REBECCA KUNTZ WILLITS, PH.D.

Professor and Chairperson
Department of Chemical Engineering
Northeastern University
Boston, MA

Academic Experience:

Northeastern University, Boston, MA
Department Chair, Chemical Engineering, July 2020 – present
Professor in Chemical Engineering, July 2020 – present
Affiliated Professor in Bioengineering, July 2020 - present

The University of Akron, Akron, OH
Interim Department Chair, Biomedical Engineering, August 2018 – June 2020
Joint Professor in Mechanical Engineering, August 2018 – June 2020
Joint Professor in Chemical, Biomolecular, and Corrosion Engineering, Aug 2019 – June 2020
Professor in Biomedical Engineering, July 2016 – June 2020
Associate Chair for Graduate Studies in Biomedical Engineering, Aug 2012 – June 2018
Margaret F. Donovan Endowed Chair for Women in Engineering, July 2010 – June 2020
Associate Professor in Biomedical Engineering, July 2010 – June 2016

Case Western Reserve University Medical School, Cleveland, OH
Adjunct Assistant Professor for National Center of Regenerative Medicine, appointed July 2011

Saint Louis University, Saint Louis, Missouri
Associate Professor in Biomedical Engineering, July 2005 – June 2010
Secondary Appointment in Chemistry, July 2009 – June 2010
Assistant Professor in Biomedical Engineering, Aug 1999 – June 2005

Cornell University, Ithaca, New York
Research Assistant in Chemical Engineering, August 1996 - August 1999
Research: Investigating cell migration in biological gels, structural determination of gels and modeling of delivery to reproductive tract

Johns Hopkins University, Baltimore, Maryland
Research Assistant in Chemical Engineering, August 1994 - August 1996
Research: Investigating cell migration in collagen gels, structural determination of gels

Tufts University, Medford, Massachusetts
Teaching Assistant in Chemistry, September 1993 - May 1994
Research Assistant in Chemistry, June 1993 - December 1993
Research Project: Synthesis of secondary messenger for insulin

Education & Training:

National Science Foundation CMMI Game Changer Academies
"The primary premise of Game Changer Academies is that panel reviews benefit from functional interactions across difference, greater risk tolerance, better recognition of meritorious high-risk proposals, less vulnerability to bias, and more participatory decision-making processes."
Panel Fellow, 2021
Advanced Panel Fellow, 2022

White People Challenging Racism (WPCR), Boston, MA
Fall 2020

Academics for Black Survival and Wellness (A4BL)
https://www.academics4blacklives.com/anti-racism-training
Summer 2020

Drexel University, Philadelphia, PA
Executive Leadership in Academic Technology and Engineering (ELATE) Fellow
2017-18

Cornell University, School of Chemical Engineering, Ithaca, New York
Doctor of Philosophy in Chemical Engineering, August 1999
"Cell Migration in Polymer-Modified Mucus Gels," W. Mark Saltzman, thesis advisor

Minors: Biochemical Engineering & Immunology

The Johns Hopkins University, College of Engineering, Baltimore, Maryland
Master of Science in Chemical Engineering, May 1996
"Neutrophil Motility through Gels of the Extracellular Matrix," W. Mark Saltzman, thesis advisor

Tufts University, College of Engineering, Medford, Massachusetts
Bachelor of Science in Chemical Engineering, May 1994
summa cum laude

Scholarly Interests:

Our research laboratory seeks to design 3D environments that control cell response, with a particular emphasis on neuro-regeneration. In order to achieve this goal, we seek to **understand** the behavior of cells and **enhance** neural cell response using techniques that engage endogenous responses. We have demonstrated the mechanosensing response of nerve growth, and have used that response to generate materials to enhance natural repair mechanisms *in vivo*. Our lab is also engaged in diversity, equity, and inclusion initiatives that seek to increase retention of students from those underrepresented in engineering. In addition to advocacy at the local and national level, we participate and lead initiatives ranging from activities in the K-12 classroom, higher education environment, and post-bac/graduate/post-graduate mentoring.

