \$2,500, May 2013.
12. Process Development and Characterization of Process-Induced Properties of Out-of-Autoclave Molded Carbon Nanofibers Reinforced Polymer Composites, Principal Investigator, NASA/LaSPACE, \$35,809, (2011-2012)
13. Performance Enhancement of Piezoelectric Ceramic Modified with Carbon Nanofibers, Co-Principal Investigator, NSF-LA-EPSCOR, \$10,000, (2012-2013)
14. Application of NanoTechnology to Develop Smart Hot Mix Asphalt (HMA) Mixtures, Principal Investigator, LTRC-Louisiana Transportation Research Center, \$29,986, (2010-2011)
15. Acquisition of Laser Light Diffraction Analysis System for Nano/Micro Materials, Principal Investigator, BORSF/Traditional Enhancement Program (ENH), \$50,978 plus \$11,620 cash from UL Research Office, (2009-2011)
16. Development of Vacuum Assisted Resin Transfer Molding Technology for Processing Carbon Nanofibers Reinforced High Temperature Polymer/Fiber Composites, Principal Investigator, NASA/LaSPACE, \$29,931, (2008-2010)

Industrial Support/Matching (\$240,000):

1. BoRSF/ Industrial Ties Research Subprogram (ITRS)
My Role: PI, Total Funds Received: \$90,000 industry match, Period: 2014-2018
2. Funding Agency: Accurate Measurement Controls Inc., along with Vector Graphics Inc., and Autodesk
My Role: PI, Total Funds Received: \$150,000, Period: 2008-2009

Internally Funded Grants (~ \$167,000):

1. Funding Agency: UL Lafayette STEP Grant
My Role: PI, Total Funds Received: \$49,000, Period: 2019-2019
2. Funding Agency: UL Lafayette STEP Grant
My Role: PI, Total Funds Received: \$23,000, Period: 2018-2018
3. Funding Agency: UL Lafayette STEP Grant
My Role: PI, Total Funds Received: \$30,000, Period: 2012-2013
4. Funding Agency: UL Lafayette STEP Grant
My Role: PI, Total Funds Received: \$25,000, Period: 2009-2010
5. Funding Agency: UL Lafayette (Summer Research Award)
My Role: PI, Total Funds Received: \$4,800, Period: 2008-2009
6. Funding Agency: UL Lafayette (Start-up fund)
My Role: PI, Total Funds Received: \$35,000, Period: 2007-2009

Pending Research Proposals (~ \$3,290,000):

1. Cyber-Enabled Materials, Manufacturing, and Smart Systems, Co-Principal Investigator, NSF EPSCoR RII, \$2,960,000, (2019-2024).
2. Development and Critical Assessment of Smart Composites as Gaskets with Embedded Sensors, Principal Investigator, BoRSF/ Industrial Ties Research Subprogram (ITRS), \$208,128, (2019-2022).
3. Nanoreinforced Piezoelectric Ceramic for Power Generation, Principal Investigator, BoRSF/ P-Fund, \$19,938, (2019-2020).
4. Laboratory Material and Component Level Tests to Obtain General and Mechanical Properties of FRP Specimens from CARGO Tank Motor Vehicle Manufacturers, Co-Principal Investigator, Department of Transportation/VOLEP, \$104,199, (2019-2020).

Ph.D. and Master Committees

Ph.D. Dissertation Chair

- Peyman Nikaeen: Graduate Student in the Department of Mechanical Engineering. Expected Graduation in Fall of 2021.

Ph.D. Dissertation Co-Chair

- Hashim Rizvi: Graduate Student in the Department of Civil Engineering. Graduated in Fall of 2015.

Ph.D. Dissertation Committee Member

- Mohammad Reza Bhuyan: Graduate Student in the Department of Civil Engineering. Expected Graduation in Fall 2021.
- Melanie Sanders: Graduate Student in the Department of Chemical Engineering. Expected Graduation in Fall 2020.
- Ayotunde Olayinka: Graduate Student in the Department of Mechanical Engineering. Expected Graduation in Fall 2019.

