MELANIE ECKER, PHD

University of North Texas
Department of Biomedical Engineering
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EDUCATION

Doctor of Natural Sciences (equivalent to PhD) 01/2015
Freie Universität Berlin, Germany
Thesis: Development, characterization and durability of switchable information carriers based on shape memory polymers

Diploma in Chemistry (equivalent to Master's degree) 07/2010
Freie Universität Berlin, Germany
Compulsory Optional Subject: Radiochemistry and Analytics
Thesis: Sequence-defined insertion of anionic groups into linear and monodisperse poly(amidomines)

Intermediate Diploma in Chemistry (equivalent to Bachelor's degree) 03/2006
Freie Universität Berlin, Germany

RESEARCH INTERESTS

- Shape Memory Polymers for Biomedical Applications
- Polymeric Biomaterials
- Flexible Bioelectronics and Neural Interfaces
- Enteric Nervous System and Gastrointestinal Disorders

RESEARCH AND PROFESSIONAL EXPERIENCE

Assistant Professor 09/2019–present
University of North Texas, Denton, TX
Smart Polymers for Biomedical Applications

Postdoctoral Research Associate 08/2015–08/2019
The University of Texas at Dallas, Richardson, TX
Mentors: Dr. Walter Voit and Dr. Joseph Pancrazio
Research in the field of shape memory polymers for flexible, self-softening bioelectronics.

Research Assistant (Doctoral Research) 07/2011–12/2014
BAM Federal Institute for Material Research and Testing, Berlin, Germany
Advisor: Dr. Thorsten Pretsch
Research in the field of shape memory polymers focused on poly(ester urethanes) and epoxy based polymers, development of switchable information carriers.

Diploma Thesis and Research Assistant 01/2010–11/2010
Max Planck Institute of Colloids and Interfaces, Berlin, Germany

Advisor: Dr. Laura Hartmann
Research in the field of biomimetics, focused on poly(amidoamines).

TEACHING

BMEN 5321 - Biomaterials Compatibility	Fall 2019
MEEN 6940 - Individual Research	Fall 2019
MTSE 6940 - Individual Research	Fall 2019

Tutor/Teaching Assistant *physical chemistry focused on thermodynamics*
Freie Universistät Berlin, Germany 10/2006–08/2010
Advisors: Prof. Dr. Eugen Illenberger and Prof. Dr. Klaus Christmann

ADVISING AND MENTORING AT UNT

PhD Students

Chandani Chitrakar	MEEN/BMEN	Primary Advisor	09/2019–present
Qichan Hu	MTSE/BMEN	Primary Advisor	09/2019–present
Joy-anne Najwa Oliver	MTSE/BMEN	Co-Advisor	09/2019–present
Jing You	MTSE/BMEN	Committee Member	09/2019–present

MS Students

Michael Joiner	BMEN	Committee Member	12/2019–present

BS Students

Nicholas Johnson	BMEN	Mentor	10/2019–present
George Sarkodie	BMEN	Mentor	09/2019–present
Lauren Adegoke	BMEN	Mentor	09/2019–present
Oluwasuolabomi Idowu	BMEN	Mentor	09/2019–present

MENTORING AT UTD

Mentored Undergraduate Students

Zurisadai Martinez Corona	Durability of shape memory polymers	06/2019–07/2019
Kutter Kupke	Thermomechanical characterization of SMP	05/2017–12/2017
Sarah Shakil	Synthesis and characterization of SMP	12/2016–05/2017
Alyssa Lindsey	Synthesis and characterization of SMP	08/2016–05/2017
Dang-Huy Do	Synthesis and characterization of SMP	01/2016–05/2017

Mentored graduate Students

Pedro Emanuel Rocha Flores	Electrode design and packaging	10/2018–present
Edgar Guerrero Ruiz	Conformal electrode arrays for the gut	04/2018–present
Ovidio Rodriguez-Lopez	Conformal electrode arrays for the gut	04/2018–08/2019
Aldo Garcia Sandoval	Spinal cord stimulators with improved hydrolytic stability	04/2018–08/2019
Adriana Carolina Duran Martinez	Encapsulation for polymeric spinal cord stimulators	01/2018–08/2019
Seyed Mahmoud Hosseini	Organic synthesis of new monomers, durability of SMP	01/2017–08/2019
Ben Perez	Photopatternable SMP, durability of 3D printed materials	01/2017–12/2018

PUBLICATIONS

Google Scholar citations: 299, h-index: 10
† senior author; Researcher ID: J-5348-2012, ORCID-ID: 0000-0002-0603-6683

