

CURRICULUM VITAE

WEI XUE

Associate Professor and Interim Department Head
Mechanical Engineering, Henry M. Rowan College of Engineering
Rowan University
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PROFESSIONAL EXPERIENCE

2023.09 – present Interim Department Head, Mechanical Engineering
2018.09 – present Associate Professor, Mechanical Engineering
2020.02 – 2023.08 Program Coordinator/Co-Chair, Materials Science and Engineering (MSE)
Rowan University, Glassboro, NJ
2014.09 – 2018.08 Assistant Professor, Mechanical Engineering
Rowan University, Glassboro, NJ
2014.01 – 2014.06 Senior Product Engineer, Product Engineering
WaferTech LLC of TSMC, Camas, WA
2007.08 – 2014.01 Assistant Professor, Mechanical Engineering
Washington State University, Vancouver, WA
2007.05 – 2007.07 Postdoctoral Research Associate, Mechanical Engineering
University of Minnesota, Twin Cities, MN
2000.07 – 2001.07 Research Engineer, Huawei Technologies Co. Ltd, Shenzhen, China

EDUCATION

Ph.D. 2007 Mechanical Engineering, University of Minnesota, Twin Cities, MN
Advisor: Dr. Tianhong Cui
M.S. 2000 Electrical Engineering, Shandong University, Jinan, China
B.S. 1997 Electrical Engineering, Shandong University, Jinan, China

TEACHING EXPERIENCE

2014.09 – present Rowan University Credit Courses:

- ME 10301 (4 credits): Machine Design, 2014-present
- ME 10342/10532 (3 credits): Quality and Reliability, 2020-present
- ME 10430/10530 (3 credits): Introduction to Reliability Engineering, 2023-present
- ME 10433/10533 (3 credits): Renewable Energy, 2015-present
- ME 10505 (3 credits): Special Topics in ME: Microelectromechanical Systems (MEMS), 2017
- ENGR 01102 (2 credits): Freshman Engineering Clinic II (FEC II), 2018
- ENGR 01273 (3 credits): Strength of Materials, 2019-present

2014.09 – present Rowan University Engineering Clinics Projects & Other Research Courses:

- ENGR 01301/01401: Junior and Senior Engineering Clinics, sponsor 2-6 projects and advise 8-25 students per semester, 2014 – present
- ENGR 01391: Independent Study in Engineering, 2016 – present

2007.08 – 2013.12 Washington State University Vancouver Credit Courses:

- MECH 101 (2 credits): Introduction to Mechanical Engineering, 2008
- MECH 309 (with Labs) (3 credits): Introduction of Engineering Materials, 2010
- MECH 431(3 credits): Semiconductor Devices, 2008-2013
- MECH 438/538 (3 credits): Microfabrication Technology, 2007-2012
- MECH 450/550 (with Labs) (3 credits): Micro/Nano Technology, 2009-2012

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- MECH 509 (with Labs) (3 credits): MEMS Engineering, 2009- 2013
- ECE 421 (with Labs) (3 credits): Microsystems in Renewable Energy, 2012-2013

2007.08 – 2013.12 Washington State University Vancouver Research/Engineering Courses:

- MECH 499: Special Problems in Mechanical Engineering, 2011
- ECE 483: Topics in Electrical Engineering, 2011
- UH 450: University Honors Thesis or Project, 2011
- **Teaching Award:** 2011-2012 Students' Award for Teaching Excellence – the most prestigious award in teaching and mentorship for the entire campus (one awardee per year for the entire campus, cross disciplines, selected by the Teacher of the Year Committee), Washington State University Vancouver, May 2012. [Link](#).

GRANTS (AWARDED)

- \$450,000 Designing Strong Dielectrics for GHe-Cooled HTS Systems through Nanocomposite Property Tuning
Office of Naval Research (Award No.: N00014-23-1-2679)
PI: Xue Jul. 2023 – Jun. 2026
- \$300,000 Cultivating the Future Soft Robotics Workforce through Integrated Undergraduate Research and Education
National Science Foundation (NSF DUE-IUSE #2235647)
PI: Xue, Co-PIs: Trkov, Jha, Jamison, Bolden Jul. 2023 – Jun. 2026
- \$35,000 Developing a Novel Spinal Cord Stimulator with Antimicrobial Properties
New Jersey Health Foundation (Grant #PC 77-23)
PI: Hettinger, **Co-PI: Xue** Feb. 2023 – Feb. 2024
- \$4,000 Printed Flexible Spinal Cord Stimulator for Pain Management
University of Pennsylvania, Singh Center for Nanotechnology, 2022 Innovation Seed Grant & 2023 Innovation Seed Grant
PI: Xue Jun. 2022 – May 2024
- \$335,900 MRI: Acquisition of a Multi-Dimensional Nano-Characterization System Based on a Scanning Probe Microscope for Multidisciplinary Materials Research and Education
National Science Foundation (NSF DMR #2116353)
PI: Lu, **Co-PIs: Xue**, Hettinger, Dobbins, Yu Sep. 2021 – Aug. 2023
- \$100,000 Printed Flexible Electronics for Pain Management
Camden Health Research Initiative
PI: Xue, Co-PIs: Hettinger, Hirsh Mar. 2020 – Jun. 2024
- \$127,416 Real-Time Cloud-Connected Wearable Heart Health Monitor
Camden Health Research Initiative
PI: Hirsh, **Co-PIs: Xue**, Haas Mar. 2019 – Jun. 2022
- \$541,341 Polymer Nanocomposites with Enhanced Dielectric Strength and Reduced Thermal Contraction for Superconductor Cables
Naval Surface Warfare Center (NSWC), Naval Engineering Education Consortium (NEEC) (Award No.: NSWC IHEODTD N00174-17-1-0008)
PI: Xue, Co-PI: Krchnavek Sep. 2017 – Aug. 2022
- \$35,000 Wearable Blood Pressure Monitors for Smart Health
New Jersey Health Foundation (Grant #PC110-17)
PI: Xue, Co-PIs: Hirsh, Merrill Mar. 2017 – Dec. 2018
- \$35,000 Smart Bandage Protein Materials with Temperature Responsive Drug Delivery Function
New Jersey Health Foundation (Grant #PC111-17)
PI: Hu, **Co-PI: Xue** Mar. 2017 – Aug. 2018
- \$451,500 MRI: Acquisition of a Scanning Electron Microscope for Research and Education

- National Science Foundation (NSF CBET #1625816)
PI: Xue, Co-PIs: Krchnavek, Dobbins, Nagele, Beachley Oct. 2016 – Sep. 2018
- \$35,000 Nanofiber-based Motion Energy Harvesters for Implanted Medical Devices
New Jersey Health Foundation (Grant #PC34-16)
PI: Xue, Co-PI: Beachley Apr. 2016 – Jun. 2017
- \$50,000 Electronic Skin (E-skin) Patch for Monitoring Heart Rate and Respiration Rate
New Jersey Health Foundation / The Nicholson Foundation (Grant #IG-N 6-16)
PI: Xue, Co-PIs: Hu, Hettinger Jan. 2016 – May 2017
- \$10,000 Skin-Mountable Flexible Energy Harvesters for Wearable Electronics
Rowan University Seed Funding, Rowan University
PI: Xue Jul. 2015 – Jun. 2016
- \$6,000 Multidisciplinary, Collaborative, and Hands-on Learning for the Next Generation of Engineers
in Renewable Energy
Samuel H. and Patricia W. Smith Teaching and Learning Grant, Washington State University
PI: Xue Apr. 2013 – Apr. 2014
- \$750 Hands-on Learning for the Next-Generation Engineers in Renewable Energy
Washington State University Vancouver Teaching Innovations Small Grant Program
PI: Xue Jun. 2013 – May 2014
- \$525,500 Interdisciplinary Renewable Energy Option Track
M. J. Murdock Charitable Trust \$250,500; WSU Match \$275,000
My portion (for course development and laboratories) is approximately \$290,600
PI: Gurocak, **Co-PIs: Xue**, Solovitz, Song, Tigli Jun. 2011 – May 2013
- \$4,800 Creating Logic Using Nanotube Electronics
Washington State University Vancouver Research Mini-Grant
PI: Xue Jun. 2012 – May 2013
- \$5,000 Integration of Nanosensors and Microfluidics for Lab-on-a-Chip Devices
Washington State University Vancouver Research Mini-Grant
PI: Xue Jun. 2011 – May 2012
- \$8,920 3D Assembly of Carbon Nanotube Multilayers
Washington State University New Faculty Seed Grant
PI: Xue May 2008 – Aug. 2009
- \$3,500 Nanofabrication in Three Dimensions
Washington State University Vancouver Research Mini-Grant
PI: Xue Jun. 2008 – May 2009

RESEARCH INTEREST & EXPERIENCE

- Sensors: physical, chemical, and biological sensors
- Micro/nanoelectromechanical systems (MEMS/NEMS)
- Microelectronics and semiconductor microfabrication technology
- Nanotechnology and nanomaterials
- Wearable electronics

JOURNAL PUBLICATIONS

1. Muhammad Usman, Nabil Jamhour, Jeffrey Hettinger, and Wei Xue, “Smart wearable flexible temperature sensor with compensation against bending and stretching effects”, *Sensors and Actuators A: Physical*, Vol. 353, p. 114224, 2023.
2. Jacob Mahon, Nicholas Pagliocca, Virginia Harnack, Behrad Koohbor, Robert Krchnavek, and Wei Xue, “Design and implementation of a thin film tensile testing apparatus for cryogenic applications”, *Experimental Techniques*, Vol. 47, No. 4, pp. 817-826, 2023.

