

JingleiPing

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Professional Appointments

University of Massachusetts Amherst

Department of Mechanical and Industrial Engineering Assistant Professor Sep 2018 – date

University of Massachusetts Amherst

Institute for Applied Life Sciences
Center for Personalized Health Monitoring Associated Faculty Member Sep 2018 – date

University of Massachusetts Amherst

Department of Biomedical Engineering Adjunct Assistant Professor May 2019 – date

University of Pennsylvania

Research Associate Dec 2015 – Sep 2018

University of Pennsylvania

Postdoctoral Researcher Dec 2013 – Dec 2015

Monash University

Occupational Trainee Jan 2013 – Jul 2013

Education

University of Maryland – College Park

Ph.D. Chemical Physics Dec 2013

Thesis: Graphene Chemical-Vapor-Deposited on Platinum: Synthesis, Characterization and Magneto-Transport Properties

Thesis advisor: Michael S. Fuhrer

Committee members: Michael S. Fuhrer, Ellen D. Williams, Michael Fisher, John Cumings

Sun Yat-sen University

M. Phil. Condensed Matter Physics Jun 2008

B.S. Materials Physics (with highest honor) Jun 2003

Honors and Awards

- a1. Maximizing Investigators' Research Award (MIRA), National Institute of General Medical Sciences, 2023
- a2. Trailblazer Award, National Institute of Biomedical Imaging and Bioengineering, 2022
- a3. Young Investigator Program (YIP) Award, Air Force Office of Scientific Research, 2019
- a4. Alexander Family Fellowship, University of Maryland – College Park, 2008, 2009
- a5. Graduation with honor: Graduate Excellence Award, Sun Yat-sen University, 2003
- a6. Yang Nai Ying Fellowship, Sun Yat-sen University, awarded to the top 1/30 student of the Material Physics Program, 2002
- a7. The First Prize Scholarship, Sun Yat-sen University, 2000, 2001, 2003

a8. Lucent/Bell Laboratory Fellowship, Sun Yat-sen University, awarded to top 3/152 students, 1999-2003

Grants

External Grants

- g1. *Cell Control via Spatiotemporal Microenvironmental pH Modulation*
 NIH NIGSM, Maximizing Investigators' Research Award*
 09/23 – 08/28
 sole-PI
 \$1,901,493
***NIGSM's prestigious career award**
- g2. *Atomic-Scale Two-Dimensional Material Processing System*
 DoD AFOSR
 09/23 – 08/24
 sole-PI
 \$255,275
- g3. *Control of Neurons and Astrocytes through Microelectrochemical Microenvironmental pH Modulation*
 DoD AFOSR
 09/23 – 08/26
 sole-PI
 \$449,999
- g4. *Highly Integrated Nucleic-Acid Analysis Using Graphene Bioelectronics*
 NIH NIBIB, Trailblazer Award*
 04/22 – 12/25
 sole-PI
 \$587,773
***NIBIB's prestigious career award**
- g5. *Multiscale Electrical Mapping of Biosystems.*
 DoD AFOSR, Young Investigator Program (YIP)**
 07/20 – 06/23
 sole-PI
 \$449,950
***DoD's prestigious career award**
****42 recipients recognized nationwide in this edition**
- g6. *Portable Devices for Ultra-Sensitive Determination of Heavy Metals in Whole Blood*
 DoD CDMRP, Peer Reviewed Medical Research Program (PRMRP) – Discovery Award
 04/19 – 09/21
 PI
 \$272,581
- g7. *Controllable Atomic-Scale Functionalization of Two-Dimensional Materials*
 DoD AFOSR, Defense University Research Instrumentation Program (DURIP)
 02/22 – 01/23
 sole-PI
 \$144,995
- g8. *Wireless Network of Smart Graphene Sensors for Large-Scale Monitoring of Water Heavy Metals*
 USGS WRIP
 06/19 – 12/21

sole-PI
\$49,998

Internal Grants

- g9. *Implantable Blood-Flow Sensor Based on Monolayer Graphene*
UMass IALS LGC
05/22 – 04/23
PI
\$40,000
- g10. *Multiplexed Analysis of Nucleic Acid*
UMass IALS Midgrant
03/21 – 02/22
sole-PI
\$20,000

Publications

#Equal contribution

The names of Ping Lab members are underlined.