- Ahmed Gaweesh: Graduate Student in the Department of Civil Engineering. Graduated in Summer of 2014.

Master's Thesis Chair

- Xiaoguang Xiao: Graduate Student in the Department of Mechanical Engineering. Graduated in Spring of 2018.
- Baobao Tang: Graduate Student in the Department of Mechanical Engineering. Graduated in Spring of 2016.
- Wan Shou: Graduate Student in the Department of Mechanical Engineering. Graduated in Summer of 2014.
- Pengfei Zhang: Graduate Student in the Department of Mechanical Engineering. Graduated in Spring of 2011.
- Chunzai (Ella) Liu: Graduate Student in the Department of Mechanical Engineering. Graduated in Summer of 2011.

Master's Thesis Co-Chair

- Moulero Akobi: Graduate Student in the Department of Mechanical Engineering. Expected Graduation in Fall of 2019.
- Austin Simoneaux: Graduate Student in the Department of Chemical Engineering. Graduated in Spring of 2017.
- Hashim Rizvi: Graduate Student in the Department of Civil Engineering. Graduated in Summer of 2012.

Master's Thesis Committee Member

- Tanni Alam Dola: Department of Mechanical Engineering. Expected Graduation in Spring of 2019.
- Donald Arceneaux: Department of Industrial Technology, Graduated in Fall of 2017.
- Ziyao Gao: Department of Mechanical Engineering. Graduated in Spring of 2017.
- Brandon Leger: Department of Industrial Technology, Graduated in Fall of 2016.
- Ory Huval: Department of Industrial Technology, Graduated in Fall of 2016.
- Daniel Forest: Department of Industrial Technology, Graduated in Fall of 2016.
- Ramanarayana Pothula: Department of Chemical Engineering. Graduated in Fall of 2016.
- Joseph Kelly: Department of Industrial Technology, Graduated in Spring of 2016.
- Dean Landry: Department of Industrial Technology, Graduated in Spring of 2016.
- Mohammad Rahman: Department of Mechanical Engineering. Graduated in Spring of 2015.
- Hanlong Ren: Department of Civil Engineering. Graduated in Fall of 2014.
- Manish KC: Department of Mechanical Engineering. Graduated in Fall of 2014.
- Kazi Sadid: Department of Civil Engineering. Graduated in Spring of 2013.

- Prabhath Tiwari: Department of Civil Engineering. Graduated in Summer of 2012.
- Rucha Andhare: Department of Chemical Engineering. Graduated in Fall of 2011.
- Arbind Shrestha: Department of Civil Engineering, Graduated in Fall of 2011.
- Lu Lin: Department of Civil Engineering. Graduated in Spring of 2010.
- Abhijeet Patil: Department of Chemical Engineering. Graduated in Fall of 2008.
- Pramod Kumar: Graduate Student in Mechanical Engineering. Graduated in Fall of 2008.

Undergraduate Students Research Activities

Forty-three (43) undergraduate students have participated in Dr. Khattab's research activities in the Laboratory for Composite Materials (LCM):