- Jacob Mahon, Nicholas Pagliocca, Virginia Harnack, Behrad Koohbor, Lei Yu, Xiao Hu, Robert Krchnavek, and Wei Xue, "Mechanics of dielectric polyamide/SiO₂ nanocomposite coatings for cryogenic service in superconductor systems", *Journal of Applied Polymer Science*, Vol. 139, No. 44, e53097, 2022.
- Muhammad Usman, Adarsh K. Gupta, and Wei Xue, "Wearable ring bioelectrical impedance analyzer for estimation and monitoring of body fat", *Smart Health*, Vol. 24, p. 100275, 2022.
- Harrison M. Hones, Jordan T. Cook, Michael J. McCaffrey, Robert R. Krchnavek, and Wei Xue, "Effects of material preparation in polyimide/SiO₂ nanocomposites for low-temperature dielectric applications", *IEEE Transactions on Nanotechnology*, Vol. 20, pp. 695-702, 2021.
- Jordan T. Cook, Harrison M. Hones, Jacob R. Mahon, Lei Yu, Robert R. Krchnavek, and Wei Xue, "Temperature-dependent dielectric properties of polyimide (PI) and polyamide (PA) nanocomposites", *IEEE Transactions on Nanotechnology*, Vol. 20, pp. 584-591, 2021.
- Greggory Murray, Samuel Bednarski, Michael Hall, Samuel W. Foster, SiJun Jin, Joshua J. Davis, Wei Xue, Eric Constans, James P. Grinias, "Comparison of design approaches for low-cost sampling mechanisms in open-source chemical instrumentation", *HardwareX*, Vol. 10, e00220, 2021.
- Taissa R. Michel, Michael J. Capasso, Muhammet E. Cavusoglu, Jeremy Decker, Danilo Zeppilli, Cheng Zhu, Smitesh Bakrania, Jennifer A. Kadlowec, and Wei Xue, "Evaluation of porous polydimethylsiloxane/carbon nanotubes (PDMS/CNTs) nanocomposites as piezoresistive sensor materials", *Microsystem Technologies*, Vol. 26, No. 4, pp. 1101-1112, 2020.
- Muhammad Usman, Mario Leone, Adarsh K. Gupta, and Wei Xue, "Fabrication and analysis of wearable bio-impedance analyzers on paper and plastic substrates", *IEEE Sensors Letters*, Vol. 4, No. 3, p. 6000304, 2020.
- Michael McCaffrey, Harrison Hones, Jordan Cook, Robert Krchnavek, and Wei Xue, "Geometric analysis of dielectric failures in polyimide/silicon dioxide nanocomposites", *Polymer Engineering and Science*, Vol. 59, Issue 9, pp. 1897-1904, 2019.
- Adriano A. Conte, Khosro Shirvani, Harrison Hones, Alexander Wildgoose, Xue Ye, Raghid Najjar, Xiao Hu, Wei Xue, Vince Z. Beachley, "Effects of post-draw processing on the structure and functional properties of electrospun PVDF-HFP nanofibers", *Polymer*, Vol. 171, pp. 192-200, 2019.
- Raghid Najjar, Yi Luo, Dave Jao, David Brennan, Ye Xue, Vince Beachley, Xiao Hu, and Wei Xue, "Biocompatible silk/polymer energy harvesters using stretched poly (vinylidene fluoride-co-hexafluoropropylene) (PVDF-HFP) nanofibers", *Polymers*, Vol. 9, No. 10, p. 479, 2017.
- Andrea De Vellis, Dmitry Gritsenko, Yang Lin, Zhenping Wu, Xian Zhang, Yayue Pan, Wei Xue, and Jie Xu, "Drastic sensing enhancement using acoustic bubbles for surface-based microfluidic sensors", *Sensors and Actuators B: Chemical*, Vol. 243, pp. 298-302, 2017.
- Maria Torculas, Jethro Medina, Wei Xue, and Xiao Hu, "Protein-based bioelectronics", *ACS Biomaterials Science & Engineering*, Vol. 2, No. 8, pp. 1211-1223, 2016.
- Jianlong Gao, Jiheng Zhao, Liping Liu, and Wei Xue, "Dimensional effects of polymer pillar arrays on hydrophobicity", *Surface Engineering*, Vol. 32, No. 2, pp. 125-131, 2016.
- Catalina Maria Rivera, Hyuck-Jin Kwon, Ali Hashmi, Gan Yu, Jiheng Zhao, Jianlong Gao, Jie Xu, Wei Xue, and Alexander G. Dimitrov, "Towards a dynamic clamp for neurochemical modalities", *Sensors*, Vol. 15, No. 5, pp. 10465-10480, 2015.
- Hyuck-Jin Kwon, Yuhao Xu, Stephen A. Solovitz, Wei Xue, Alexander G. Dimitrov, Allison B. Coffin, and Jie Xu, "Design of a microfluidic device with a non-traditional flow profile for on-chip damage to zebrafish sensory cells", *Journal of Micromechanics and Microengineering*, Vol. 24, No. 1, p. 017001, 2014.
- Yan Duan, Nicholas E. Holmes, Alexander L. Ellard, Jianlong Gao, and Wei Xue, "Solution-based fabrication and characterization of a logic gate inverter using random carbon nanotube networks", *IEEE Transactions on Nanotechnology*, Vol. 12, No. 6, pp. 1111-1117, 2013.
- Yan Duan, Jason L. Juhala, Benjamin W. Griffith, and Wei Xue, "A comparative analysis of thin-film transistors using aligned and random-network carbon nanotubes", *Journal Nanoparticle Research*, Vol. 15, No. 3, p. 1478, 2013.

20. Yan Duan, Jason L. Juhala, Benjamin W. Griffith, and Wei Xue, "Solution-based fabrication of p-channel and n-channel field-effect transistors using random and aligned carbon nanotube networks", *Microelectronic Engineering*, Vol. 103, pp. 18-21, 2013.
21. Stephen A. Solovitz, Jiheng Zhao, Wei Xue, and Jie Xu, "Uniform flow control for a multi-passage microfluidic sensor", *Journal of Fluids Engineering*, Vol. 135, No. 2, 2013.
22. Jiheng Zhao, Debra A. Sheadel, and Wei Xue, "Surface treatment of polymers for the fabrication of all-polymer MEMS devices", *Sensors and Actuators A: Physical*, Vol. 187, pp. 43-49, 2012.
23. Pengfei Li, Nan Lei, Jie Xu, and Wei Xue, "High-yield fabrication of graphene chemiresistors with dielectrophoresis", *IEEE Transactions on Nanotechnology*, Vol. 11, No. 4, pp. 751-759, 2012.
24. Jiheng Zhao, Ali Hashmi, Jie Xu, and Wei Xue, "A compact lab-on-a-chip nanosensor for glycerol detection", *Applied Physics Letters*, Vol. 100, No. 24, p. 243109, 2012. (selected for *Virtual Journal of Nanoscale Science & Technology*, Vol. 25, No. 26, June 2012, AIP/APS)
25. Pengfei Li, Nan Lei, Debra A. Sheadel, Jie Xu, and Wei Xue, "Integration of nanosensors into a sealed microchannel in a hybrid lab-on-a-chip device", *Sensors and Actuators B: Chemical*, Vol. 166-167, pp. 870-877, 2012.
26. Wei Xue, "A design-oriented experimental module for teaching micro- and nanotechnologies to mechanical engineering students", *International Journal of Mechanical Engineering Education*, Vol. 40, No. 1, pp. 11-23, 2012.
27. Nan Lei, Pengfei Li, Wei Xue, and Jie Xu, "Simple graphene chemiresistors as pH sensors: fabrication and characterization", *Measurement Science and Technology*, Vol. 22, No. 10, p. 107022, 2011.
28. Pengfei Li, Caleb M. Martin, Kan Kan Yeung, and Wei Xue, "Dielectrophoresis aligned single-walled carbon nanotubes as pH sensors", *Biosensors*, Vol. 1, No. 1, pp. 23-35, 2011.
29. Pengfei Li and Wei Xue, "Selective deposition and alignment of single-walled carbon nanotubes assisted by dielectrophoresis: from thin films to individual nanotubes", *Nanoscale Research Letters*, Vol. 5, No. 6, pp. 1072-1078, 2010.
30. Wei Xue and Tianhong Cui, "Thin-film transistors with controllable mobilities based on layer-by-layer self-assembled carbon nanotube composites", *Solid-State Electronics*, Vol. 53, No. 9, pp. 1050-1055, 2009.
31. Xiaolin Chen, Wei Cui, and Wei Xue, "Process modeling and device-package simulation for optimization of MEMS gyroscopes", *Computer-Aided Design and Applications*, Vol. 6, No. 3, pp. 375-386, 2009.
32. Miao Lu, Dongjin Lee, Wei Xue, and Tianhong Cui, "Flexible and disposable immunosensors based on layer-by-layer self-assembled carbon nanotubes and biomolecules", *Sensors and Actuators A: Physical*, Vol. 150, No. 2, pp. 280-285, 2009.
33. Wei Xue and Tianhong Cui, "Self-assembled carbon nanotube multilayer resistors and nanotube/nanoparticle thin-film resistors as pH sensors", *Sensor Letters*, Vol. 6, No. 5, pp. 675-681, 2008.
34. Wei Xue and Tianhong Cui, "A thin-film transistor based acetylcholine sensor using self-assembled carbon nanotube and SiO₂ nanoparticles", *Sensors and Actuators B: Chemical*, Vol. 134, No. 2, pp. 981-987, 2008.
35. Wei Xue and Tianhong Cui, "Electrical and electromechanical characteristics of self-assembled carbon nanotube thin films on flexible substrates", *Sensors and Actuators A: Physical*, Vol. 145-146, pp. 330-335, 2008.
36. Wei Xue and Tianhong Cui, "A high-resolution amperometric acetylcholine sensor based on nano-assembled carbon nanotube and acetylcholinesterase thin films", *Journal of Nano Research*, Vol. 1, pp. 1-9, 2008.
37. Wei Xue and Tianhong Cui, "Polymer magnetic microactuators fabricated with hot embossing and layer-by-layer nano self-assembly", *Journal of Nanoscience and Nanotechnology*, Vol. 7, No. 8, pp. 2647-2653, 2007.
38. Wei Xue and Tianhong Cui, "Carbon nanotube micropatterns and cantilever array fabricated with layer-by-layer nano self-assembly", *Sensors and Actuators A: Physical*, Vol. 136, No. 2, pp. 510-517, 2007.
39. Wei Xue and Tianhong Cui, "Characterization of layer-by-layer self-assembled carbon nanotube multilayer thin films", *Nanotechnology*, Vol. 18, No. 14, p. 145709, 2007.
40. Wei Xue, Yi Liu, and Tianhong Cui, "High-mobility transistors based on nano-assembled carbon nanotube semiconducting layer and SiO₂ nanoparticle dielectric layer", *Applied Physics Letters*, Vol. 89, No. 16, p. 163512, 2006.