Academic Honors & Awards:

American Institute of Chemical Engineers Fellow, elected 2025
2024 **Gilda Barabino Excellence in Mentoring Award**, Chemical Engineering Northeastern University
2023 College of Engineering **Diversity Recognition Award**, Northeastern University
Biomedical Engineering Society Fellow, elected 2020
2018 **Faculty Engagement Award**, LIFE Awards, The University of Akron (nominated and selected by students)
2018 Omicron Delta Kappa **Passion Award**, The University of Akron (nominated and selected by students)
American Institute of Medical and Biological Engineering Fellow, elected 2017
2013 UA **Research Mentor of the Year** (nominated by students)
2012 "**Favorite Faculty Member**" by National Residence Hall Honorary, Richard Hansford Chapter, UA
2006 Emerson Electric Co. **Gold Star Grant** Award
2006 Women's Commission "**Woman of the Year**" for Faculty
2005 Council for Advancement and Support of Education (CASE) **Missouri Professor of the Year**
2003 Emerson Electric Co. **Excellence in Teaching** Award
2004 and 2005 SLU nominee for CASE U.S. Professor of the Year Program
2002 **Faculty Excellence Award**, Student Government Association of Saint Louis University
2002 Outstanding **Faculty of the Year**, Association of Parks College Students, Saint Louis U.
NSF **Engineering Education Scholars Workshop**, Carnegie Mellon University, 1999
Whitaker Foundation Scholarship, 1996-1997
Golden Key National Honor Society, 1994
Department of Chemical Engineering Award, Tufts University, 1994
Ghublikian Scholarship, Tufts University scholarship, 1992-1994
AIChE Scholarship Award, 1 of 10 nationally, 1993
Tau Beta Pi, national engineering honor society, 1992
DOW Chemical USA Scholarship, national SWE scholarship, 1992
Richardson Vicks Scholarship, excellence in science and engineering, 1990

Publications (last 5 yr):

* indicates undergraduate author; ** indicates high school author; #co-first authors
Corresponding Author

For complete list, visit https://www.ncbi.nlm.nih.gov/myncbi/1VUk-VpvclrAu/bibliography/public/

1. Yin Mei Chan, Nicola G. Judge, Rebecca K. Willits, ***Matthew L. Becker***. Enhanced integrin-mediated adhesion and proliferation of Schwann cells using highly aligned, dual-functional fibrous scaffolds. In review, 2026.
2. Yin Mei Chan#, Yang Hu#, Nicola G. Judge, ***Rebecca K. Willits, Matthew L. Becker***. Directional guidance of male and female Schwann cells using immobilized YIGSR gradients on aligned fiber scaffolds. In review, 2026.