1. Anthony Simon II, Department of Mechanical Engineering, from FA2018 till now.
2. Peyton d'Aquin, Department of Mechanical Engineering, from FA2018 till now.
3. Tyler Hacker, Department of Mechanical Engineering, from FA2017 till now.
4. Ryan Saucier, Department of Mechanical Engineering, from FA2016 till now.
5. Christian Gary, Department of Mechanical Engineering, from FA2015 till now.
6. Andrew Bayard, Department of Mechanical Engineering, from FA2017-SP2018.
7. Johann-Paul James, Department of Mechanical Engineering, SP2018.
8. Paige Robichaux, Department of Mechanical Engineering, SP2018.
9. Gabe Musso, Department of Mechanical Engineering, from FA2016-FA2017.
10. Andrew Durand, Department of Mechanical Engineering, FA2016.
11. Kennedy Guillot, Department of Chemical Engineering, FA2016.
12. Grace Arceneaux, Department of Mechanical Engineering, FA2016.
13. Dominique Boudreaux, Department of Mechanical Engineering, FA2016.
14. Andrew Conlin, Department of Mechanical Engineering, from FA2014-FA2016.
15. Brittany Hebert, Department of Mechanical Engineering, from FA2014-FA2015.
16. Cassidy Cohen, Department of Chemical Engineering, from SP2013-FA2015.
17. Dijon Hill, Department of Mechanical Engineering, from SU2015-FA2015.
18. Blake G Dexter, Department of Mechanical Engineering, FA2015.
19. Sarah Clement, Department of Mechanical Engineering, from SU2014-FA2014.
20. Roger Johnson, Department of Industrial Technology, from SU2014-FA2014.
21. Mitch Allain, Department of Mechanical Engineering, from FA2011-SP2013.
22. Camille Hebert, Department of Chemical Engineering, from FA2010-SP2013.
23. Marcus Gary, Department of Industrial Technology, SP2013.
24. Oliver Larroque, Department of Mechanical Technology, FA2012-SP2013.
25. George Horstmann, Department of Industrial Technology, SP2013.
26. Bianca Green, Department of Civil Engineering, SP2012-SP2013.

27. Dominique Riley, Department of Chemistry, SP2013.
28. Luke Cross, Department of Industrial Technology, FA2012.
29. Eric Wright, Department of Industrial Technology, FA2012.
30. Jordan Fontenot, Department of Industrial Technology, FA2012.
31. Jack Prendergast, Department of Mechanical Engineering, from SP2011-SP2012.
32. Matthew Amy, Department of Mechanical Engineering, SP2012.
33. Joo Hui, Department of Industrial Technology, FA2011 and SP2012.
34. Christopher Morein, Department of Industrial Technology, SP2011 and SP2012.
35. Cory Lemoine, Department of Industrial Technology, FA2010-SP2011.
36. Justin Gabriel, Department of Industrial Technology, SP2010.
37. James Timothy, Department of Industrial Technology, SP2010.
38. Matthew Conques, Department of Mechanical Engineering, SP2010.
39. Stoart Leigh, Department of Mechanical Engineering, FA2010.
40. Courtney Rhodes, Department of Industrial Technology, FA2009.
41. Brandon Quebedeaux, Department of Industrial Technology, FA2008.
42. Matthew Sibille, Department of Industrial Technology, FA2008.
43. Jason McWhorter, Department of Industrial Technology, FA2007.

Industry Related Experience

Graduate Intern (Summer 2001), Glen Martin Engineering, Inc., Boonville, Missouri.

Major Responsibilities:

- Created an integrated system with control software for a robotic arc welding system.
- Developed acceptance testing and evaluation baseline standards for a robotic arc welding system.
- Prepared operating manual for offline instruction system of robotic arc welding system.

Researcher (1991-2000), Research and Consultation Center, Academy for Science and Technology, Alexandria, Egypt.

Conducted research on:

- Mathematical modeling of mechanical and braking systems for a multimedia real time and full-scale railway locomotive simulator.
- Reverse engineering design and construction of prototype automated machines in the following projects:
 - Design, construction and delivery of two fully automated bottle labeling machines
 - Development and repair of automated forming and drying machine

Major Responsibilities:

- Prepared detailed engineering drawings including assembly and detail drawings
- Supervised manufacturing of parts with the required quality and tolerances
- Supervised machine assembly and setup

Mechanical Engineer (1990-1991), Mantrac-Caterpillar Egypt, Alexandria, Egypt.

- Maintenance engineer responsible for rework of Caterpillar machines, engines, transmissions, final drive assemblies, and hydraulic systems.

Professional Memberships:

- Society for the Advancement of Material and Process Engineering, SAMPE.
- American Society for Engineering Education, ASEE.
- Order of the Engineer, Inducted in 2016.