41. Jing Wang, Wei Xue, Naidu V. Seetala, Xueyuan Nie, Efstathios I. Meletis, and Tianhong Cui, “A micromachined wide-bandwidth magnetic field sensor based on all-PMMA electron tunneling transducer”, *IEEE Sensors Journal*, Vol. 6, No. 1, pp. 97-105, 2006. (selected as the issue cover paper)
42. Wei Xue, Jing Wang, and Tianhong Cui, “Modeling and design of polymer-based tunneling accelerometers by ANSYS/MATLAB”, *IEEE/ASME Transactions on Mechatronics*, Vol. 10, No. 4, pp. 468-472, 2005.
43. Wei Xue, Jing Wang, and Tianhong Cui, “Highly sensitive micromachined tunneling sensors”, *Optical and Precision Engineering*, Vol. 12, No. 5, pp. 491-503, 2004. (invited paper)
44. Jing Wang, Wei Xue, and Tianhong Cui, “A combinative technique to fabricate hot embossing master for PMMA tunneling sensors”, *Microsystem Technologies*, Vol. 10, No. 4, pp. 329-333, 2004.

BOOK CHAPTERS

1. Raghid Najjar, Joseph R. Nalbach, and Wei Xue, “Carbon nanotube sensing in food safety and quality analysis”, *Sensing Techniques for Food Safety and Quality Control*, Royal Society of Chemistry, Chapter 9, pp. 272-298, September 2017. ISBN: 978-1782626640.
2. Nan Lei, Pengfei Li, Ali Hashmi, Wei Xue, and Jie Xu, “Graphene chemiresistors as pH sensors: fabrication and characterization”, *Graphene Science Handbook: Fabrication Methods*, CRC Press, Chapter 18, pp. 309-318, April 2016. ISBN: 978-1466591271.
3. Yan Duan, Jason Juhala, and Wei Xue, “Solution-based fabrication of carbon nanotube thin-film logic gate”, *Nanomaterials: A Guide to Fabrication and Applications*, CRC Press, Chapter 9, pp. 195-214, December 2015. ISBN: 978-1466591257.
4. Jiheng Zhao, Pengfei Li, and Wei Xue, “Carbon nanotubes: aligned, as pH sensors”, *Dekker Encyclopedia of Nanoscience and Nanotechnology, Third Edition*, Taylor & Francis Group - CRC Press, New York, pp. 643-655, June 2014. ISBN: 978-1439891346.
5. Pengfei Li, Nan Lei, Jie Xu, and Wei Xue, “High-yield dielectrophoretic deposition and ion sensitivity of graphene”, *Nanoelectronic Device Applications Handbook*, Taylor & Francis Group - CRC Press, Chapter 28, pp. 373-382, June 2013. ISBN: 978-1466565234.
6. Wei Xue and Pengfei Li, “Dielectrophoretic deposition and aligned carbon nanotubes”, *Carbon Nanotubes – Synthesis, Characterization, Applications*, InTech, Chapter 9, pp. 171-190, July 2011. ISBN: 978-9533074979.
7. Tianhong Cui and Wei Xue, “Polymer tunneling sensors”, *Encyclopedia of Sensors*, American Scientific Publishers, Vol. 8, pp. 87-122, 2005. ISBN: 1-58883-001-2. (invited chapter)

CONFERENCE PUBLICATIONS (PEER REVIEWED)

1. Kaniz Rokhsana, Shaini Aluthgun Hewage, Melissa Montalbo-Lomboy, Chao-Sheng Tang, Cheng Zhu, and Wei Xue, “Bioremediation of desiccation cracking in clayey soils using enzyme induced calcite precipitation”, Geo-Congress 2023, Los Angeles, CA, March 26-29, 2023.
2. Benjamin Wechter, Nicholas Gushue, Luke Reilly, Maxwell Rutka, Ryan Kennedy, Jacob Mahon, Wei Xue, and Mitja Trkov, “Cost-effective soft actuators using Nafion™ and carbon nanotube electrodes”, *The ASME 2022 International Mechanical Engineering Congress & Exposition (ASME IMECE 2022)*, IMECE2022-95669, Columbus, OH, USA, October 30-November 3, 2022. (**Best Paper Award by ASME MEMS Division**)
3. Kemal Yakut, Muhammad Usman, Wei Xue, Francis M. Haas, Robert A. Hirsh, Joseph Boothby, Tyler Petty, and Xinghui Zhao, “Electro-mechanical data fusion for heart health monitoring”, *The 10th IEEE International Conference on Healthcare Informatics (IEEE ICHI 2022)*, pp. 357-362, Rochester, MN, USA, June 11-14, 2022.
4. Jacob Mahon, Nicholas Pagliocca, Virginia Harnack, Behrad Koohbor, Robert Krchnavek, and Wei Xue, “Cost-effective tensile testing apparatus for characterization of thin films at cryogenic temperatures”, *2022 Society for Experimental Mechanics (SEM) Annual Conference*, Pittsburgh, PA, USA, June 13-16, 2022.
5. Jordan Cook, Jacob Mahon, William Emmerling, Lei Yu, Robert Krchnavek, and Wei Xue, “PMMA nanocomposite based cryogenic dielectrics for high-temperature superconducting (HTS) cables”, *The 16th*