Original Research

1. C. L. Frewin, **M. Ecker,** A. Joshi-Imre, J. Kamgue, J. Waddell, V. R. Danda, A. M. Stiller, W. E. Voit and J. J. Pancrazio, Electrical Properties of Thiol-ene/acrylate-based Shape Memory Polymers Intended for Use in Implantable Biomedical Devices, *Polymers*, **2019,** *11* (5), 902.
2. A. Zátonyi, G. Orbán, R. Modi, G. Márton, D. Meszéna, I. Ulbert, A. Pongrácz, **M. Ecker**, W. E. Voit, A. Joshi-Imre, Z. Fekete, A softening laminar electrode for recording single unit activity from the rat hippocampus, *Scientific Reports*, **2019,** *9* (1), 2321.
3. S. M. Hosseini, W. E. Voit, **M. Ecker**†, The use of environmental dynamic mechanical analysis to predict the softening behavior of neural implants. *Journal of Visualized Experiments*, **2019**, (145), e59209.
4. S. M. Hosseini, R. Rihani, B. Batchelor, A. M. Stiller, J. J. Pancrazio, W. E. Voit, and **M. Ecker**†, Softening Shape Memory Polymer Substrates for Bioelectronic Devices With Improved Hydrolytic Stability, *Frontiers in Materials*, **2018,** *5*, 66.
5. M. A. González-González, A. Kanneganti, A. Joshi-Imre, A. G. Hernandez-Reynoso, G. Bendale, R. Modi, **M. Ecker**, A. Khurram, S. F. Cogan, W. E. Voit, and M. I. Romero-Ortega, Thin Film Multi-Electrode Softening Cuffs for Selective Neuromodulation, *Scientific Reports*, **2018,** *8* (1), 16390.
6. H. W. Bedell, S. Song, X. Li, E. Molinich, S. Lin, A. Stiller, V. Danda, **M. Ecker**, W. E. Voit, J. J. Pancrazio, J. R. Capadona, Understanding the effects of both CD14-meditated innate immunity and device/tissue mechanical mismatch in the neuroinflammatory response to intracortical microelectrodes, *Frontiers in Neuroscience*, **2018**, *12*, 772
7. A. M. Stiller, J. Usoro, C. L. Frewin, V. R. Danda, **M. Ecker**, A. Joshi-Imre, K. C. Musselman, W. Voit, R. Modi, J. J. Pancrazio, and B. J. Black, Chronic intracortical recording and electrochemical stability of thio-lene / acrylate shape memory polymer electrode arrays, *Micromachines,* **2018**, *9* (10), 500
8. A. J. Shoffstall, **M. Ecker**, V. Danda, A. Joshi-Imre, A. Stiller, M. Yu, J. E. Paiz, E. Mancuso, H. W. Bedell, W. E. Voit, J. J. Pancrazio and J. R. Capadona, Characterization of the Neuroinflammatory Response to Thiol-ene Shape Memory Polymer Coated Intracortical Microelectrodes, *Micromachines,* **2018**, *9* (10), 486.
9. B. J. Black, **M. Ecker**, A. Stiller, R. Rihani, V. R. Danda, I. Reed, W. E. Voit, and J. J. Pancrazio, In Vitro Compatibility Testing of Thiol-ene/acrylate-based Shape Memory Polymers for Use in Implantable Neural Interfaces, *Journal of Biomedical Materials Research Part A,* **2018***, 106* (11), 2891-2898.
10. A. J. Shoffstall, S. Srinivasan, M. Willis, A. Stiller, **M. Ecker**, W. E. Voit, J. J. Pancrazio, J. R. Capadona, A Mosquito Inspired Strategy to Implant Microprobes into the Brain. *Scientific Reports,* **2018,** *8* (1), 122.
11. D.-H. Do, **M. Ecker**, and W. Voit, Characterization of a thiol-ene/acrylate-based polymer for neuroprosthetic implants, *ACS Omega*, **2017**, *2* (8), 4604–4611