Book Chapters

2019

- b1. *Scalable arrays of chemical vapor sensors based on DNA-decorated graphene*. **Jinglei Ping** and A.T. Charlie Johnson, *Biomimetic Sensing*, 2019, Springer

Peer-Reviewed Journal Papers

2023

- j1. *Nanomechanoelectrical Approach to Highly Sensitive and Specific Label-Free DNA Detection*. Xiaoyu Zhang, Xiao Fan, Huilu Bao, **Jinglei Ping**, PNAS 12, e2306130120 (2023).
- j2. *Defect Healing in Graphene via Rapid Thermal Annealing with Polymeric “Nanobandage”*. Claire Senger, Xiao Fan, James Nicolas Pagaduan, Xiaoyu Zhang, **Jinglei Ping**, Reika Katsumata, Small 19, 2206295 (2023).

2022

- j3. *Microscale Molecule Focusing and Sensing between Graphene Microelectrodes*.* Xiao Fan, Xiaoyu Zhang, **Jinglei Ping**, ACS Nano 16, 10852 (2022).
***Reported by media including Nanowerk, phys.org, Science Daily, etc.**
- j4. *Electrical Contactless Microfluidic Flow Quantification*. Xiaoyu Zhang, Xiao Fan, **Jinglei Ping**, Applied Physics Letters 120, 044102 (2022).

2021

- j5. *Flow-Sensory Contact Electrification of Graphene*.*** Xiaoyu Zhang, Eric Chia[#], Xiao Fan[#], **Jinglei Ping**, Nature Communications 12, 1755 (2021).
***Reported by media including Nanowerk, phys.org, Science Daily, Institution of Mechanical Engineers, etc.**
****This article is in the 96th percentile (ranked 15,618th) of the 426,413 tracked articles of a similar age in all journals, as of May 2023.**

2020

- j6. *Attomolar detection of ssDNA without amplification and capture of long target sequences with graphene biosensors.*

Ramya Vishnubhotla, Adithya Sriram, Olivia Dickens, Srinivas Mandyam, **Jinglei Ping**, Emmeline Adu-Beng, A. T. Charlie Johnson, *IEEE Sensors Journal* 20, 5720 (2020).

2019

- j7. *Characterization of an engineered water-soluble variant of the full-length human mu opioid receptor.*

Jin Xi, Jie Xiao, Jose Manuel Perez-Aguilar, **Jinglei Ping**, A.T. Charlie Johnson, Jeffery G. Saven, Renyu Liu, *Journal of Biomolecular Structure and Dynamics* 38, 4364 (2019).

2018

- j8. *DNA nano-tweezers and graphene transistor enable label-free genotyping.*

Michael T. Hwang[#], Zejun Wang[#], **Jinglei Ping**[#], Deependra Kumar Ban[#], Zi Chao Shiah, Leif Antonschmidt, Joon Lee, Yushuang Liu, Abhijith G. Karkisaval, A. T. Charlie Johnson, Chunhai Fan, Gennadi Glinisky, Ratnesh Lal, *Advanced Materials* 30, 18802440 (2018).

- j9. *Detection of sub-fM DNA with target recycling and self-assembly amplification on graphene field effect biosensors.*

Zhaoli Gao[#], Han Xia[#], Jonathan Zauberman, Maurizio Tomaiuolo, **Jinglei Ping**, Qicheng Zhang, Pedro Ducos, Sheng Wang, Huacheng Ye, Xinping Yang, Fahmida Lubna, Zhengtang Luo, Lawrence F. Brass, A. T. Charlie Johnson, *Nano Letters* 18, 3509 (2018).

