Reza Rizvi

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Assistant Professor, Mechanical Engineering, York University
Petrie Science and Engineering, Rm 135, 4700 Keele St.,
North York, ON, M3J 1P3

Education

Ph.D.	**University of Toronto (Canada),** Mechanical Engineering, 2014 "*Piezoresistive Polymer Nanocomposites for Flexible Pressure Sensing"*
M.A.Sc.	**University of Toronto (Canada),** Materials Science and Engineering, 2009 *"Development of Polymer Nanocomposites based on Carbon Nanotube and Chitin"*
B.A.Sc.	**University of Toronto (Canada),** Materials Science and Engineering (Hons.), 2007

Professional Appointments/Employment

2019 - present	Assistant Professor, Mechanical Engineering, Lassonde School of Engineering, **York University**, Canada
2019 - present	Special Graduate Faculty Member, Mechanical, Industrial and Manufacturing Engineering, **University of Toledo**, USA
2016 - 2019	Assistant Professor, Mechanical, Industrial and Manufacturing Engineering, **University of Toledo**, USA
2015 - 2016	Natural Science and Engineering Research Council (NSERC) – Postdoctoral Fellow, Department of Chemistry and Biochemistry, **UCLA**, USA
2014 - 2015	TVN National Centers of Excellence – Interdisciplinary Fellow, Toronto Rehabilitation Institute**, University Health Network,** Canada

Selected Honors and Awards

Year	Award
2015-17	NSERC* Postdoctoral Fellowship (PDF)
2014-16	National Centers of Excellence – TVN Interdisciplinary Fellowship
2010-13	NSERC* Postgraduate Scholarship (PGS-D)
2012	Overall first prize at Canada-wide Auto21 HQP conference (Montreal)
2009	NSERC* Collaborative Research Training Experience (CREATE) Award
2009	Ontario Graduate Scholarship (declined)
2007/08	Ontario Graduate Scholarship
2005/06	NSERC* Undergraduate Summer Research Assistant Award

* Natural Science and Engineering Research Council of Canada (Federal)

Awarded Competitive Grants and Funding

Year	Title	Agency	Amount
07/01/2019 – 06/30/2024	Scalable nanomanufacturing of 2D layered materials and their integration into nano-enabled systems	**NSERC Discovery Grant**	**$165,000**
07/01/2019 – 07/30/2020	*NSERC Discovery Launch Supplement*	**NSERC**	**$12,500**

08/15/18 – 06/15/19	Contract for Boron Nitride Nanosheets Produced Using Compressible Flow Exfoliation	**NASA**	**$40,000 USD**
06/06/18 – 06/05/21	High Throughput, Continuous Exfoliation of 2D Layered Materials by Compressible Flow	**National Science Foundation**	**$398,599 USD**
05/18/18 – 12/31/18	Development and Characterization of Two-Way Dynamically Porous Polymers	**University of Toledo Office of Research Council**	**$14,335 USD**