- IEEE Nanotechnology Materials and Devices Conference (IEEE NMDC 2021)*, Vancouver, Canada, December 12-15, 2021.
6. Jacob Mahon, Jordan Cook, Harrison Hones, Robert Krchnavek, and Wei Xue, “Polyimide (PI) and polyamide (PA) nanocomposite films as dielectrics for multi-phase high-temperature superconducting transmission cables”, *The American Society of Naval Engineers Intelligent Ships Symposium XIV (ASNE ISS2021)*, Virtual, April 28-29, 2021.
 7. Tyler Petty, Thong Vu, Xinghui Zhao, Robert A Hirsh, Gregory Murray, Francis M Haas, and Wei Xue, “Evaluating deep learning algorithms for real-time arrhythmia detection”, *2020 IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT 2020)*, Leicester, UK, December 7-10, 2020.
 8. Jordan Cook, Harrison Hones, Lei Yu, Robert Krchnavek, and Wei Xue, “Increased dielectric strength of polyimide/silicon dioxide nanocomposites at cryogenic temperatures”, *The 20th IEEE International Conference on Nanotechnology (IEEE NANO 2020)*, Virtual, July 29-31, 2020.
 9. Muhammad Usman, Adarsh K. Gupta, and Wei Xue, “Analyzing dry electrodes for wearable bioelectrical impedance analyzers”, *The 2019 IEEE Signal Processing in Medicine and Biology Symposium (IEEE SPMB 2019)*, Philadelphia, PA, USA, December 7, 2019.
 10. Harrison M. Hones, Michael J. McCaffrey, Jordan T. Cook, Thomas J. Bielicki, Richard Chao, Robert R. Krchnavek, and Wei Xue, “Polyimide-based nanocomposites as low-temperature dielectrics”, *The 14th IEEE Nanotechnology Materials and Devices Conference (IEEE NMDC 2019)*, Stockholm, Sweden, October 27-30, 2019.
 11. Muhammad Usman, Shani Thapa, Adarsh K. Gupta, and Wei Xue, “Ring based wearable bioelectrical impedance analyzer for body fat estimation”, *The 2018 IEEE International Symposium on Signal Processing and Information Technology (IEEE ISSPIT 2018)*, Louisville, KY, USA, December 6-8, 2018.
 12. Taissa R. Michel, Joseph R. Nalbach, Harrison Hones, Anthony Salemo, Salvatore Catanzaro, Allison Tingley, Matthew Schwenger, and Wei Xue, “Functionalization of PDMS nanocomposite foams for piezoelectric applications”, *The 13th IEEE Nanotechnology Materials and Devices Conference (IEEE NMDC 2018)*, Portland, OR, USA, October 14-17, 2018.
 13. Alexander Wildgoose, Raghid Najjar, Jason Dittman, Harrison Hones, Emily Umbach, Benjamin Muska, Adriano Conte, Vince Beachley, and Wei Xue, “Comparative studies of wet-stretched and non-stretched electrospun PVDF-HFP nanofibers”, *The ASME 2017 International Mechanical Engineering Congress & Exposition (ASME IMECE 2017)*, IMECE2017-70993, Tampa, FL, USA, November 3-9, 2017.
 14. Joseph R. Nalbach, Mathew S. Schwenger, Zachary M. Koleszar, Kelly Greiser, David Ozalas, Taissa Michel, Craig Bovenzi, and Wei Xue, “Polymer-nanoparticle composite foams for energy harvesting applications”, *The ASME 2017 International Mechanical Engineering Congress & Exposition (ASME IMECE 2017)*, IMECE2017-71002, Tampa, FL, USA, November 3-9, 2017.
 15. Joseph R. Nalbach, Dave Jao, Douglas G. Petro, Kyle M. Raudenbush, Shabbir Ahmad, Ye Xue, Xiao Hu, and Wei Xue, “Fabrication of tunable silk materials through microfluidic mixers”, *The ASME 2016 International Mechanical Engineering Congress & Exposition (ASME IMECE 2016)*, IMECE2016-65623, Phoenix, AZ, USA, November 11-17, 2016.
 16. Raghid Najjar, Yi Luo, Xiao Hu, Vince Beachley, and Wei Xue, “Study of energy harvesting performance of wet-stretched PVDF nanofibers”, *The ASME 2016 International Mechanical Engineering Congress & Exposition (ASME IMECE 2016)*, IMECE2016-66642, Phoenix, AZ, USA, November 11-17, 2016.
 17. Eric Constans, Shivakumar Ranganathan, and Wei Xue, “Integrating the mechanical engineering curriculum using a long-term green design project – the planetary gearset”, *The 122nd American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Paper ID: 11674, Seattle, WA, June 14-17, 2015. **(Selected for the Best Paper Presentations Session)**
 18. Jiheng Zhao, Jianlong Gao, Xinmiao Chen, Liping Liu, and Wei Xue, “Studies of the dimensional effects of SU-8 and PDMS pillar arrays on hydrophobicity”, *The ASME 2013 International Mechanical Engineering Congress & Exposition (ASME IMECE 2013)*, IMECE2013-62692, San Diego, CA, USA, November 15-21, 2013.
 19. Jianlong Gao, Jiheng Zhao, Xinmiao Chen, Wei Xue, and Liping Liu, “Boiling water treatment for wettability improvement of aluminum fin surfaces”, *The ASME 2013 International Mechanical*

- Engineering Congress & Exposition (ASME IMECE 2013)*, IMECE2013-62697, San Diego, CA, USA, November 15-21, 2013.
20. Yan Duan, Nicholas E. Holmes, Alexander L. Ellard, Jianlong Gao, and Wei Xue, "Solution-based fabrication and characterization of a voltage inverter using random carbon nanotube networks", *The 13th IEEE International Conference on Nanotechnology (IEEE NANO 2013)*, pp. 393-396, Beijing, China, August 5-8, 2013. (NSF Student Travel Award: J. Gao)
 21. Jiheng Zhao, Debra A. Sheadel, and Wei Xue, "Surface treatment of polymers for the fabrication of all-polymer microfluidic devices", *The ASME 2012 International Mechanical Engineering Congress & Exposition (ASME IMECE 2012)*, IMECE2012-86136, Houston, TX, USA, November 9-15, 2012.
 22. Yan Duan, Jason L. Juhala, Benjamin W. Griffith, Vianney J. Uwizeye, and Wei Xue, "Solution-based fabrication of p-channel and n-channel thin-film transistors using random and aligned carbon nanotube networks", *The ASME 2012 International Mechanical Engineering Congress & Exposition (ASME IMECE 2012)*, IMECE2012-86353, Houston, TX, USA, November 9-15, 2012.
 23. Hyuck-Jin Kwon, Yuhao Xu, Stephen A. Solovitz, Wei Xue, Alexander G. Dimitrov, Allison B. Coffin, and Jie Xu, "Design of a microfluidic device to induce noise damage in hair cells of the zebrafish lateral line", *The ASME 2012 International Mechanical Engineering Congress & Exposition (ASME IMECE 2012)*, IMECE2012-87135, Houston, TX, USA, November 9-15, 2012.
 24. Jiheng Zhao, Jie Xu, and Wei Xue, "A novel compact lab-on-a-chip nanosensor for in-channel liquid viscosity detection", *Nanotech Conference & Expo 2012 (Nanotech 2012)*, pp. 388-391, Santa Clara, CA, USA, June 18-21, 2012.
 25. Jason L. Juhala, Benjamin W. Griffith, Yan Duan, and Wei Xue, "A comparative analysis of transistors based on dielectrophoresis-aligned carbon nanotubes (CNTs) and assembled random-network CNTs", *Nanotech Conference & Expo 2012 (Nanotech 2012)*, pp. 244-247, Santa Clara, CA, USA, June 18-21, 2012.
 26. Nan Lei, Zheyuan Chen, Dae-Wook Kim, Wei Xue, and Jie Xu, "Mechanical fabrication of graphene devices using focused-ion beam: deposition and milling", *Nanotech Conference & Expo 2012 (Nanotech 2012)*, pp. 502-505, Santa Clara, CA, USA, June 18-21, 2012.
 27. Gan Yu, Nan Lei, Xiaolin Chen, Wei Xue, and Jie Xu, "Free-surface microfluidics: exploring new actuation and sensing methods", *Nanotech Conference & Expo 2012 (Nanotech 2012)*, pp. 365-368, Santa Clara, CA, USA, June 18-21, 2012.
 28. Pengfei Li, Nan Lei, Jie Xu, and Wei Xue, "A lab-on-a-chip device using a dielectrophoresis-aligned carbon nanotube sensor array", *The ASME 2011 International Mechanical Engineering Congress & Exposition (ASME IMECE 2011)*, IMECE2011-62814, Denver, CO, USA, November 11-17, 2011.
 29. Pengfei Li, Nan Lei, Jie Xu, and Wei Xue, "Large-scale deposition of graphene with dielectrophoresis", *The ASME 2011 International Mechanical Engineering Congress & Exposition (ASME IMECE 2011)*, IMECE2011-64934, Denver, CO, USA, November 11-17, 2011.
 30. Nan Lei, Pengfei Li, Wei Xue, and Jie Xu, "Gate-free graphene-based sensor for pH monitoring", *The ASME 2011 International Mechanical Engineering Congress & Exposition (ASME IMECE 2011)*, IMECE2011-65166, Denver, CO, USA, November 11-17, 2011.
 31. Pengfei Li, Nan Lei, Jie Xu, and Wei Xue, "High-yield dielectrophoretic deposition and ion sensitivity of graphene", *The 11th IEEE International Conference on Nanotechnology (IEEE NANO 2011)*, pp. 1327-1330, Portland, OR, USA, August 15-18, 2011.
 32. Pengfei Li, Wei Xue, Dae-Wook Kim, and Young-Bin Park, "A preliminary study on machinability of polymethylmethacrylate (PMMA)/multi-walled carbon nanotube (MWCNT) nanocomposites in focused ion beam micromachining", *The ASME 2011 International Manufacturing Science and Engineering Conference (ASME MSEC 2011)*, MSEC2011-50115, Corvallis, OR, USA, June 13-17, 2011.
 33. Wei Xue, "Student-centered microsystem and nanotechnology courses and laboratories for mechanical engineering students", *The 2010 ASME International Mechanical Engineering Congress & Exposition (ASME IMECE 2010)*, IMECE 2010-37204, Vancouver, British Columbia, Canada, November 12-18, 2010.