3. Yang Hu#, Yin Mei Chan#, Nicola G. Judge, ***Matthew L. Becker, Rebecca K. Willits***. Sex-based Differences in Schwann Cell Migration on Aligned Polycaprolactone Nanofibers. Scientific Reports, 2025. https://www.nature.com/articles/s41598-025-13450-0
4. Yin Mei Chan; Judge, Nicola; Hu, Yang; Willits, Rebecca; Li, Neill; ***Becker, Matthew***. Review of Gaps in the Clinical Indications and Use of Neural Conduits and Artificial Grafts for Nerve Repair and Reconstruction. Biomacromolecules, 2025. https://pubs.acs.org/doi/10.1021/acs.biomac.5c00558
5. Gomez-Maldonado, D., Shovmer, R., ***Inman, D.M., Willits, R. K***. Brain activation following flexible stimulation paradigms of transcorneal electrical stimulation (TES) in a murine model of glaucoma. Volume 255, June 2025, 110326. https://doi.org/10.1016/j.exer.2025.110326
6. Cavanaugh, M., ***R.K. Willits***. Mechanotransductive N-Cadherin Binding Induces Differentiation in Human Neural Stem Cells*. Mechanobiology in Medicine*, 2024. https://doi.org/10.1016/j.mbm.2024.100099
7. ***Jacqueline C. Linnes***, Erika Moore, Ana Maria Porras, Elizabeth Wayne, Patrick M. Boyle, Lesley W. Chow, Katharina Maisel, Shelly R. Peyton, Sarah E. Stabenfeldt, Kelly R. Stevens, Jessica O. Winter, ***Rebecca Kuntz Willits***. Framework for Department-level Accountability to Diversify Engineering. Accepted in *Nature Reviews Bioengineering*, 2024.
8. Yang Hu, Matthew L. Becker, and ***Rebecca Kuntz Willits***. Quantification of Cell Migration: Metrics Selection to Model Application. *Frontiers in Cell and Developmental Biology – Cell Adhesion and Migration,* May 2023.
9. Narges Yazdani and ***Rebecca Kuntz Willits***. Mimicking the neural stem cell niche: An engineer's view of cell:material interactions. *Frontiers in Chemical Engineering*, Jan 2023.
10. McKay Cavanaugh, Darya Asheghali, Cecilia M. Motta, Elena Silantyeva, Shantanu P. Nikam, Matthew L. Becker**,** and ***Rebecca K. Willits*.** Influence of Touch-Spun Nanofiber Diameter on Contact Guidance during Peripheral Nerve Repair. *Biomacromolecules* 2022, 23, 6, 2635–2646. https://doi.org/10.1021/acs.biomac.2c00379
11. Emily Mulvany, Sara McMahan, Jiazhu Xu, Narges Yazdani, ***Rebecca Willits***, Jun Liao, Ge Zhang, Yi Hong, In vitro comparison of harvesting site effects on cardiac extracellular matrix hydrogels. Journal of Biomedical Materials Research, Part A, 2021. https://doi.org/10.1002/jbm.a.37184
12. Kelly R. Stevens, Kristyn S. Masters, P.I. Imoukhuede, Karmella A. Haynes, Lori A. Setton, Elizabeth Cosgriff-Hernandez, Muyinatu A. Lediju Bell, Padmini Rangamani, Shelly E. Sakiyama-Elbert, Stacey D. Finley, **Rebecca K. Willits**, Abigail N. Koppes, Naomi C. Chesler, Karen L. Christman, Josephine B. Allen, Joyce Y. Wong, Hana El-Samad, Tejal A. Desai, Omolola Eniola-Adefeso, *Fund Black scientists*, **Cell**, Volume 184, Issue 3, 2021, Pages 561-565. https://doi.org/10.1016/j.cell.2021.01.011
13. Jassim, Assraa[#], McKay Cavanaugh[#], Lucy Coughlin, Jessica Stukel, ***Rebecca Willits***, Denise M. Inman, *Transcorneal Electrical Stimulation Reduces Neurodegenerative Process in a Mouse Model of Glaucoma.* **Annals of Biomedical Engineering**, 2021. https://doi.org/10.1007/s10439-020-02608-8
14. Koh, G.P., C. Fouad, W. Lanzinger, ***R. K. Willits***. *Effect of Intraoperative Electrical Stimulation on Recovery after Rat Sciatic Nerve Isograft Repair.* **Neurotrauma Reports**, November 2020. https://doi.org/10.1089/neur.2020.0049
15. Silantyeva, E., ***R.K. Willits***, M.L. Becker. *Post-fabrication Tethering of Molecular Gradients on Aligned Nanofibers of Functional Poly(ε-caprolactone)s*. **Biomacromolecules**. 20(12):4494-4501, 2019.
16. Motta, Cecilia M.M., K.J. Endres, C. Wesdemiotis, ***R.K. Willits*** and M.L. Becker. *Enhancing Schwann Cell Migration Using Concentration Gradients of Laminin Derived-peptides.* **Biomaterials**. 218:119335, 2019. https://doi.org/10.1016/j.biomaterials.2019.119335
17. Cavanaugh, McKay, Elena Silantyeva, Galina Pylypiv Koh, Elham Malekzadeh, William Lanzinger, ***Rebecca Willits***, Matthew Becker. *RGD-modified nanofibers enhance functional outcomes in rats after sciatic nerve injury.* Biomimetic Materials for Regenerative Medicine; **Journal of Functional Materials**. 2019.
18. Philip, D.#, Silantyeva, E.#, Becker, M.L., and ***R.K. Willits***. *RGD-functionalized nanofibers increase early GFAP expression during neural differentiation of mouse embryonic stem cells.* **Biomacromolecules**, #co-first authors. https://doi.org/10.1021/acs.biomac.9b00018

Book Chapters:

1. Scott, R.A.* and ***R.K. Willits***. *Future applications of injectable biomaterials: the use of microgels as modular injectable scaffolds,* in **Injectable Biomaterials.** Edited by Brent Vernon. Woodhead Publishing. Jan 2011.
2. ***Willits, R.K***. and W.M. Saltzman. *Section 10.1, Controlled delivery of systemic therapy* in **Drug Delivery: Engineering Principles for Drug Therapy** by W.M. Saltzman, Oxford University Press, 2001.
3. ***Willits, R.K***. and W.M. Saltzman. *Section 10.3, Topically applied devices for controlled-release* in **Drug Delivery: Engineering Principles for Drug Therapy** by W.M. Saltzman, Oxford University Press, 2001.