Publications in refereed journals

1. Navid Namdari, Behrouz Mohmmadian, Reza Mohammadi, Parham Jafari, Hadi Ghasemi, Hossein Sojoudi, **Rizvi R.** (2019) Advanced Multifunctional Surfaces through Controlled Damage and Instabilities, *Materials Horizons,* DOI: 10.1039/C9MH01516G
2. Sheikh Rasel, Omkar Bhatkar, David Smith, Matt Kowal, Mackenzie Anderson, Richard Kaner**, Rizvi, R.,** (2019) Self-Assembled Functionally Graded Graphene Films with Tunable Compositions and Their Applications in Transient Electronics and Actuation, *ACS Applied Materials and Interfaces,* 11(26)*.* **(IF: 8.5)**
3. **Rizvi, R.,** Emily P. Nguyen, Matt D. Kowal, Wai H. Mak, Sheikh Rasel, Md Akibul Islam, Ahmed Abdelaal, Anup S. Joshi, Shahab Zekriardehani, Maria R. Coleman, Richard B. Kaner, (2018) High Throughput Continuous Production of Shear Exfoliated 2D Layered Materials Using Compressible Flows. *Advanced Materials,* 1800200. **(IF: 25.8)**
4. Oliviero, M., **Rizvi, R.**, Verdolotti, L., Iannace, S., Naguib, H. E., Di Maio, E., & Landi, G. (2017). Dielectric Properties of Sustainable Nanocomposites Based on Zein Protein and Lignin for Biodegradable Insulators. *Advanced Functional Materials*, 27(8). **(IF: 15.6)**
5. **Rizvi, R.,** Anwer, A., Fernie, G., Dutta, T., & Naguib, H. (2016). Multifunctional Textured Surfaces with Enhanced Friction and Hydrophobic Behaviors Produced by Fiber Debonding and Pullout. *ACS Applied Materials & Interfaces*, 8(43), 29818-29826 **(IF: 8.5)**
6. **Rizvi R.,** Naguib H.E., Fernie G., Dutta T. (2015) High friction on ice provided by elastomer composites with textured surfaces, *Applied Physics Letters*, 106(11), 111601.
7. **Rizvi R.,** Naguib H.E. (2014) Effect of carbon nano-particle type, content and stress on piezoresistive polyethyelene nanocomposites, *Polymer Engineering and Science,* doi: 10.1002/pen.24002.
8. **Rizvi R.**, Tong L., Naguib H.E. (2013) Processing and properties of melt spun polylactide-multiwall carbon nanotube fiber composites, *Journal of Polymer Science Part B: Polymer Physics*, Vol. 52, No. 6, pp. 477-484.
9. **(Invited) Rizvi R**., Naguib H.E. (2013) Porosity and composition dependence on electrical and piezoresistive properties of thermoplastic polyurethane nanocomposites, *MRS Journal of Materials Research*, Vol. 28, No. 17, pp. 2415-2425.
10. Guan, Qi, **Rizvi R.,** Naguib H.E. (2013) A study of the physical and mechanical properties of bio-based polylactic acid/polyhydroxybutyrate-co-valerate blends and foams, *Journal of Bio-based Materials and Bioenergy*, Vol. 7, No. 5, pp. 600-608.
11. **(Invited) Rizvi R.,** Cochrane B., Biddiss E., and Naguib H.E. (2011) Piezoresistance characterization of poly(dimethyl-siloxane) and poly(ethylene)-carbon nanotube composites, *Smart Materials and Structures*, Vol. 20, No. 9: 094003.
12. **Rizvi, R.,** Cochrane, B., and Naguib H.E. (2011) Fabrication and characterization of melt blended polylactide-chitin composites and their foams, *Journal of Cellular Plastics*, Vol. 47, No. 3, pp. 283-300.
13. **Rizvi, R.,** Khan, O., and Naguib H.E. (2011) Development and characterization of solid and porous polylactide-multiwall carbon nanotube composites, *Polymer Engineering and Science*, Vol. 51, No. 1, pp. 43-53.

14. **(Invited) Rizvi R.,** Kim J.-K., and Naguib H.E. (2010) The effect of processing and composition on the properties of polylactide-multiwall carbon nanotube composites prepared by solvent casting, *Smart Materials and Structures*, Vol. 19, No. 9: 094003.
15. **(Invited) Rizvi R.,** Kim J.-K., and Naguib H.E. (2009) Synthesis and characterization of novel polyethylene-multiwall carbon nanotube porous composites, *Smart Materials and Structures*, Vol. 18, No. 10: 104002.
16. Richards E., **Rizvi R.,** Chow A., Naguib H.E. (2008) Biodegradable Composite Foams of PLA and PHBV using Sub-Critical CO_2, *Journal of Polymers and the Environment*, Vol. 16, No. 4, pp. 258-266.