- j10. *All-electronic quantification of neuropeptide-receptor interaction using a bias-free functionalized graphene microelectrode.*

Jinglei Ping, Jin Xi, Ramya Vishnubhotla, Pedro Ducos, Jeffery G. Saven, Renyu Liu, A. T. Charlie Johnson, *ACS Nano* 12, 4218 (2018).

- j11. *Single-crystal bilayer graphene with controlled stacking from Ni-Cu gradient alloy.*

Zhaoli Gao, Qicheng Zhang, Carl H. Naylor, Youngkuk Kim, Irfan Haider Abidi, **Jinglei Ping**, Pedro Ducos, Jonathan Zauberman, Mengqiang Zhao, Andrew M. Rappe, Ying-Jun Wang, Zhengtang Luo, Li Ren, A. T. Charlie Johnson, *ACS Nano* 12, 2275 (2018).

- j12. *Scalable graphene aptasensors for drug quantification.**

Ramya Vishnubhotla[#], **Jinglei Ping**[#], Abigail Lee, A. T. Charlie Johnson, *AIP Advances* 7, 115111 (2017).
***Featured article, highlighted by Scilight**

- j13. *An aptamer-based biosensor for the azole class of antifungal drugs.*

Gregory Wiedman, Yunan Zhao, Arkadv Mustaev, **Jinglei Ping**, Ramya Vishnubhotla, A. T. Charlie Johnson, and David Perlin, *mSphere* 2, e00274-17 (2017).

- j14. *pH sensing properties of flexible, bias-free graphene microelectrodes in complex fluids: from phosphate buffer solution to human serum.*

Jinglei Ping, Jacquelyn E. Blum, Ramya Vishnubhotla, Amey Vrudhula, Carl Naylor, Zhaoli Gao, Jeffery, G. Saven, A. T. Charlie Johnson, *Small* 13, 1700564 (2017).

- j15. *Structural-functional analysis of engineered protein-nanoparticle assemblies using graphene microelectrode.**

Jinglei Ping, Katherine W. Pulsipher, Ramya Vishnubhotla, Jose A. Villegas, Tacey L. Hicks, Stephanie Honig, Jeffery G. Saven, Ivan J. Dmochowski, A. T. Charlie Johnson, *Chemical Science* 8, 5329 (2017).

***Featured on Chemical Science HOT articles and reported by myScience, Penn News, etc.**

- j16. *Quantifying the effect of ionic screening with protein-decorated graphene transistors.*

Jinglei Ping, Jin Xi, Jeffery G. Saven, Renyu Liu and A. T. Charlie Johnson, *Biosensors and Bioelectronics* 89, 689 (2017).

- j17. *Scalable production of sensor arrays based on high mobility hybrid graphene field effect transistors.*

Zhaoli Gao, Hojin Kang, Carl Naylor, Frank Streller, Pedro Ducos, Madeline D. Serrano, **Jinglei Ping**, Jonathan Zauberman, Rajesh, Robert Carpick, Ying-Jun Wang, Yung W. Park, Zhengtang Luo, Li Ren, A. T. Charlie Johnson, ACS Applied Materials & Interfaces 8, 27546 (2016).

j18. *Scalable production of high-sensitivity, label-free DNA biosensors based on back-gated graphene field-effect transistors.*

Jinglei Ping[#], Ramya Vishnubhotla[#], Amey Vrudhula, and A. T. Charlie Johnson, ACS Nano 10, 8700 (2016).

j19. *Quantifying the intrinsic surface charge density and charge-transfer resistance of the graphene-solution interface through bias-free low-level charge measurement.**

Jinglei Ping and A. T. Charlie Johnson, Applied Physics Letters 109, 013103 (2016).