Conference Proceeding Papers (last 5 yr)

1. Makki, N., & Cutright, T., & Coats, L., & Willits, R., & Stone, T., & Williams, L., & Rodrigues, D. (2022, August), *Preparation of Female and Minority PhD and Post-Docs for Careers in Engineering Academia (Experience)* Paper presented at 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. https://peer.asee.org/40880
2. Cutright, T.J., R.K. Willits, and D.W. Ott. *Comparing effectiveness of peer mentoring for direct admit and college-ready freshmen*. ASEE Annual Conference proceedings, 2020.
3. Cutright, T. J., & Willits, R. K., Coats, L. T., Stone, T., Williams, L. N., & Rodrigues, D. F. *Update on Academics with Diversity Education and Mentorship in Engineering (ACADEME) Activities and Fellows*. ASEE Annual Conference proceedings, 2020.

Patents & Disclosures:

Provisional Patent Filed: “Neuronal biosensor for detection of toxins” at Saint Louis University in May 2012

Provisional Patent Filed: “Device and method for controlling nerve growth” at UA in April 2013

Provisional Patent Filed: “Fluorescence-Assisted Counting Apparatus For Qualitative And/Or Quantitative Measurement Of Fluorescently Tagged Particles” at UA in Nov 2013

Invention Disclosure Filed: “Method of Use Disclosure” at Northeastern in August 2025

Selected Seminars and Presentations since 2019:

1. Del Fierro, Y., C.M. Motta, M. Becker, and R.K. Willits. *Laminin-Derived Ile-Lys-Val-ala-Val (IKVAV) Gradients and PCL Nanofibers to Enhance Schwann Cell Migration*. Society for Biomaterials, Atlanta, GA. 2026, in submission.
2. Shovmer, R. and R.K. Willits. *Development of Degradation-on-Demand MMP-1-Sensitive Granular Scaffolds to Examine Neural Stem Cell Response*, AIChE Fall 2025, Boston, MA.
3. Shovmer, R. and R.K. Willits. Chemical Advances in Biomaterials and Therapeutics (CABT), Northeastern Section of ACS, Boston, MA
4. Del Fierro, Y., M. Becker and R.K. Willits. Chemical Advances in Biomaterials and Therapeutics (CABT), Northeastern Section of ACS, Boston, MA
5. Willits, R.K. *Inclusive hiring practices at Northeastern University*. ACS Fall 2024, Denver, CO.
6. Yazdani, N., R.K. Willits. *Investigating the effect of integrin-mediated mechanotransduction on neural stem cell morphology and differentiation*. Society for Biomaterials Northeast Regional Meeting, Fall 2024.
7. Yazdani, N., R.K. Willits. *Investigating Mechanotransduction via N-Cadherin and Laminin in Neural Stem Cells*. Gordon Research Conference, Mechanochemistry and Mechanobiology. Bates College, 2024.
8. Willits, R.K. *Research Seminar on Microenvironmental Cues for Nerve Regeneration.* Invited.
    a. University of Connecticut, 4/2026
    b. University of Massachusetts, Lowell, 3/6/2025
    c. University of Florida, 3/4/2025
    d. Worcester Polytechnic Institute, 4/17/2024
    e. Cornell University, 9/25/2023
    f. Virginia Tech, 3/17/2023
    g. Colorado School of Mines, 3/3/2023
    h. Pharmaceutical Sciences, Northeastern, 11/3/2022
    i. Washington University in St. Louis, 9/21/2022
    j. Rensselaer Institute of Technology, 4/13/2022
    k. Stevens Institute of Technology, 10/1/2021
9. Gomez-Maldonado, D.; Yazdani, N.; Zhang, A.; Willits, R. (2023). *Property tunning of PEG microgel-based hydrogels for neural tissue. In Sustainable Engineering and Nanofabrication of Polymers: Sustainable Polymers*. ACS Fall 2023, Harnessing the power of data. San Francisco, CA.
10. Gomez-Maldonado, D.; Zhang, A.; Yazdani, N.; Willits, R.K. (2023). *Characterization of PEG microgel-based hydrogels for tissue engineering*. Northeastern Regional Meeting 2023 American Chemical Society - Chemistry: Crossing Intersections. Boston, MA.