Publications in refereed conference proceedings

1. Sheikh R, Bhatkar O, Smith D, **Rizvi R.** Development and characterization of reduced graphene oxide films for transient electronics. In Behavior and Mechanics of Multifunctional Materials and Composites XII 2018 Mar 22 2018 (Vol. 10596, p. 1059618). International Society for Optics and Photonics.
2. Namdari, N., **Rizvi, R.,** Damage induced surface texturing of short fiber-PDMS composite materials. Society of Plastic Engineers ANTEC Technical Papers, Orlando, FL, May 2018.
3. **Rizvi, R.** Surface texturing of composite materials by induced damage: surface morphology and friction, Society of Plastic Engineers ANTEC Technical Papers, Anaheim CA, May 8-10, 2017
4. **Rizvi, R.,** A. Anwer, and H. Naguib. "Multifunctional surfaces produced using fiber debonding and pullout in composite materials." In Behavior and Mechanics of Multifunctional Materials and Composites 2017, vol. 10165, p. 101650X. International Society for Optics and Photonics, 2017.
5. **Rizvi R.,** El-Kady M., Kaner R., "New strategies for the design and fabrication of flexible and high-energy supercapacitors", 6th Annual Next Generation Energy Storage, The Knowledge Foundation, La Jolla, CA, April 19-20, 2016
6. **Rizvi R.,** Song H., Naguib H., Fernie G., Dutta T., Compliant high friction surfaces on ice made using polymer-fiber composites, Society of Plastic Engineers ANTEC Technical Papers, Orlando FL, March 23-25, 2015
7. **Rizvi R.**, Biddiss E., Naguib H.E., Correlation of rheological and electrical percolation in PVDF-MWNT nanocomposites, SMASIS2013-3241, ASME Smart Materials, Adaptive Structures and Intelligent Systems 2013, Snowbird UT, Sept. 16-19, 2013
8. **Rizvi, R.,** Naguib H.E., Piezoresistance characterization of PVDF-MWNT Nanocomposites, 19th International Conference on Composite Materials, Montreal, Canada, July 28-Aug. 2, 2013.
9. **Rizvi, R.,** Naguib H.E., Development and characterization of piezoresistive porous TPU-MWNT nanocomposite, 29th International Conference of the Polymer Processing Society, Nuremberg, Germany, July 15-19, 2013.
10. **Rizvi, R**., Naguib, H.E. and Biddiss E., Development of piezoresistive PVDF-nanocomposites for strain sensing, SPIE Smart Structures/NDE 2013, San Diego CA USA, Mar. 10-14, 2013.
11. **Rizvi R.**, Naguib H. E., Biddiss E., Characterization of a Porous Multifunctional TPU-MWNT Nano-composite for Pressure Sensing, SMASIS2012-8178, ASME Smart Materials, Adaptive Structures and Intelligent Systems 2012, Stone Mountain GA, Sept. 19-21, 2012
12. **Rizvi, R.** and Naguib, H.E., A Study on the Electrical Conduction and Piezoresistance of Polyethylene-Carbon nanotube and –Graphene Nanoplatelet Composites, PPS Americas Conference, Niagara Falls, Ontario, Canada, May 21-24, 2012
13. Guan, Q., **Rizvi, R.**, and Naguib, H.E., The effect of Polyhydroxybutyrate-co-valerate (PHBV) Content on Physical and Morphological Properties of Polylactic Acid (PLA) Foams, PPS Americas Conference, Niagara Falls, Ontario, Canada, May 21-24, 2012.
14. **Rizvi R.**, Cochrane B., Naguib H. E, and Bidiss E., Effect of nanoparticle filler type on the piezoresistance of polyethylene composites, SMASIS2011-5136, ASME Smart Materials, Adaptive Structures and Intelligent Systems 2011, Scottsdale AZ, Sept. 2011