***Editor's pick**

j20. *Genetically engineered antibody functionalized platinum nanoparticles modified CVD-graphene nanohybrid transistor for the detection of breast cancer biomarker, HER3.*

Rajesh, Zhaoli Gao, Ramya Vishnubhotla, Madeline D. Serrano, **Jinglei Ping**, M. K. Robinson, and A. T. Charlie Johnson, Advanced Materials Interface 3, 1600124 (2016).

j21. *Monolayer single-crystal 1T'-MoTe₂ grown by chemical vapor deposition exhibits weak antilocalization effect.*

Carl H. Naylor, William Parkin, **Jinglei Ping**, Zhaoli Gao, Yu Ren Zhou, Youngkuk Kim, Frank Streller, Robert Carpick, Andrew M. Rappe, Marija Drndic, James M. Kikkawa, and A. T. Charlie Johnson, Nano Letters 16, 4297 (2016).

j22. *Seeded growth of highly crystalline molybdenum disulfide monolayers at controlled locations.*

Gang H. Han, Nicholas J. Kybert, Carl H. Naylor, Bum S. Lee, **Jinglei Ping**, Joo H. Park, Jisoo Kang, Si Y. Lee, Young H. Lee, Ritesh Agarwal and A. T. Charlie Johnson, Nature Communications 6, 6128 (2014).

j23. *Disorder induced magnetoresistance in a two dimensional electron system.**

Jinglei Ping, Indra Yudhistira, Navneeth Ramakrishnan, Sungjae Cho, Shaffique Adam, and Michael S. Fuhrer, Physics Review Letters 113, 047206 (2014).

***Editor's suggestion**

j24. *Carbon impurities on graphene synthesized by chemical vapor deposition on platinum.*

Jinglei Ping and Michael S. Fuhrer, Journal of Applied Physics. 116, 044303 (2014).

j25. *Measuring the thickness of few-layer graphene by laser scanning microscopy.*

Behnood Ghamsari, Jacob Tosado, A. Zhuravel, Mahito Yamamoto, Daniel Lenski, **Jinglei Ping**, Michael S. Fuhrer, and Steven Anlage, IEEE Xplore, doi:10.1109/CPEM.2012.6251000 (2012).

j26. *Layer number and stacking sequence imaging of few-layer graphene by transmission electron microscopy.**

Jinglei Ping and Michael S. Fuhrer, Nano Letters 12, 4635 (2012).

***Top 20 most downloaded paper of the month**

Patents

f1. *Nanodevices and methods for measuring biofluidic flow using a graphene-based microelectrode.* **Jinglei Ping** and Xiaoyu Zhang, US Patent App. 63/311,123

f2. *Scalable back-gated functionalized graphene field effect transistors for detection of DNA and other target molecules.* A. T. Charlie Johnson, **Jinglei Ping**, and Ramya Vishnubhotla, US Patent App. 17/934,540

f3. *pH sensing technique based on graphene electrodes.* A. T. Charlie Johnson and **Jinglei Ping**, US Patent 11,327,041

- f4. *Multiplexed detection of toxins using graphene-based aptasensors.* A. T. Charlie Johnson, **Jinglei Ping**, Chengyu Wen, and Steven Vitale, US Patent App. 16/299,615