11. Zhang, A.; Gomez-Maldonado, D.; Willits, R.K. (2023). *Fabrication and characterization of amine-functionalized poly(ethylene glycol) microgels*. Northeastern Regional Meeting 2023 American Chemical Society - Chemistry: Crossing Intersections. Boston, MA.
12. Narges Yazdani & Rebecca Willits (2023). *The influence of laminin-511 fragments on neural stem cell behavior*. TERMIS. Boston, MA.
13. Cavanaugh, McKay and Rebecca Willits, *Influence of Tethered Cadherin on Human Induced Pluripotent Neural Stem Cells*, Society for Biomaterials, Baltimore, MD, 2022.
14. Yazdani, Narges and Rebecca Willits*. The influence of incorporation of laminin peptide sequences on integrin activation and focal adhesion formation.* Society for Biomaterials, Baltimore, MD, 2022.
15. Cavanaugh, McKay, Darya Asheghali, Cecilia Motta, Elena Silantyeva, Matthew Becker and Rebecca Willits. *Influence of Touch-Spun Fibers Diameter on Neurite Outgrowth and Schwann Cell Migration*. AIChE 2021, Boston MA.
16. Hong, Yi, Mulvany, Emily, McMahan, Sara, Xu, Jiazhu, Yazdani, Narges, Willits, Rebecca, Liao, Jun, Zhang, Ge. *Cardiac Extracellular Matrix Hydrogels: Harvesting Location Comparison.* BMES 2020, Virtual.
17. Mawhinney, K., N. Yazdani, M. Kimel, R. Willits, S. Jana. *Analysis of mechanical and cytotoxic properties of emulsion-templated macroporous-mesoporous polyurea gels*. Abstracts of papers of the American Chemical Society, 2019.
18. Albaba, D.*, R.K. Willits. *Examining Tube Formation of Human Umbilical Vein Endothelial Cells in Collagen Gels.* BMES 2019, Philadelphia, PA.
19. Cavanaugh, M. A. Jassim, L. Coughlin, J. Stukel, D.Inman, R.Willits. *Transcorneal Electrical Stimulation Shown To Reduce The Signs Of Glaucoma.* BMES 2019, Philadelphia, PA.
20. Willits, R.K. *Microenvironmental cues to enhance neural repair*. University of Minnesota, 10/2019. *Invited.*
21. Willits, R.K. *Engineering the environment to enhance nerve regeneration.* UVM, 2/2019. *Invited.*

Research Funding (current):

NIH 1 R01 NS124889-01A1: **"**Synergistic Enhancement of Peripheral Nerve Defect Repair using Peptide Functionalized Aligned Nanofiber Conduits" 6/1/2022 – 5/31/2027 ($858,408 (total) to Willits lab; co-I)

NSF EEC Grant. Project Entitled: "BPE-Track 3: Engineering Academic Mentoring Collective" 9/1/2024-8/30/2029. co-PI ($212,842.20 (total) to Willits)

Teaching:

Northeastern University

Lectures in Biomaterials, Fall 2024, Fall 2025
Tissue Engineering & Regenerative Medicine Journal Club, Spring 2022
Faculty sponsor/advisor for Capstone group: Spring 2021, Fall 2022, Spring 2024

The University of Akron

Courses Developed or Significantly Redesigned:

Transport Fundamentals for BME (Undergraduate, Fall 2014, Fall 2015, Fall 2017)
Biomaterials Characterization (Graduate, Spring 2011)
Biotransport (Undergraduate/Graduate, Spring 2012)
Independent Research (Undergraduate, Fall 2011, Spring 2012, Summer 2014, Spring 2015, Fall 2015, Spring 2016, Fall 2016, Fall 2017, Fall 2018)
Fundamentals of Biomedical Engineering (Graduate, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2018, Spring 2020)
Experimental Techniques in Biomaterials (Undergraduate, Spring 2015, Spring 2016, Spring 2017)
Biomaterials Lab (Undergraduate, Spring 2018)
Immunology and Biomedical Engineering (Graduate, Fall 2016)

Other Courses Taught:

Tools for Biomedical Engineers (Undergraduate, Fall 2019)
Sophomore Seminar (Undergraduate, Fall 2019)
Introduction to BME Design (Undergraduate, Spring 2019)
Biofluid Mechanics (Undergraduate, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2014)
Biomedical Computing (Undergraduate, Spring 2011, Spring 2012, Spring 2013)
Tissue Engineering (Undergraduate/Graduate, Fall 2012)
Transport Phenomena in Biomedical Engineering (Graduate, Spring 2012)
BME Graduate Colloquium (Graduate, Fall 2012, Spring 2013, Fall 2013, Fall 2014)
Mini-course in Developing a Graduate Fellowship Proposal (Graduate, Fall 2015)