15. **Rizvi R.,** Naguib H.E., Lightweight biodegradable polylactide nanocomposites, University of Tokyo-Toronto Graduate Students Workshop, University of Toronto, Canada, June 9-10, 2011.
16. **Rizvi R.**, Cochrane B., Naguib H., and Lee P., Novel Biodegradable Composites and Foams of Polylactide and Chitin, SPIE Smart Structures/NDE 2011, San Diego CA USA, Mar. 6-10, 2011
17. **Rizvi R.** and Naguib H E, Polymer Nanocomposites and Nanostructuring, University of Tokyo-Toronto Graduate Students Workshop, University of Tokyo, Japan, May 1-5, 2010.
18. Tong, L., **Rizvi, R.**, and Naguib H.E., Effect of Processing Parameters on the Morphology of Melt Drawn Polylactide-Multiwall Carbon Nanotubes, ASME Smart Materials, Adaptive Structures and Intelligent Systems 2010, Paper No. 3774, Philadelphia, Sept. 2010
19. **Rizvi, R.**, Makaremi S., and Naguib, H.E., Characterization of the Piezoresistive Behavior of Polydimethylsiloxane-Multiwall Carbon Nanotube Composites, ASME Smart Materials, Adaptive Structures and Intelligent Systems 2010, Paper No. 3777, Philadelphia, Sept. 2010
20. **Rizvi, R.** and Naguib, H.E. Fabrication of Solid and Porous Melt Blended Polylactide-Chitin Composites, SPE ANTEC Technical Papers, Orlando Fl, May 16-20, 2010
21. **Rizvi, R.**, Czekanski, A., and Naguib, H. (2009) Characterization and FEA Based Optimization of Elastomeric Components for Automotive Applications, ASME IMECE 2009, Paper No. 11307, Lake Buena Vista, November 2009
22. **Rizvi, R.**, Kim, J.-K., and Naguib, H.E. Processing and MWNT composition effects on the thermal, electrical and mechanical properties of PLA-MWNT composites. ASME-SMASIS2009-1312 Oxnard, California September 20-24, 2009
23. Richards, E., **Rizvi, R**., Chow, A., and Naguib, H.E. Synthesis and physical characterization of biodegradable PLA/PHBV foams. SPE ANTEC Technical Papers. 1603-1608, Milwaukee MI, May 4-8, 2008

Technical and Research Presentations

1. **(Invited) Rizvi, R.** Ultrafast production of 2D layered nanomaterials using compressible flows, *US Air Force Research Lab (AFRL), Materials and Manufacturing Division,* Dayton OH, 09/21/2018.
2. **(Invited) Rizvi, R.** A continuous, ultrafast, and green method for producing 2D layered nanomaterials, *NASA Glenn Research Center, Materials and Structures Division,* Cleveland OH, 09/22/2017.
3. **Rizvi, R.** Polymers and Inorganic Composites, Structures, and Surfaces Lab, *Meeting with Americhem,* Toledo OH, 07/20/2017.
4. **Rizvi, R.** Surface texturing of composite materials by induced damage: surface morphology and friction, Society of Plastic Engineers ANTEC Technical Papers, Anaheim CA, May 8-10, 2017
5. **Rizvi, R.,** A. Anwer, and H. Naguib. "Multifunctional surfaces produced using fiber debonding and pullout in composite materials." In Behavior and Mechanics of Multifunctional Materials and Composites 2017, vol. 10165, p. 101650X. International Society for Optics and Photonics, 2017

Patents and Invention Disclosures

1. **Rizvi, R.**, Nguyen, E., and Kaner, R.B., Continuous production of exfoliated 2D layered materials by compressible flow, USPTO, *Patent Pending* Appl. US15/716,706 (2016).
2. **Rizvi, R.,** Sheikh, R., Bhatkar, O., Smith, D., Functionally Graded All-Graphene Based Free-Standing Materials, Methods of Making and Uses Thereof, USPTO, *Patent Pending* App. 16/261,138 (2018).
3. **Rizvi, R.,** Sheikh, R., Pressure sensitive polymer films, USPTO, *Patent Pending* (2019)
4. Bagheri, Z., Anwer, A., **Rizvi, R.,** Naguib, H., Dutta, T., Fernie, G., Methods of manufacturing a high friction composite material for footwear, USPTO, *Patent Pending* App. 16/378,933 (2019)

Research Experience

July, 2019 – present
Assistant Professor, Mechanical Engineering, Lassonde School of Engineering, York University
Director, Polymer and Inorganic Composites, Structures and Surfaces Lab (PICSSL)

- Conceptualized, develop and manage projects and seek external funding for research programs in (1) damage induced surface texturing of fiber composites, (2) continuous exfoliation of 2D layered nanomaterials, (3) graphene based transient electronics, (4) polymer foams with dynamic porosity.