Professional Service

Peer-Reviewer:

- Journal of Materials Science
- Polymer Composites
- Journal of Materials Processing Technology
- Journal of Materials Science & Engineering A
- Journal of Alloys and Compounds
- Journal of Composite Materials
- Journal of Engineering Manufacture
- Journal of Materials Design and Applications

Proposal Reviewer:

- California Energy Commission (Permanent Reviewer, 2 to 3 proposals per year from 2008-2011)
- NSF Review Panels:
 - Materials Engineering and Processing (ENG/CMMI) program (2017)
 - Graduate Research Fellowship Program (2014-2015 and 2017-2018)

Book Reviewer: Solid Modeling Using SolidWorks 2008, McGraw-Hill

Technical Session Co-Chair: International Conference, SAMPE 2011, Society for the Advancement of Materials and Process Engineering, Long Beach, CA, May 23-26, 2011.

University Service:

Strategic Enrollment Planning Taskforce Committee Member: Developing a university-wide enrollment plan (2018-present).

Strategic Plan Implementation Taskforce Committee Member: Implementation progress of the University 2015-2020 strategic plan (2016-2018).

Undergraduate Research Council: Representing the UL College of Engineering in the UL Lafayette Undergraduate Research Council (2015-present).

Information Technology Advisory Council: Representing the UL College of Engineering in the Information Technology Advisory Council (2015-present).

University Faculty Travel Grant Committee Member: Evaluating faculty travel proposals (2016-present).

UL Lafayette Distinguished Professor Selection Committee Member: Representing the UL College of Engineering in the UL Lafayette Distinguished Professor Selection Committee (2015-2017).

Graduate Council Member: Elected member representing the UL College of Engineering in the UL Lafayette Graduate Council (2014-2016).

Diversity Advisory Council Member: The Diversity Advisory Council (DAC) consists of key community and campus leaders. Members are appointed by the President of UL Lafayette (2011-2013).

Retention Taskforce Committee Member: The committee was charged with providing recommendations to develop and implement a new integrated university-wide retention program (2011).

Faculty Advisor: University of Louisiana Student Chapter of National Society of Black Engineers (NSBE) (2007-2015).

Quiz Bowl Coordinator: Coordinator of the Quiz Bowl event during Engineering Week, College of Engineering, University of Louisiana at Lafayette (2008-2010).

Judge: Engineering and Technology Expo Day during Engineering Week, College of Engineering, University of Louisiana at Lafayette (2007).

Curriculum Development Committee Member: Department of Industrial Technology, College of Engineering, University of Louisiana at Lafayette (2008-2014).

Department Website Committee Member: Department of Industrial Technology, College of Engineering, UL Lafayette (2008-2014).

Coordinator: Coordinate Graphics, Mechanical, and Hydraulic & pneumatic courses sequence in the Department of Industrial Technology (2007-2014).

Community Service

Judge: Speech Tournaments for High Schools Competitions, Regional and District, Louisiana, 2012-2013.

K-12 Workshop: Co-organized a workshop for the 9th and 10th grades science teachers from Lafayette Parish School System through the GEAR UP program, 2012.

External Advisory Board Member: HBCU-RISE Advanced Infrastructure Composites Program at Southern University at Baton Rouge, Louisiana, 2007-2010.

Judge: American Society of Mechanical Engineers (ASME) Student Competition for an Automated Window Washing Robot, 2008.

State-wide Service

Advisory Board Member: Member of the Advisory Board for Baton Rouge Community College (BRCC) (2018-present).

Advisory Board Member: Member of the Advisory Board for Bossier Parish Community College (BPCC) (2016-present).

Advanced Materials and Manufacturing (AM&M) Task Force Committee Member: representing UL Lafayette at Louisiana level, to develop a report with recommendations

for research strategies for the State of Louisiana to advance research, innovation, and economic development in areas of advanced materials and manufacturing. The report was submitted to the Louisiana Master Plan Research Advisory Committee and the Louisiana Board of Regents, 2014-2015.

Steering Committee Member: representing UL Lafayette at Louisiana level, 2014 Industry Academia Conference, New Orleans, LA, November 2014. The conference was a great success with several UL Lafayette's industry partners participating in the conference and two of them invited as guest speakers (Ms. Missy Rogers, Owner of Noble Plastics and Mr. Mike Webre, VP of Engineering at Frank's International).