Invited Presentations

- t1. *Atom-Thin Interfaces to Biosystems*
NANO KOREA, Seoul Korea, 2023
- t2. *Atomically Thin Interfaces to Biosystems*
Boston University, Boston MA, 2022
- t3. *Sensing and Actuation Based on Two-Dimensional Materials*
Air Force Office of Scientific Research, Fairfax VA, 2021
- t4. *Contact Electrification at Graphene/Bio Interfaces*
New Jersey Institute of Technology, Newark NJ, 2021
- t5. *Contact Electrification at Graphene/Bio Interfaces*
Rutgers University, Piscataway NJ, 2020
- t6. *2D-Materials Biosensors.*
Amherst College, Amherst MA, 2019
- t7. *2D-Materials Biosensors.*
Massachusetts Center for Autonomous Materials, Amherst MA, 2018
- t8. *Scalable 2D-Biosensors.*
University of Massachusetts, Department of Mechanical and Industrial Engineering, Amherst MA, 2018
- t9. *Spontaneous Faradaic Charge Transfer at Bio-Graphene Interface.*
University of Massachusetts, Physics Department, Amherst MA, 2018
- t10. *Marrying Bio with 2D Bits.*
Southern University of Science and Technology, Shenzhen GD, China, 2018
- t11. *Electrical Biosensing Devices and Systems Based on 2D Materials.*
McMaster University, Hamilton ON, Canada, 2017
- t12. *Electrical Biosensors Based on 2D Materials.*
Boston College, Boston, MA 2017
- t13. *Electrical Biosensors Based on Two Dimensional Nanomaterials.*
BioDirection, Inc., Santa Fe, NM 2017
- t14. *Electrical Biosensing Science and Technology Based on Two Dimensional Nanomaterials.*
University of Delaware, Newark DE, 2017
- t15. *Biosensors and bioelectronics based on two-dimensional nanomaterials.*
APS March Meeting, Baltimore MD, 2016
- t16. *Graphene chemical-vapor-deposited on platinum: the glamour of imperfection.*
Penn State University, University Park PA, 2013

Conference Presentations

- c1. *Highly Integrated System for Micro-Total Analysis of Metal Ions.*
Huilu Bao, Xiao Fan, Xiaoyu Zhang, Xin Zhang, Jinglei Ping, BMES, accepted, 2023
- c2. *Nanomechanoelectrical Approach to Ultra-High Sensitivity and Specificity DNA Quantification.*
Xiaoyu Zhang, Xiao Fan, Huilu Bao, Jinglei Ping, BMES, accepted*, 2023