Aug, 2016 – July. 2019
Assistant Professor, Mechanical, Industrial and Manufacturing Engineering, Univ. of Toledo
Director, Polymer and Inorganic Composites, Structures and Surfaces Lab (PICSSL)

- Conceptualized, develop and manage projects and seek external funding for research programs in (1) damage induced surface texturing of fiber composites, (2) continuous exfoliation of 2D layered nanomaterials, (3) graphene based transient electronics, (4) polymer foams with dynamic porosity.

Oct, 2015 – Aug, 2016
Postdoctoral Fellow, Chemistry and Biochemistry, UCLA
Project: Synthesis of Hierarchically Porous Graphene for Micro-Supercapacitor Energy Storage
Supervisor: Dr. Richard Kaner

- Investigate new, scalable routes for mass manufacturing of hierarchically porous graphene for energy storage applications of supercapacitors and Li-ion batteries.

2014 – Sept, 2015
Postdoctoral Fellow, Toronto Rehab Institute, University Health Network,
Project: Textured Elastomer Composites with Enhanced Slip Resistance Performance
Supervisors: Dr. Tilak Dutta, Dr. Geoff Fernie,

- Develop elastomer based fiber composites with textured surfaces for high COF/traction applications on ice.
- Expertise in tribological properties of elastomers and composite materials.

2010 – Sept, 2015
Assistant Lab Manager, Smart and Adaptive Polymers Lab, University of Toronto
Supervisor: Dr. Hani Naguib

- Developing and writing research proposals and reporting of various government and non-government grants.
- Developing and nurturing industrial research partnerships, through consulting and access to research resources.

2009/13
Research Assistant, University of Toronto, Doctoral level
Project: Piezo-resistive Polymer Nanocomposite Materials for Pressure Sensing Applications
Supervisor: Dr. Hani Naguib

- Investigate mechanisms for electrical conduction in nanocomposites containing single-wall carbon nanotubes, multi-wall carbon nanotubes and graphene nanoplatelets.
- Discovery of new piezo-resistance mechanisms in plastically deformed nanocomposites and porous nanocomposites, applicable to flexible pressure sensing.

2007/09
Research Assistant, University of Toronto, Master's level
Project: Development and Characterization of Novel Polylactide and Polyethylene Nanocomposites
Supervisor: Dr. Hani Naguib

- Fabricate bio-based Polylactide and Polyethylene Nanocomposites with enhanced modulus- and strength-to-weight ratios
- Develop chitin nanowhisker extraction process and their integration in polymers.

2008/09
Research Assistant, Collaborative research with Magna Closures (a subsidiary of Magna International)
Project: Optimization of Latch Bumper's for Automobile Closure Systems
Supervisors: Alex Czekanski (Magna Closures)

- Optimize material and design parameters for automotive elastomer bumper components using experimental aging simulations, vibration modeling and FEA analysis.

Teaching Experience
Universities of Toronto, Ontario Institute of Technology, University of Toledo, York University

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York University, Fall 2019 (present)
Course Instructor: ENG 1101 Intro to Renaissance Engineering

- Teaching a first year introductory course on Engineering Ethics, Communications and Practices

University of Toledo, Fall 2018, Spring 2019
Course Instructor: MIME 3330 Mechanics Laboratory

- Taught 3rd year laboratory class on solid mechanics topics
- Responsible for syllabus and lecture materials, midterms, final exam and 5 lab modules
- Received higher than average ratings compared to peers in faculty and university on all metrics of student feedback assessment.

University of Toledo, Fall 2018, Spring 2019
Course Instructor: MIME 6930 and MIME 8930 Graduate Seminars

- Course instructor and coordinator for mechanical engineering graduate seminars course, a mandatory course for all MS and PhD students
- Coordinated seminar schedule, invited speakers from other universities, national labs and university facilities (e.g. tech transfer, safety office, writing center etc.)
- Coordinated student research presentation day for MS and PhD students

University of Toledo, Spring 2017, Spring 2018
Course Instructor: MIME 3300 Design and Analysis of Mechanical Systems

- Taught 3rd year class on introductory kinematics
- Responsible for syllabus and lecture materials, midterms, final exam and design projects
- Design projects introduced elements of motion analysis using MSC ADAMS
- Received higher than average ratings compared to peers in faculty and university on all metrics of student feedback assessment.