34. Pengfei Li and Wei Xue, “Dielectrophoretic assembly of organized carbon nanotubes and thin films”, *The 2010 ASME International Mechanical Engineering Congress & Exposition (ASME IMECE 2010)*, IMECE 2010-37441, Vancouver, British Columbia, Canada, November 12-18, 2010.
35. Wei Cui, Xiaolin Chen, and Wei Xue, “Robust compensator control of a non-resonant MEMS gyroscope with linear quadratic regulator”, *The 2010 ASME International Mechanical Engineering Congress & Exposition (ASME IMECE 2010)*, IMECE 2010-38871, Vancouver, British Columbia, Canada, November 12-18, 2010.
36. Wei Cui, Wei Xue, and Xiaolin Chen “Compensator design for a MEMS gyroscope with quadratic optimal control”, *The 2010 ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (ASME IDETC/CIE 2010)*, DETC2010/MNS-28533, Montreal, Quebec, Canada, August 15-18, 2010.
37. Wei Cui, Xiaolin Chen, and Wei Xue, “Design optimization for a non-resonant MEMS gyroscope”, *The 2009 ASME International Mechanical Engineering Congress and Exposition (ASME IMECE 2009)*, IMECE 2009-10812, Lake Buena Vista, FL, USA, November 13-19, 2009.
38. Xiaolin Chen, Wei Cui, and Wei Xue, “Process modeling and device-package simulation for optimization of MEMS gyroscopes”, *The 2009 International CAD Conference and Exhibition (CAD’09)*, pp. 375-386, Reno, NV, USA, June 8-12, 2009.
39. Miao Lu, Dongjin Lee, Wei Xue, and Tianhong Cui, “Flexible and disposable immunosensors based on layer-by-layer self-assembled carbon nanotubes and biomolecules”, *The 21th IEEE International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2008)*, pp. 188-191, Tucson, AZ, USA, January 13-17, 2008.
40. Wei Xue and Tianhong Cui, “Electrical and electromechanical characteristics of nano-assembled carbon nanotube thin film resistors on flexible substrates”, *The 14th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers ’07)*, pp. 1047-1050, Lyon, France, June 10-14, 2007.
41. Wei Xue and Tianhong Cui, “A high-resolution amperometric acetylcholine sensor based on nano-assembled carbon nanotubes”, *The 20th IEEE International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2007)*, pp. 529-532, Kobe, Japan, January 21-25, 2007.
42. Wei Xue and Tianhong Cui, “Deposition and characterization of layer-by-layer nano self-assembled carbon nanotube multilayer thin films”, *The 2nd IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2007)*, pp. 371-376, Bangkok, Thailand, January 16-19, 2007.
43. Wei Xue and Tianhong Cui, “Single-walled carbon nanotube micropatterns and interconnections fabricated with layer-by-layer nano self-assembly and microlithography on flexible substrates”, *ASME Proceedings of CANEUS: Micro-Nano-Technology for Aerospace Applications (CANEUS 2006)*, CANEUS2006-11054, Toulouse, France, August 27 - September 1, 2006.
44. Wei Xue and Tianhong Cui, “Single-walled carbon nanotube micropatterns and cantilever array fabricated with electrostatic layer-by-layer nano self-assembly and lithography”, *Hilton Head 2006 Technical Digest: Solid-State Sensor, Actuator and Microsystems Workshop (HH2006)*, pp. 328-331, Hilton Head Island, SC, USA, June 4-8, 2006.
45. Kartikeya Malladi, Chunlei Wang, Marc Madou, Wei Xue, and Tianhong Cui, “Microfabrication and mechanical characterization of suspended carbon microstructures”, *2006 NSTI Nanotechnology Conference (Nanotech 2006)*, pp. 756-759, Boston, MA, USA, May 7-11, 2006.

CONFERENCE PRESENTATIONS AND POSTERS (NON PEER REVIEWED)

1. Jacob Mahon, Nicholas Mahon, Nicholas Gushue, Joseph Stanzione, Robert Krchnavek, and Wei Xue, “Design, Fabrication, and Characterization of Cryogenic Dielectric Nanocomposites”, *The ASME 2022 International Mechanical Engineering Congress & Exposition (ASME IMECE 2022)*, IMECE2021-99719, Columbus, Ohio, October 30 – November 3, 2022.
2. Jacob Mahon, Jordan Cook, Lei Yu, Xiao Hu, Francis Haas, Robert Krchnavek, and Wei Xue, “Development of cryogenic dielectric nanocomposites for high-temperature superconductor applications”,

- The 22nd IEEE International Conference on Nanotechnology (IEEE NANO 2022)*, Palma de Mallorca, Spain, July 4-8, 2022.
3. Jacob Mahon, Jordan Cook, Nicholas Pagliocca, Virginia Harnack, Robert Krchnavek, and Wei Xue, “Addressing Cryogenic Dielectric Material Challenges in High-Temperature Superconducting Cables with Polyamide/silica Nanocomposite Thin Films”, *The ASME 2021 International Mechanical Engineering Congress & Exposition (ASME IMECE 2021)*, IMECE2021-77199, Virtual Conference, November 1-5, 2021.
 4. Jordan Cook, Harrison Hones, Jacob Mahon, Robert Krchnavek, and Wei Xue, “Enhanced dielectric capabilities of polyimide/silicon dioxide nanocomposites in cryogenic applications”, *The ASME 2020 International Mechanical Engineering Congress & Exposition (ASME IMECE 2020)*, IMECE2012-93909, Virtual Conference, November 16-19, 2020.
 5. Harrison M. Hones, Jordan T. Cook, Michael J. McCaffrey, Ye Xue, Xiao Hu, Lei Yu, Robert R. Krchnavek, and Wei Xue, “Polymer Nanocomposites for Cryogenic Dielectric Applications”, *Applied Superconductivity Conference 2020 (ACS 2020)*, ID: ASC20-Wk2L0r1D-01, Virtual Conference, October 24 – November 7, 2020.
 6. Adriano Conte, Wei Xue, Xiao Hu, and Vince Beachley, “Effects of post-drawing on the structure and functional properties of electrospun PVDF-HFP nanofibers”, *2019 Biomedical Engineering Society (BMES) Annual Meeting*, Philadelphia, PA, October 16-20, 2019.
 7. Adriano Conte, Khosro Shirvani, Wei Xue, Xiao Hu, and Vince Beachley, “Effects of post-drawing processing on the structure and functional properties of electrospun PVDF-HFP nanofibers”, *2018 Fall Materials Research Society (MRS) Fall Meeting and Exhibit*, Boston, MA, November 25-30, 2018.
 8. Joseph R. Nalbach, Michael McCaffrey, Robert R. Krchnavek, and Wei Xue, “Polymer nanocomposite dielectrics for high-temperature superconducting cables”, *Applied Superconductivity Conference 2018 (ACS 2018)*, ID: ASC2018-4M0r3A-05, Seattle, WA, October 28 – November 2, 2018.
 9. Muhammad Usman, Shani Thapa, Adarsh K. Gupta, and Wei Xue, “Ring based wearable bioelectrical impedance analyzer for body fat estimation”, *Life Sciences Future*, Philadelphia, PA, October 29-30, 2018.
 10. Jeremy Decker, Taissa Michel, and Wei Xue, “Investigation of Porous Materials for Flexible Pressure Sensors”, *2018 Biomedical Engineering Society (BMES) Annual Meeting*, Atlanta, GA, October 17-20, 2018.
 11. Adriano Conte, Damon Boorstein, Khosro Shirvani, Wei Xue, Xiao Hu, and Vince Beachley, “Improving the macromolecular alignment and electrical output of electrospun PVDF-HFP nanofibers through post-drawing”, *44th Annual Northeast Bioengineering Conference (NEBEC) 2018*, Philadelphia, PA, March 28-30, 2018.
 12. Adriano Conte, Khosro Shirvani, Harrison Hones, Alexander Wildgoose, Wei Xue, Xiao Hu, and Vince Beachley, “Enhancing the macromolecular orientation and electrical output of electrospun PVDF-HFP nanofibers through post-draw processing”, *2017 Fall Materials Research Society (MRS) Fall Meeting and Exhibit*, Boston, MA, November 26 – December 1, 2017.
 13. Raghid Najjar, Yi Luo, Vince Beachley, Xiao Hu, and Wei Xue, “Skin-mountable energy harvesters using silk and wet-stretched PVDF nanofibers”, *The 26th Anniversary World Congress on Biosensors (Biosensors 2016)*, Poster BIOS2016_0285, Gothenburg, Sweden, May 25-27, 2016.
 14. Jianlong Gao, Jiheng Zhao, Xinmiao Chen, Liping Liu, and Wei Xue, “Dimensional effects of micro pillar arrays on hydrophobicity”, *The ASME 2013 International Mechanical Engineering Congress & Exposition (ASME IMECE 2013)*, ASME Society-Wide Micro and Nano Technology Forum, IMECE2013-67028, San Diego, CA, USA, November 15-21, 2013. (NSF Student Travel Award: J. Gao)
 15. Xinmiao Chen, Jianlong Gao, Wei Xue, and Liping Liu, “Surface wettability effect on water condensation and transport in PEM fuel cells”, *The ASME 2013 International Mechanical Engineering Congress & Exposition (ASME IMECE 2013)*, ASME Society-Wide Micro and Nano Technology Forum, IMECE2013-67237, San Diego, CA, USA, November 15-21, 2013.
 16. Alexander Dimitrov, Wei Xue, Jie Xu, Catalina Rivera, Gan Yu, Jiheng Zhao, and Hyuck-Jin Kwon, “Towards a dynamic clamp for neuro-chemical modalities”, *The 22nd Annual Computational Neuroscience Meeting (CNS 2013)*, *BMC Neuroscience*, 14 (Suppl 1), p.232, Paris, France, July 13-18, 2013.