***Oral presentation, acceptance rate ~16%**

- c3. *Ultra-Sensitive Protein Detection Enabled by Micro Isoelectric Focusing.*
Xiao Fan, Xiaoyu Zhang, Huilu Bao, Jinglei Ping, BMES, accepted, 2023
- c4. *Sub-Micrometer/Second Biofluidic Flow-Velocity Quantification.*
Xiaoyu Zhang, Jinglei Ping, MRS, accepted, 2021
- c5. *Biofluidic Flow-Velocity Quantification Using a Monolayer-Graphene Single-Electrode.*
Xiaoyu Zhang, Eric Chia, Xiao Fan, Jinglei Ping, BMES, accepted, 2020
- c6. *Rapid Detection of Bloodborne Heavy Metal Using a Microfluidic Filtration-Detection Device.*
Xiao Fan, Eric Chia, Xiaoyu Zhang, Jinglei Ping, BMES, accepted, 2020
- c7. *Single-Crystal Bilayer Graphene with Controlled Stacking from Ni-Cu Gradient Alloy.*
Zhaoli Gao, Qicheng Zhang, Carl Naylor, Youngkuk Kim, Irfan Abidi, Jinglei Ping, Pedro Ducos, Jonathan Zauberman, Mengqiang Zhao, Andrew Rappe, Ying-Jun Wang, Zhengtang Luo, Li Ren, A.T. Charlie Johnson, APS, Los Angeles CA, 2018
- c8. *Attending Attomolar Detection and Long Target Capture of Single Strand DNA with Graphene Biosensors.*
Ramya Vishnubhotla, Jinglei Ping, Olivia Dickens, Adithya Sriram, Srinivas Mandyam, A.T. Charlie Johnson, APS, Los Angeles CA, 2018
- c9. *Chemical Vapor Deposition of Large-Area 2D Hexagonal Diamond.*
Ying Liu, Jinglei Ping, Wei Tan, A.T. Charlie Johnson, APS, Los Angeles CA, 2018
- c10. *Multiplexed Detection of Toxins in Tap Water Using a Graphene Aptasensor System.*
Jinglei Ping, A.T. Charlie Johnson, APS, Los Angeles CA, 2018
- c11. *Scalable Production of Biosensors Based on Aptamer-Functionalized Graphene for Detection of the HIV drug Tenofovir.*
Ramya Vishnubhotla, Jinglei Ping, A.T. Charlie Johnson, APS, New Orleans LA, 2017
- c12. *Non-Perturbative Quantification of Ionic Charge Transfer through nm-Scale Protein Pores Using Graphene Microelectrodes.*
Jinglei Ping, A.T. Charlie Johnson, APS, New Orleans LA, 2017
- c13. *Biosensors Based on DNA-Functionalized Graphene.*
Ramya Vishnubhotla, Jinglei Ping, Amey Vrudhula, A.T. Charlie Johnson, APS, Baltimore MD, 2016
- c14. *Seeded Growth of Highly Crystalline Molybdenum Disulphide Monolayers at Controlled Locations.*
Carl Naylor, Gang Hee Han, Nicholas Kybert, Jinglei Ping, A.T. Charlie Johnson, APS, San Antonio TX, 2015
- c15. *Graphene Decorated with μ -Opioid Receptor: the Ionic Screening Effect and Detection of Enkephalin.*
Jinglei Ping, A.T. Charlie Johnson, Renyu Liu, APS, San Antonio TX, 2015
- c16. *Theoretical Study of Disorder Induced Magnetoresistance in Graphene.*
Shaffique Adam, Jinglei Ping, Indra Yudhistira, Navneeth Ramakrishnan, Sungjae Cho, Michael S. Fuhrer, APS, Denver CO, 2014
- c17. *Magnetoresistance Induced by Inhomogeneity in Graphene.*
Jinglei Ping, Indra Yudhistira, Navneeth Ramakrishnan, Sungjae Cho, Shaffique Adam, Michael S. Fuhrer, APS, Denver CO, 2014
- c18. *Linear Magnetoresistance of Graphene in Contact with Inhomogeneous Disordered Graphitic Carbon.*
Jinglei Ping, Michael S. Fuhrer, APS, Baltimore MD, 2013
- c19. *Laser Scanning Microscopy for Quantitative Measurement of the Local Microwave-Photonic Properties of Advanced Materials and Devices.*

Behnood Ghamsari, Jacob Tosado, Mahito Yamamoto, Jinglei Ping, Daniel Lenski, Michael S. Fuhrer, Steven Anlage, APS, Boston MA, 2012

c20. *Layer Number and Stacking Order Imaging of Few-Layer Graphene by Transmission Electron Microscopy.*
Jinglei Ping, Michael S. Fuhrer, APS, Boston MA, 2012

c21. *Characterization of graphene by TEM.*
Jinglei Ping, Michael S. Fuhrer, CNAM Seminar, College Park MD, 2012

Research Advising Activities

Advisor Doctoral

- m1. Xiao Fan, MIE, PhD candidate, 09/03/2019 – present, expected thesis defense in 2024
- m2. Xiaoyu Zhang, MIE, PhD candidate, 09/03/2019 – present, expected thesis defense in 2024
- m3. Huilu Bao, MIE, PhD student, 09/05/2021 – present
- m4. Xin Zhang, MIE, PhD student, 09/06/2022 – present
- m5. Qingyan Pan, MIE, PhD student, to join in Fall 2024
- m6. Eric Chia, MIE, graduate student, 01/22/2019 – 09/05/2021