University of Toledo, Fall 2016, Summer 2017, Summer 2018, Fall 2018, Spring 2019
Course Instructor: MIME 3310 Mechanical Design 1

- Taught 3rd year class on Machine Design fundamentals
- Responsible for syllabus and lecture materials, assignments, midterm and final exam.
- Received higher than average ratings compared to peers in faculty and university on all metrics of student feedback assessment.

Jan. 2015 (1yr) University of Ontario Institute of Technology

Course Sessional Lecturer: MECE 3220 Machine Design

- Taught one section of a 3rd year class on Machine Design fundamentals.
- Responsible for syllabus and lecture materials, assignments, midterm and final exam.
- Received higher than average ratings compared to peers in faculty and university on all metrics of student feedback assessment.

Jan. 2012 (1 yr) University of Toronto

Course Sessional Lecturer: MIE464 & MIE1740 Smart Materials and Structures

- Co-taught a combined graduate and upper year undergraduate course (50 students) on the emerging field of smart materials.
- Prepared course syllabus and lecture materials; delivered lecture material which included visual aids and interactive demos; prepared and administered group design project, midterms and final exams.
- Received higher than average ratings compared to peers in department and faculty on all 20 metrics of student feedback assessment.

Jan. 2011 & Jan. 2013 (2 yr) University of Toronto

Teaching Assistant: MIE464 & MIE1740 Smart Materials and Structures

Sept. 2012 (1 yr) University of Toronto

Head Teaching Assistant: MSE270 Materials Science for Mechanical Engineers

Sept. 2007 - Sept. 2011 (5 yr) University of Toronto

Teaching Assistant: MSE270 Materials Science for Mechanical Engineers

Sept. 2011 (1 yr) University of Toronto

Teaching Assistant: MIE1128 Materials for Clean Energy Systems

Jan. 2009 – Jan. 2011 (3 yr) University of Toronto

Teaching Assistant: MSE245 Introduction to Organic Chemistry

Jan. 2008 (1 yr) University of Toronto

Teaching Assistant: MSE101 Introduction to Materials Science

Graduate Student and Postdoc Supervision (Total: 9)

Year	Name	Type	Title	Location
2018	M. Avatefazzeli	MS	Multifunctional composites of 2D Layered Nanomaterials	U of Toledo
2018	S. Ahmed	MS	Atomistic Simulations of Layered Compound Exfoliation	U of Toledo
2018	R. Alwala	MS (project)	Synthetic nacre using exfoliated boron nitride	U of Toledo
2018	F. Islam	MS	Multiphysics Particle-Supersonic Flow Simulations	U of Toledo
2017	R. Sheikh	Postdoc	Continuous flow exfoliation	U of Toledo
2017	E. Bhuiyan	Intern	Dynamic Porosity	U of Toledo
2017	O. Bhatkar	MS	Graphene based Transient Electronics	U of Toledo
2017	A. Islam	MS	Characterization of 2D materials produced by compressible flow exfoliation	U of Toledo

2017	N. Namdari	PhD	Design and characterization of textured composite surfaces using induced damage	U of Toledo

Undergraduate Student Supervision (Total: 60)

Year	Name	Type	Title	Presently
2019	Seth Lanza	Research Intern		-
2019	Daniel Barnes, Darin Kurland, Thomas Corr, Seth Lanza	Senior Design	Separation of 2D Nanoparticles from Supersonic Flows	-
2019	Hunter Niese, McKinnon Kish, Michael Hillis, Michael Davanaugh	Senior Design	Household Plastic Film Disposal Device	-
2018	Taylor Workman, Shruti Patel, Joseph Boyk, Alexander Petre, Anthony Coustillac	Senior Design	Household Plastic Film Disposal Device	-
2018	J. Remmetter, J. Schaufele, E. Simmons	Senior Design	Benchmarking and retrofitting of a homebuilt 3D printer	-
2018	Isaac Rubin	Research Intern	Mechanically robust functionally graded graphene films	-
2018	Adrian Brancheau	Research Intern	Synthetic Nacre based on exfoliated 2D materials	-
2018/19	Derek Messer	Research Intern	Process optimization of boron nitride produced by compressible flow exfoliation	-
2018	M. Michalski, J. Melvin, S. Ji, A. Beier, J. Krabill	Senior Design	An assisted bathing device for mobility impaired patients	-
2018	N. Hersch, H. Aljami, G. Goupille, O. Anders	Senior Design	An assisted toileting device for mobility impaired patients	-
2017	M. Buchholtz, J. Shepherd, C. Linzmeier, J. Baker, J. Sizemore	Senior Design	Design of an orthotic brace for an electric fishing reel	-
2017	David Smith	Research Intern	Graphene based transient electronics	U of Toledo
2017	Jordan Ardhent	Senior Design	Retrofitting of a homebuilt 3D printer	-
2017	Bilal Abdul Halim Nizar	Research Intern	Self-Assembled Graphene Electronics	U of Toledo
2017	Kun Yang	Research Intern	Continuous Flow Exfoliation	U of Toledo