Saint Louis University

Courses Developed:

Transport Fundamentals (2000-2009)
Biotransport (2001-2010)
Tissue Engineering (2001 – 2004; 2009)
Drug Delivery (2006)
Design of BME Laboratory Experiments (2002 – 2009)
Numerical Methods (2007-2009)
Advanced Transport (2004)

Other Courses Taught :

Senior Project (Group Mentor, 1999 – 2010)
Departmental Seminar (2008-9)

Cornell University

Lectures Given :

"Drug Delivery & HIV" in introductory Biomedical Engineering course

Professional and Honor Societies:

American Chemical Society
American Institute of Chemical Engineers, Fellow
Biomedical Engineering Society, Fellow
Golden Key Honor Society
National Center for Regenerative Medicine
American Association for the Advancement of Science
Sigma Xi
Society for Biomaterials
Tau Beta Pi, President MAΔ, 1993-1994
Women in Engineering ProActive Network (WEPAN)
American Institute for Medical and Biological Engineering, Fellow

Service:

To the Chemical Engineering profession:

- Organized and ran a national seminar series for diverse faculty candidates in Chemical Engineering, 2021-2022
- MichBio Panelist, ***Funding Disparities Between Black and White Scientists - A National Call to Action,*** https://www.youtube.com/watch?v=qZ8cI1WbGn0
- Co-Founded and organized a Department Chair group and forum for regional (Northeast/Mid-Atlantic) chemical engineering department heads.
- Co-Developed seminar workshops for future faculty in Chemical Engineering, 2024-present

Advisory Boards

- **Tufts University Chemical Engineering,** External Advisory Board**,** Member 2022-present
- **Cornell University Chemical Engineering,** Smith School Advisory Council, Member 2024-present

American Institute for Chemical Engineers

- Undergraduate Poster judge: 2021

American Institute for Medical & Biological Engineers National Roles:

- ***Fellow review committee***: 2017, 2020, 2024 (chair), 2025 (chair)
- ***Nominations committee***: 2022, 2023
- ***Secretary/Treasurer (elected)***: 2024-2026

WEPAN National Board of Directors, 2021 – present

- ***Research Committee***
- ***Membership Committee***

Biomedical Engineering Society National Roles:

BMES *Board of Directors,* 2017 - 2020
BMES *Meetings Committee*, 2007-2010
BMES *National Meeting Program Co-Chair*, 2008
BMES *Student Affairs Committee*, Member: 2009, 2010, 2013, 2014; Co-Chair: 2010-2011, Chair: 2011 – 2013
BMES *Undergraduate Research Track Co-Chair*, 2010
BMES *Awards Committee*, Member: 2013-2019; Chair: 2015-2018
BMES *Diversity Committee*, 2018 – 2021
BMES *ad hoc* Elections Committee, Chair, 2021-2022 – This committee developed

recommendations to increase the transparency of the elections process.

Society for Biomaterials

- ***Awards Committee (elected)*** 2020-21, 2023-24
- ***Membership Committee*** 2023-24
- ***Session Coordinator/co-chair*** 2022
- ***Finance Committee,*** 2025

Controlled Release Society National Role:

Education Committee

Sigma Xi, SLU Chapter:

Secretary, 2005-2010.

Advisor to Student Professional Organizations:

UA BMES student organization, 2011 – present.
UA Tau Beta Pi advisor, 2018 – present.
SLU BMES student organization, 1999 – 2010.
SLU SWE student organization, 2003 – 2010.

Editorial Board:

Annals of Biomedical Engineering, 2020 – present.

Peer Review – Grants:

ACS, Research Corp, NSERC, NIH, NSF, DOD

National Conference Session Chair:

Neural Tissue Engineering, 2001 BMES Annual Meeting
Tissue Engineering I, 2001 SFB
Natural and Bioinspired Materials I, 2016 BMES
Dynamic Biomaterials, 2016 BMES
Drug Delivering Biomaterials III, 2017 BMES
Mechanobiology of Stem Cell Engineering, 2019 BMES

National Conference Paper/Abstract Reviewer:

Multimedia Session, 2002 ASEE Annual Conference
Session N – Biological and Biomimetic Materials-Properties to Function, 2002 MRS Annual Spring Conference
Tissue Engineering, 2001 SFB
BMES, 2008, 2009, 2010, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2022