17. Yan Duan, Jason L. Juhala, Benjamin W. Griffith, and Wei Xue, "Solution-based fabrication of p-channel and n-channel thin-film transistors using carbon nanotube networks", *The ASME 2012 International Mechanical Engineering Congress & Exposition (ASME IMECE 2012)*, ASME Society-Wide Micro and Nano Technology Forum, IMECE2012-93909, Houston, TX, USA, November 9-15, 2012. (poster)
18. Jiheng Zhao, Debra A. Sheadel, and Wei Xue, "Surface treatment for the fabrication of all-polymer microfluidic devices", *The ASME 2012 International Mechanical Engineering Congress & Exposition (ASME IMECE 2012)*, ASME Society-Wide Micro and Nano Technology Forum, IMECE2012-93910, Houston, TX, USA, November 9-15, 2012. (poster) (**NSF Student Travel Award: J. Zhao**)
19. Nan Lei, Zheyuan Chen, Dae-Wook Kim, Wei Xue, and Jie Xu, "Maskless fabrication of graphene nano-ribbons using focused-ion beam", *The ASME 2012 International Mechanical Engineering Congress & Exposition (ASME IMECE 2012)*, ASME Society-Wide Micro and Nano Technology Forum, IMECE2012-88390, Houston, TX, USA, November 9-15, 2012. (poster)
20. Nan Lei, Pengfei Li, Wei Xue, and Jie Xu, "A graphene-based chemiresistor for microfluidic sensing", *The 3rd Conference on Advances in Microfluidics and Nanofluidics (AMN2012)*, May 23-26, 2012, Dalian, China. (presentation)
21. Pengfei Li, Nan Lei, Jie Xu, and Wei Xue, "Integration of carbon nanotube sensors and microfluidics in a hybrid lab-on-a-chip device", *The ASME 2011 International Mechanical Engineering Congress & Exposition (ASME IMECE 2011)*, ASME Society-Wide Micro and Nano Technology Forum, IMECE2011-66276, Denver, CO, USA, November 11-17, 2011. (poster) (**NSF Student Travel Award: P. Li**)
22. Pengfei Li, Nan Lei, Jie Xu, and Wei Xue, "High-yield deposition and characterization of graphene and carbon nanotubes", *The ASME 2011 International Mechanical Engineering Congress & Exposition (ASME IMECE 2011)*, ASME Society-Wide Micro and Nano Technology Forum, IMECE2011-66277, Denver, CO, USA, November 11-17, 2011. (poster)
23. Nan Lei, Pengfei Li, Wei Xue, and Jie Xu, "Fabrication of simple graphene pH sensors with focused ion beam", *The ASME 2011 International Mechanical Engineering Congress & Exposition (ASME IMECE 2011)*, ASME Society-Wide Micro and Nano Technology Forum, IMECE2011-66271, Denver, CO, USA, November 11-17, 2011. (poster)
24. Wei Xue, "Student-centered microsystem and nanotechnology courses and laboratories for mechanical engineering students", *The ASME 2010 International Mechanical Engineering Congress & Exposition (ASME IMECE 2010)*, Micro & Nano Technology Society-Wide Forum, Vancouver, British Columbia, Canada, November 12-18, 2010. (poster)
25. Pengfei Li and Wei Xue, "Selective deposition and alignment of single-walled carbon nanotubes (SWNTs)", *ONAMI (Oregon Nanoscience and Microtechnologies Institute) Mega Mixer*, Corvallis, OR, August 2010. (poster)
26. Wei Xue and Tianhong Cui, "Two-terminal amperometric thin-film biosensors based on layer-by-layer nano self-assembled single-walled carbon nanotubes", *Design of Medical Devices Conference, Minneapolis, MN, USA, April 19-21, 2006*. (poster)
27. Wei Xue and Tianhong Cui, "Layer-by-layer nano-assembled magnetic cantilever array for biosensing applications", *Design of Medical Devices Conference, Minneapolis, MN, USA, April 13-14, 2005*. (poster)
28. Wei Xue and Tianhong Cui, "Polymer tunneling sensors for potential biomedical applications", *Design of Medical Devices Conference, Minneapolis, MN, USA, April 8-9, 2004*. (poster)
29. Jing Wang, Wei Xue and Tianhong Cui, "Polymer-based tunneling sensor platform", *The 17th Annual NSF EPSCoR National Conference*, Las Vegas, NV, USA, September 7-9, 2003. (poster)
30. Tianhong Cui, Jing Wang, Yongjun Zhao, Wei Xue and Kody Varahrymyan, "Polymer-based tunneling sensor platform", *Louisiana EPSCoR Capital Day*, New Orleans, LA, USA, April 2003. (poster)
31. Tianhong Cui, Jing Wang, Yongjun Zhao, Wei Xue and Kody Varahrymyan, "Polymer-based tunneling sensor platform", *Louisiana Conference on Commercial Applications of Microsystems, Materials, and Nanotechnologies*, Ruston, LA, USA, October 21-22, 2002. (poster)

DISSERTATION

- Wei Xue, “Nano-assembled carbon nanotube thin film based microstructures, field-effect transistors, and acetylcholine biosensors”, *Ph.D. Dissertation*, Advisor: Tianhong Cui, Department of Mechanical Engineering, University of Minnesota, Twin Cities, MN, 2007.

TECHNICAL PAPERS

- Pengfei Li, Wei Xue, and Jie Xu, "The fabrication of PDMS interconnecting interface assisted by tubing fixation", Lab on a Chip: Chips and Tips, <http://blogs.rsc.org/chipsandtips/>, June 2011.
- Tianhong Cui and Wei Xue, “Assembling three-dimensional carbon nanotube-based cantilever arrays”, *The International Society for Optical Engineering - SPIE Newsroom - Micro/Nano Lithography & Fabrication*, <http://spie.org/x17490.xml>, DOI: 10.1117/2.1200710.0901, October 2007.

INVITED/OTHER PRESENTATIONS

- “Designing and characterizing strong cryogenic dielectrics for HTS systems”, Naval Applied Superconductivity Review, Naval Surface Warfare Center, Philadelphia Division, Philadelphia, PA, June 15, 2023.
- “Nanoparticle enhanced polymers for HTS dielectrics”, Naval Applied Superconductivity Review, Naval Surface Warfare Center, Philadelphia Division, Philadelphia, PA, May 7-8, 2019.
- “Nanoparticle enhanced polymers for HTS dielectrics”, Naval Applied Superconductivity Review, Naval Surface Warfare Center, Philadelphia Division, Philadelphia, PA, April 11-12, 2018.
- “Introduction to microsensors, microelectronics, and nanotechnology”, HONORS 301 University Scholars Lecture Series, Washington State University, Vancouver, WA, September 2012.
- “Carbon nanotube thin-film microdevices”, Materials Science Institute, University of Oregon, Eugene, OR, October 2008.
- “Carbon nanotube thin-film microdevices”, Mechanical Engineering Graduate Seminar, Washington State University, Vancouver, WA, February 2008.

AWARDS AND HONORS

- Best Paper Award, ASME 2022 International Mechanical Engineering Congress & Exposition (ASME IMECE 2022) MEMS Division, Columbus, OH, USA, October 30-November 3, 2022.
- Finalist for the “Best Paper Award”, American Society for Engineering Education (ASEE) Annual Conference & Exposition, Seattle, WA, June 14-17, 2015.
- 2011-2012 Students’ Award for Teaching Excellence (one awardee per year for the entire campus, cross disciplines, selected by the Teacher of the Year Committee), Washington State University Vancouver, May, 2012
- National Science Foundation (NSF) Fellowship for NSF Summer Institute, Evanston, IL, June-July 2011
- Advisor of the third-prize winning team for the 2011 International Contest of Applications in Nano/Micro Technologies (iCAN’11), Beijing, China, June, 2011
- National Science Foundation (NSF) Fellowship for NSF Summer Institute, Evanston, IL, May 2010
- NSF Fellowship for NSF Summer Institute, San Diego, CA, April 2010
- Chinese Government Award for Outstanding Self-Financed Students Abroad by China Scholarship Council, 2006
- Travel Award from the Transducer Research Foundation (TRF) and the Defense Advanced Research Projects Agency (DARPA), Hilton Head, SC, 2006
- Graduate Student Travel Award, Mechanical Engineering, University of Minnesota, 2006
- Research Assistantship, Mechanical Engineering, University of Minnesota, 2004 – 2007
- Graduate Assistantship, Electrical Engineering, Louisiana Tech University, 2001 – 2003