2017	C. Robertson, C. Ritenour, J. Janicek	Senior Design	High pressure gas delivery system	U of Toledo
2017	C. Smith, A. Snyder, L. Zhao, K. Yang	Senior Design	Pressure vessel design for hydrostatic materials testing	U of Toledo
2016/17	Paul Duchini	Research Intern	Continuous production of 2D materials	U of Toledo
2016/17	Patrick Delaney	Research Intern	Multiphysics simulation of sympathetic implosion in syntactic foams	U of Toledo
2016	K. Wasserman, M. Norden, J. Severt, R. Singer	Senior Design	Design studies of art device tool for commercialization	U of Toledo
2016	Refat Ahsan	Summer Intern	Thermal reduction of graphene oxide	UCLA
2015	Ali Anwer	Summer Intern	Abrasion resistance of surface textured fibrous composites	MASc. cand., U of T
2014/15	M. Zjilstra, P. Guillemont, A. Anwer, J. Chu	4th Yr Design	Design of footwear outsole with retractable treads	-
2014/15	S. Ramadan, A. Abassi, A. Pearson, T. Bullock	4th Yr Design	Design of easy-to-wear hands-free footwear	-
2014/15	Sharon Li	M.Eng	Fabrication of surface textured fibrous composites	MASc. cand., U of T
2014	Helen Song	Summer Intern	Fabrication of oriented glass fiber composites	Baylis Medical
2013	Gholam Muhaimeen	Summer Intern	Piezoresistive Polyvinyldiene Flouride nanocomposite pressure sensors	Exxon Mobil
2013	Puneet Gupta	Summer Intern	Porous processing of thermoplastic nanocomposites	BASc., U of T
2012/13	Jordan Yu	4th Yr Thesis	Piezoresistive Porous Nanocomposite Pressure Sensors	BASc., U of T
2010/11	Brandon Cochrane	4th Yr Thesis	Piezoresistive Polyethylene nanocomposite pressure sensors	BMO Capital Markets
2010	Steven Botelho	Summer Intern	Design and characterization of a piezoresistive sensorized glove	MASc, U of T
2009/10	Sara Makaremi	4th Yr Thesis	Piezoresistive PDMS nanocomposites	eHealth Innovation
2009/10	Lemeul Tong	4th Yr Thesis	Melt-spinning of Polylactide nanocomposite	PhD cand., U of T
2008	Mohammad Khan	Summer Intern	In-situ polymerization of Polylactic Acid on Multiwall Carbon Nanotubes	Magna Closures
2008	Brandon Cochrane	Summer Intern	Chitin Nanowhisker extraction and purification	BMO Capital Markets

Graduate Thesis Committees (Total: 10)