Advisor Master

- m7. Sharath Chandan Reddy Patlolla, MIE, MS, 09/2018 – 05/2019

Advisor Undergraduate Students

- m8. Caleb Carpenter, BME, undergraduate, 9/15/2023 – present
- m9. Lucy Zhang, Computer Science, undergraduate, 10/25/2022 – present
- m10. Cristian Clewis, Physics, undergraduate, independent study, 09/07/2022 – present
- m11. Diya Asawa, BME, undergraduate, 04/06/2023 – present
- m12. Olivia Watson, Cornell BME, undergraduate, summer 2023
- m13. Henry Chow, BME, undergraduate, independent study, 09/2021 – 05/2022
- m14. Charlotte LaGasse, BME, undergraduate, 09/2021 – 12/2022
- m15. Anisha Prathi, Computer Science, undergraduate, 02/2022 – 12/2022
- m16. Noah Doerr, MIE, undergraduate, 09/2018 – 12/2019
- m17. Ashwini Allada, MIE, undergraduate, 01/2019 – 12/2019
- m18. Jiahui Zhao, MIE, undergraduate, 09/2018 – 05/2019
- m19. Samuel Worrell, ECE, undergraduate, 01/2019 – 05/2019

Students Awards

- s1. Xin Zhang, Departmental Doctoral Fellowship, 2023
- s2. Huilu Bao, Departmental Doctoral Fellowship, 2022

Teaching Activities

Statics: Undergraduate Core

Mechanical Properties of Materials: Graduate Core

Nanomaterials and Sensors: New

- Nanomaterials and Sensors (MI-ENG 619, BMED-ENG 519), Fall 2023
- Statics (MI-ENG 210, CE-ENGIN 240), Spring 2023
- Statics (MI-ENG 210, CE-ENGIN 240), Spring 2022
- Nanomaterials and Sensors (MI-ENG 597NS/697NS, BMED-ENG 597NS), Fall 2021
- Statics (MI-ENG 210, CE-ENGIN 240), Spring 2021
- Mechanical Properties of Materials (MI-ENG 590C, MI-ENG 609, ChE-ENG 590C), Fall 2020
- Statics (MI-ENG 210, CE-ENGIN 240), Spring 2020
- Mechanical Properties of Materials (MI-ENG 590C, MI-ENG 609, ChE-ENG 590C), Fall 2019
- Mechanical Properties of Materials (MI-ENG 609), Spring 2019
- Statics (MI-ENG 210, CE-ENGIN 240), Fall 2018

Scholarly Services

- Topic Editor, MDPI Biosensors (Impact Factor 5.74)
- Editor of Special Issue "Biosensors Based on Two Dimensional Materials", MDPI Biosensors
- Journal Reviewer: Nature Communications, IEEE Sensors, Nano Letters, Advanced Materials, Chemical Science, ACS Advanced Materials Interfaces, Applied Physics Letters, APL Materials, AIP Advances, Chinese Physics Letters
- Membership
 - Biomedical Engineering Society
 - American Physics Society
 - American Chemistry Society
 - Materials Research Society
- Chairing & Organizing
 - Chair of Session P33 (focused session) of APS March Meeting 2017, New Orleans, LA
 - Chair of Session J1 (focused session) and Y26 of APS March Meeting 2015, San Antonio, TX
 - Chapter Member of EPS Young Minds – Section Maryland 2012
 - Organizer and chair of Chemical Physics Seminar, 2009-2010, University of Maryland, MD

University Services

- Union Membership: Massachusetts Society of Professors (MSP), 2019 – date
- MIE Ad Hoc Faculty Search Committee, Member, 2023
- MIE Seminar Committee, Chair, 2022 – 2023
- MIE Seminar Committee, Member, 2021 – 2022
- MIE Department Personnel Committee, Member, 2020 – 2021
- MIE Remote Teaching Committee, Member, 2019 – 2020
- Eureka! Workshop*, Program Facilitator, 2019

***An innovative five-year program that addresses the gender gap in STEM**

- MIE Graduate Committee, Member, 2019 – 2020
- BME Faculty Search Committee, Member 2019 – 2020
- Discussion Panel of the Program “Expectations of the Crow—Adjusting to the American Education System”, Faculty Representative, 2018
- MIE Graduate Committee, Member 2018 – 2019