PROFESSIONAL ACTIVITIES

- Reviewer for Funding Agencies:
 - Reviewer for the National Science Foundation (NSF), Division of Materials Research (DMR), Electronic and Photonic Materials (EPM) Program, 2016
 - Reviewer for NSF, Division of Civil, Mechanical and Manufacturing Innovation (CMMI), Sensors and Sensing Systems Program, 2012
 - Reviewer for NSF, Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET), Biosensing Program, 2012
 - Reviewer for the NSF Graduate Research Fellowships Program (GRFP), 2022-2023
 - Reviewer for the American Chemical Society (ACS) Petroleum Research Fund (PRF), 2023
 - Reviewer for Maryland Industrial Partnerships Program, 2017
 - Reviewer for the Ralph E. Powe Junior Faculty Award for the Oak Associated Universities (ORAU), 2017
 - Reviewer for the Canada Foundation for Innovation (CFI) of Canada, John R. Evans Leaders Fund (JELF), 2016
 - Reviewer for the Research Grant Council (RGC) of Hong Kong, 2017
 - Reviewer for the Research Grant Council (RGC) of Hong Kong, February 2016 & May 2016
 - Reviewer for the Research Grant Council (RGC) of Hong Kong, 2015
 - Reviewer for the Research Grant Council (RGC) of Hong Kong, 2014
 - Reviewer for the Research Grant Council (RGC) of Hong Kong, 2013
 - Reviewer the Austrian Science Fund (FWF) for the Austrian Special Research Program (SFB), 2011
- Reviewer for Journals:
 - ACS Applied Materials & Interfaces
 - ACS Omega
 - ACS Applied Polymer Materials
 - Advances in Materials Science and Engineering
 - Analytical Chemistry
 - Applied Physics Letters
 - Applied Sciences
 - ASME Journal of Thermal Science and Engineering Applications
 - Biomedicine & Pharmacotherapy
 - Biosensors
 - Biosensors and Bioelectronics
 - Coatings
 - Composites Part B: Engineering
 - Heliyon
 - IEEE Electron Device Letters
 - IEEE Sensors Journal
 - IEEE Transactions on Education
 - International Journal of Advanced Robotic Systems
 - Journal of Materials Chemistry C
 - Journal of Materials Science: Materials in Electronics
 - Journal of Nanomaterials
 - Journal of Nanoparticle Research
 - Journal of Nanoscience and Nanotechnology
 - Journal of Nanoscience Letters
 - Journal of Transportation Engineering
 - Journal of Vacuum Science and Technology A
 - Journal of Vacuum Science and Technology B
 - Journal of Visualized Experiments

- Materials
- Materials Today Chemistry
- Materials Today Communications
- Materials Letters
- Measurement Science and Technology
- Micromachines
- Microfluidics and Nanofluidics
- Microsystem Technologies
- Microsystems & Nanoengineering
- NANO
- Nanoscale Research Letters
- Nanoscience & Nanotechnology-Asia
- Phytomedicine Plus
- Polymers and Polymer Composites
- Scientific Reports
- Sensors
- Sensors and Actuators A: Physical
- Sensors and Actuators B: Chemical
- Sensors and Actuators Reports
- Surface and Coating Technology
- Reviewer for Publishers and Publisher Projects:
 - Reviewer for book publishers:
 - Pearson Education Inc.
 - John Wiley & Sons, Inc.
 - Springer
 - Participant in a project organized by John Wiley & Sons, Inc. for their molecular structure animations software VMSE (Virtual Materials Science Engineering), an online education tool for students to interactively learn engineering materials and material properties. I have developed auto-gradable questions for the module of “Ceramic Crystal Structures”, December 2014.
- Organizer, Session Chair, and Reviewer for Conferences:
 - Reviewer for International Conferences: ASME International Mechanical Engineering Congress & Exposition (IMECE), ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (DETC/CIE), ASME International Manufacturing Science and Engineering Conference (MSEC), ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), IEEE International Midwest Symposium on Circuits and Systems (MWSCAS), IEEE International Conference on Nanotechnology (IEEE NANO), ASEE Annual Conference & Exposition, and Portuguese Conference on Automatic Control
 - International Advisory Committee for the 13th IEEE Nanotechnology Materials & Devices Conference (NMDC 2018) in Portland, Oregon, USA, October 15-17, 2018.
 - Topic Organizer and Session Chair, The ASME International Mechanical Engineering Congress & Exposition (IMECE), 2013-present.
 - International Advisory Committee Member for the 13th IEEE Nano Materials & Devices Conference (NMDC 2018) in Portland, Oregon, USA, October 15-17, 2018.
 - Program Committee Member for the 13th IEEE International Conference on Nanotechnology (IEEE NANO 2013), Beijing, China, August 5-8, 2013
 - Session Chair for two sessions, The 11th IEEE International Conference on Nanotechnology (IEEE NANO 2011), Portland, OR, August 15-18, 2011
 - Session Chair, Micro/Nano Technology, The 18th ASME Annual Conference on Information Storage and Processing Systems (ISPS'08), Santa Clara, June 16-17, 2008

- Judge for the ASME Society-Wide Micro and Nano Technology Forum at ASME IMECE 2012, Houston, TX, November 9-15, 2012
- Reviewer and Judge for Competition and Science Fairs:
 - Judge for the 2015 Student Research Showcase by the Sigma Xi, the Scientific Research Society, March 23-29, 2015
 - Reviewer for the United States Contest of Applications in Nano/Micro Technologies (UCAN) of iCAN (The International Contest of Applications in Nano/Micro Technologies), 2012, 2013
 - Judge for the 2013 Southwest Washington Science and Engineering Fair (SWWSEF), March 16, 2013
- Professional Memberships:
 - Senior Member of IEEE (Institute of Electrical and Electronics Engineers), 2018-present
 - Member of IEEE (Institute of Electrical and Electronics Engineers), 2005-2018
 - Member of ASME (American Society of Mechanical Engineers), 2007-present
 - Member of ACS (American Chemical Society), 2009-2015
 - Member of Sigma Xi, 2011-2013

UNIVERSITY, COLLEGE, AND DEPARTMENT SERVICES

2014.09 – present Rowan University

- Rowan University Program Coordinator and Co-Chair for the Materials Science and Engineering (MSE) program, 2020-2023
- Rowan University Faculty of the Future Committee, 2020-2021
- Rowan University College of Engineering Adjusted Load Committee, 2020-present
- Rowan University College of Engineering Diversity, Equity, Inclusion Strategic Plan Committee, 2020
- Reviewer for Rowan University Seed Funding Program, 2018 & 2019
- Mechanical Engineering Interim Department Head, 2023-present
- Mechanical Engineering Faculty Search Committee, 2016-present; as chair (since 2018)
- Mechanical Engineering Tenure & Recontracting Committee, 2020-2022
- Mechanical Engineering Lab Committee, 2021-present
- Mechanical Engineering Curriculum Committee, 2018-2020
- Mechanical Engineering Election Committee, 2021
- Mechanical Engineering Graduate Program Committee, 2015-present
- Mechanical Engineering Sophomore-Senior Students Advisor, 25-30 students per year, 2014-present
- Updated and maintained the homepage of Mechanical Engineering Department, 2014-2018
- Participated in the recruitment events (Engineering Open House, Accepted Student day, etc.) for undergraduate and graduate students at Rowan University, 2014-present
- Participated in new faculty searches for Mechanical Engineering, 2015, 2016
- Participated in new faculty searches for Biomedical Engineering, 2015, 2017
- Rowan University Faculty Senator 2017-2019; Backup Faculty Senator for Mechanical Engineering, 2016-2017
- Rowan University Professional Ethics and Welfare Committee 2018-2019.
- Rowan University College of Engineering Lab Safety Committee, 2017-2018
- Rowan University Calendar Committee, 2015-2017

2007.08 – 2013.12 Washington State University Vancouver

- Mechanical Engineering Graduate Studies Committee (GSC) Chair, 2011-2013
- Mechanical Engineering Graduate Studies Committee member, 2007-2011
- Mechanical Engineering Undergraduate Studies Committee (USC) member, 2007-2013
- Faculty advisor for undergraduate students, 2008-2013 (Number of students advised: 2008: 8; 2009: 22; 2010: 40; 2011: 33; 2012: 33; 2013: 20)

- Graduate thesis committee member for M.S. students at WSU, 2008-2013
- Participated in the recruitment events for undergraduate and graduate students at WSU, 2007-2013
- Participated in new faculty searches for Mechanical Engineering and Electrical Engineering, 2007-2013
- Committee member for the Annual WSU Vancouver Research Showcase, 2012, 2013
- Participated in the planning for the ENCS event at the 2010 WSU Vancouver Research Showcase, 2009-2010
- WSU Vancouver University Scholars – The Honors Program Committee, 2010-2011
- Faculty advisor for Jason L Juhala for the WSU Vancouver University Scholars – The Honors Program, 2010-2012
- Faculty advisor for the WSU Vancouver Soccer Club, 2009-2013
- Involved in the transition of the Angel Learning Management System at WSU Vancouver, 2009