Year	Name	Supervisor	Type	Title	Location
2019	P. Sikhdar	S. Bhaduri	PhD	Microwave processing of bio-functional orthopedic implant coatings	U of Toledo
2018	N. Sanaei	A. Fatemi	PhD	Metal Additive Manufacturing Defects Characteristics and Correlations with Multiaxial Fatigue Life	U of Toledo
2018	A. Jahadakbar	M. Elahinia	PhD	Toward realistic stiffness-matched bone plates	U of Toledo
2018	A. Raiyan	H. Sojoudi	MS	Fundamentals of Liquid Interactions with Nano/Micro Engineered Surfaces at Low Temperatures	U of Toledo
2018	S. Sharifimehr	A. Fatemi	PhD	Multiaxial Fatigue Analysis under Complex Non-proportional Loading Conditions	U of Toledo
2018	N. Shayesteh Moghaddam	M. Elahinia	PhD	Effect of In- and Post-Process Heat Treatment on Additively Manufactured NiTi Devices	U of Toledo
2017	L. Horvath	B. Trease	MS	Reviewing and Evaluating Pattern-Generation and Fabrication Methodologies for an Origami Flasher	U of Toledo
2017	Riasat Azim	D. Hixon	MS	Low-Storage Hybrid MacCormack-type Schemes with High Order Temporal Accuracy for Computational Aeroacoustics	U of Toledo
2017	Asad Rahman	E. Nikolaidis	MS	Random Vibration Analysis using Quasi-Random Bootstrapping	U of Toledo
2017	Md Navid Unjum	D. Hixon	MS	Analyzing the Efficiency of an Implicit Dual Time Stepping Solver For Computational Aeroacoustics	U of Toledo

Leadership and Service

Professional Involvements

University of Toledo MIME Department Faculty Search Committee 2018 and 2019 – Review, interview and recommend candidates for two Solid Mechanics focus faculty positions (2018) and three thermofluids faculty positions (2019).

University of Toledo MIME Department Graduate Committee 2016-2018 – Review applications and recommend student admissions for the graduate MS and PhD program.

University of Toledo MIME Department Materials Mechanics and Design (MMD) focus group leader 2018 and 2019– Review and coordinate course offerings and organize PhD qualifier exams.

American Society of Mechanical Engineers (ASME), Adaptive Structures and Materials System Branch **Co-Chairperson of Technical Committee on Adaptive and Multifunctional Materials (AMM), 2019 - present.**

American Society of Mechanical Engineers (ASME), Adaptive Structures and Materials System Branch **Secretary of Technical Committee on Adaptive and Multifunctional Materials (AMM), 2019 - present.**

Reviewer

- Carbon, since 2019
- Advanced Science, since 2018
- Experimental Mechanics, since 2018
- Polymer, since 2017
- Materials Letters, since 2016
- Journal of Materials Science, since 2016
- Journal of Polymer Science, Part B: Polymer Physics, since 2016

- Journal of Composites Part A: Applied Science and Manufacturing, since 2015

Session chair, SPIE International Society for Optics and Photonic's Conference on Smart Structures, March 3-7, 2019, Denver Colorado, USA
Session chair, SPIE International Society for Optics and Photonic's Conference on Smart Structures, March 4-8, 2018, Denver Colorado, USA
Session chair, SPIE International Society for Optics and Photonic's Conference on Smart Structures, March 25-29, 2017, Portland, Oregon, USA
Session Co-chair, American Society of Mechanical Engineer's Conference on Smart Materials, Adaptive Structures and Intelligent Systems, Sept 16-18, 2012, Stone Mountain, Georgia, USA (Session 1-4, 'Novel Multifunctional Composites')
Organizing Committee Member, Polymer Processing Society Americas Conference 2012, May 21-24, 2012, Niagara Falls, Canada
Student Attendee and Exhibitor, 'Thinking Ahead for a Strong Future' 10th Anniversary of the Canada Research Chairs Program, Nov. 24 & 25, 2011, Toronto, Canada
Planning Committee Member, 10th Annual UT^2 University of Toronto-Tokyo Graduate Students Workshop, June 9-11, 2011, Toronto, Canada
Co-chairperson, Materials Science and Engineering Graduate Student Association (MSEGSA) of University of Toronto, Toronto, Canada 2007-2008

Professional Memberships

Member, American Society of Mechanical Engineers (ASME), Adaptive Structures and Materials System Branch, nominated and elected 2018
Member, American Chemical Society (ACS) since 2018
Member, American Association for the Advancement of Science (AAAS) since 2016
Member, American Society of Mechanical Engineers (ASME) since 2009
Member, Society of Plastics Engineers (SPE) since 2008
Member, Society of Optics and Photonics (SPIE), since 2017