GRADUATE STUDENTS ADVISED

2014.09 – present Rowan University

- | | | |
|---|-----------|----------------|
| ○ Amit Kumar Singh | Ph.D. ME | 2023 – present |
| ○ Joshua Knospler | M.S. ME | 2022 – present |
| ○ Muhammad Usman | Ph.D. ENG | 2016 – 2022 |
| ○ Kemal Yakut (Co-Advisor: Haas) | M.S. ME | 2021 – 2022 |
| ○ Nabil Jamhour (Co-Advisor: Hettinger) | M.S. ME | 2021 – 2022 |
| ○ Jacob R. Mahon (Co-Advisor: Krchnavek) | M.S. ME | 2020 – 2022 |
| ○ Jordan T. Cook (Co-Advisor: Krchnavek) | M.S. ME | 2019 – 2021 |
| ○ Rhandy J. Paladines (Co-Advisor: Hettinger) | M.S. ME | 2019 – 2021 |
| ○ Harrison M. Hones (Co-Advisor: Krchnavek) | M.S. ME | 2018 – 2020 |
| ○ Muhammet Cavusoglu | M.S. ME | 2019 – 2020 |
| ○ Taissa R. Michel | M.S. ME | 2017 – 2019 |
| ○ Christian Beauvais | M.S. ME | 2017 – 2019 |
| ○ Joseph R. Nalbach | M.S. ME | 2016 – 2018 |
| ○ Joseph F. Iannello | M.S. ME | 2016 – 2018 |

2007.08 – 2013.12 Washington State University Vancouver:

- | | | |
|----------------|----------|-------------|
| ○ Jianlong Gao | M.S., ME | 2012 – 2014 |
| ○ Yan Duan | M.S., ME | 2011 – 2013 |
| ○ Jiheng Zhao | M.S., ME | 2011 – 2013 |
| ○ Pengfei Li | M.S., ME | 2009 – 2011 |
| ○ Wei Cui | M.S., ME | 2008 – 2010 |

GRADUATE THESIS COMMITTEE

2014.09 – present Rowan University

- | | | |
|------------------------|-----------|----------------|
| ○ Madison Kaminskyj | Ph.D. ME | 2021 – present |
| ○ Kaniz Roksana | Ph.D. CEE | 2022 – present |
| ○ Paolo Rommel Sanchez | Ph.D. ME | 2023 |
| ○ Anant Bhusal | Ph.D. ME | 2023 |
| ○ Adriano Conte | Ph.D. BME | 2022 |
| ○ Gregory V. Taylor | Ph.D. MSE | 2021 |
| ○ John Pruden | M.S. ECE | 2022 – present |
| ○ Michael McCaffrey | M.S. ECE | 2022 |
| ○ Matthew Malpica | M.S. ME | 2020 |
| ○ Dylan McNally | M.S. ME | 2020 |
| ○ Brandon E. Bergmann | M.S. ME | 2019 |

- Bhanuprakash Reddy Guggilla M.S. ME 2018
- Mohammed Mehdi Benmassaoud M.S. ME 2018
- Jonathan R. Gabriel M.S. ME 2016

2007.08 – 2013.12 Washington State University Vancouver

- Caleb Sturtevant M.S. ME 2013
- Patrick Rucker M.S. ME 2013
- Todd B. May M.S. ME 2013
- Yuhao Xu M.S. ME 2013
- Fan Yang M.S. ME 2013
- Galip Ozan Erol M.S. ME 2012
- Mustafa Sait Alkan M.S. ME 2012
- Nan Lei M.S. ME 2012
- Daniel Hennigan M.S. ME 2011
- Berk Gonenc M.S. ME 2011
- Jeffrey Mainka M.S. ME 2011
- Gabriel Castro M.S. ME 2010
- Doruk Senkal M.S. ME 2010
- Graham Kryger M.S. ME 2010
- David Binion M.S. ME 2010
- Menglu Wu M.S. ME 2010
- Yongha Kim M.S. ME 2009
- Kevin Beavers M.S. ME 2009
- Thomas Conder M.S. ME 2009
- Neil Hayes M.S. ME 2009

UNDERGRADUATE STUDENTS ADVISED FOR RESEARCH

2014.09 – present Rowan University

- Jared Ericksen Undergraduate Student (ChE) May 2023 – present
- John Terifay Undergraduate Student (ME) Nov. 2022 – present
- Nicholas Gushue Undergraduate Student (ME) Dec. 2021 – Aug. 2022
- Nicholas Mahon Undergraduate Student (ECE) May – Aug. 2022
- Riley McBreen Undergraduate Student (ME) Dec. 2021 – Jan. 2022
- Elizabeth Lee Undergraduate Student (BME, NSF REU Fellow)
(Lawrence Technological University) May – July 2021
- Virginia Harnack Undergraduate Student (ME) May 2021 – May 2022
- Tanner K. Coles Undergraduate Student (ME) Sep. 2020 – Jan. 2021
- William G. Emmerling Undergraduate Student (ChE) Sep. 2020 – Jan. 2021
- Jordan T. Cook Undergraduate Student (ME) May 2018 – August 2019
- Thomas J. Bielicki Undergraduate Student (ChE) May – August 2019
- Richard Chao Undergraduate Student (ME) May – August 2019
- Gregory F. Murray Undergraduate Student (ME) May – August 2019
- Rhandy J. Paladines Undergraduate Student (Physics) January – May 2019
- Jeremy Decker Undergraduate Student (BME, NSF REU Fellow)
May – July 2018
- Erik M. Zapfe Undergraduate Student (ME) May – August 2018
- Harrison M. Hones Undergraduate Student (ME) May 2017 – August 2018
- Taissa R. Michel Undergraduate Student (ME) June 2016 – August 2017
- Ric Rey Nool Vergara Undergraduate Student (ECE) March 2016 – May 2017
- Stephen L. Sanchez Undergraduate Student (ECE) March 2016 – May 2017

- Joseph R. Nalbach Undergraduate Student (ME) May 2015 – August 2016
- Kyle R. Linderman Undergraduate Student (Physics) May – August 2016
- Kevin J. McShane Undergraduate Student (ECE) Dec. 2015 – May 2016
- Brandon M. O'Brien Undergraduate Student (ECE) Dec. 2015 – May 2016

2014.09 – present Rowan University Junior/Senior Engineering Clinic Projects
(Credit-based Research Activities)

- Spring 2023 Junior/Senior Engineering Clinic Projects (4 Projects, 19 Students)
- Fall 2022 Junior/Senior Engineering Clinic Projects (3 Projects, 13 Students)
- Spring 2022 Junior/Senior Engineering Clinic Projects (5 Projects, 21 Students)
- Fall 2021 Junior/Senior Engineering Clinic Projects (4 Projects, 15 Students)
- Spring 2021 Junior/Senior Engineering Clinic Projects (3 Projects, 12 Students)
- Fall 2020 Junior/Senior Engineering Clinic Projects (3 Projects, 13 Students)
- Spring 2020 Junior/Senior Engineering Clinic Projects (6 Projects, 24 Students)
- Fall 2019 Junior/Senior Engineering Clinic Projects (5 Projects, 20 Students)
- Spring 2019 Junior/Senior Engineering Clinic Projects (6 Projects, 20 Students)
- Fall 2018 Junior/Senior Engineering Clinic Projects (5 Projects, 20 Students)
- Spring 2018 Junior/Senior Engineering Clinic Projects (6 Projects, 24 Students)
- Fall 2017 Junior/Senior Engineering Clinic Projects (6 Projects, 20 Students)
- Spring 2017 Junior/Senior Engineering Clinic Projects (3 Projects, 17 Students)
- Fall 2016 Junior/Senior Engineering Clinic Projects (4 Projects, 18 Students)
- Spring 2016 Junior/Senior Engineering Clinic Projects (3 Projects, 17 Students)
- Fall 2015 Junior/Senior Engineering Clinic Projects (3 Projects, 13 Students)
- Spring 2015 Junior/Senior Engineering Clinic Projects (2 Projects, 11 Students)
- Fall 2014 Junior/Senior Engineering Clinic Projects (2 Projects, 8 Students)

2007.08 – 2013.12 Washington State University Vancouver

- Mitch A. Modin Undergraduate Student (EE) 2012 – 2013
- Nicholas E. Holmes Undergraduate Student (EE) 2012 – 2013
- Alexander L. Ellard Undergraduate Student (EE) 2012 – 2013
- Benjamin W. Griffith Undergraduate Student (EE) 2011 – 2013
- Bassam I. Salim Undergraduate Student (EE) 2011 – 2012
- Vianney J. Uwizeye Undergraduate Student (EE) 2011 – 2012
- Marina I. Reilly-Collette Undergraduate Student (ME) 2011 – 2012
- Jason L. Juhala Undergraduate Student (EE) 2010 – 2012
- Caleb M. Martin Undergraduate Student (ME) 2010 – 2011
- Nathan H. Piccola Undergraduate Student (ME) 2010 – 2011
- Mason J. O'Lennick Undergraduate Student (ME) 2011
- Jason E. Dye Undergraduate Student (ME) 2011
- Kenneth R. Perletti Undergraduate Student (ME) 2010