12. **M. Ecker**, V. Danda, A. J. Shoffstall, S. F. Mahmood, A. Joshi-Imre, C. L. Frewin, T. H. Ware, J. R. Capadona, J. J. Pancrazio, W. E., Voit, Sterilization of Thiol-ene/Acrylate Based Shape Memory Polymers for Biomedical Applications. *Macromolecular Materials and Engineering,* **2017**, *302* (2)*,* 1600331
13. R. Reit, H. Abitz, N. B. Reddy, S. N. Parker, A. Wei, N. Aragon, M. Ho, A. M. Weittenhiller, T. Kang, **M. Ecker** and W. Voit, Thiol–epoxy/maleimide ternary networks as softening substrates for flexible electronics, *Journal of Materials Chemistry B*, **2016**, *4* (32), 5367-5374
14. **M. Ecker** and T. Pretsch, Novel design approaches for multifunctional information carriers, *RSC Advances*, **2014**, *4* (87), 46680-46688
15. **M. Ecker** and T. Pretsch, Multifunctional poly(ester urethane) laminates with encoded information, *RSC Advances*, **2014**, *4* (1), 286-292.
16. **M. Ecker** and T. Pretsch, Durability of switchable QR code carriers under hydrolytic and photolytic conditions, *Smart Materials and Structures*, **2013**, *22* (9), 094005.
17. T. Pretsch, **M. Ecker**, M. Schildhauer and M. Maskos, Switchable information carriers based on shape memory polymer, *Journal of Materials Chemistry*, **2012**, *22* (16), 7757-7766.

Review Articles

18. **M. Ecker**, A. Joshi-Imre, R. Modi, C. Frewin, A. Garcia Sandoval, J. Maeng, G. Gutierrez, J. Pancrazio and W. Voit, From Softening Polymers to Multi-Material Based Bioelectronic Devices, *Multifunctional Materials* **2019,** *2* (1), 012001.

Book Chapters

19. **M. Ecker** and T. Pretsch, Freely configurable Functionalization Tool for switchable Information Carriers, in *Materials Challenges and Testing for Manufacturing, Mobility, Biomedical Applications and Climate*, eds. W. Udomkichdecha, T. Böllinghaus, A. Manonukul and J. Lexow, Springer International Publishing, **2014**, ch. 3, 25-35.

Conference Proceedings

20. A. C. Duran-Martinez, S. Hosseini, D. Del Nero, A. Joshi-Imre, W. E. Voit, **M. Ecker**†, Thermoset polymers for bioelectronic interfaces - engineering of thermomechanical properties. In *2019 IEEE 69th Electronic Components and Technology Conference (ECTC),* **2019***,* 1258-1265.
21. **M. Ecker** and T. Pretsch, Durability of QR code carriers based on shape memory polymer in *ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems*, ed. ASME, Amer Soc Mechanical Engineers, Stone Mountain, GA, **2012**, vol. 1, 89-96.

Articles submitted for Peer Review

22. E. Guerrero, A. Polednik, **M. Ecker**, A. Joshi-Imre, W. Choi, G.Gutierrez-Heredia, W. E. Voit, J. Maeng, Indium-Gallium-Zinc-Oxide Schottky Diodes Operating Across the Glass Transition of Stimuli-Responsive Polymers, *Advanced Electronic Materials*, **2019**

Conference Presentations (presenting author is underlined)

1. 2019/05/31: A. C. Duran-Martinez, S. Hosseini, D. Del Nero, A. Joshi-Imre, W. E. Voit, **M. Ecker,** Thermoset polymers for Bioelectronic Interfaces: Engineering of Thermomechanical Properties, *2019 IEEE 69th Electronic Components and Technology Conference (ECTC)*, Las Vegas, NV, (talk)
2. 2019/04/05: **M. Ecker**, E. Guerrero, P. E. Rocha Flores, and W. E. Voit, Conformal Electrode Arrays to enable in vivo Recordings of the Enteric Nervous System, *Society For Biomaterials 2019 Annual Meeting & Exposition,* Seattle, WA (talk)
3. 2018/10/19: A. Stiller , C. Frewin , J. Usoro , V. Danda , **M. Ecker** , R. Modi, W. Voit , and J. Pancrazio, Softening Shape Memory Polymer Intracortical Probes for Chronic Neural Recordings, *BMES - Biomedical Engineering Society - 2018 Annual Meeting*, Atlanta, GA, (poster)

4. 2018/10/18: A. Shoffstall, **M. Ecker**, A. Stiller, V. Danda, W. Voit, J. Pancrazio, and J. Capadona, Evaluation of Thiol-ene/Acrylate Shape Memory Polymer as a Substrate for Intracortical Microelectrodes, *BMES - Biomedical Engineering Society - 2018 Annual Meeting*, Atlanta, GA, (poster)
5. 2018/10/18: **M. Ecker,** E. Guerrero Ruiz, O. Rodriguez-Lopez, W. Voit, Conformal Electrode Arrays for Acute in vivo Recordings of the Enteric Nervous System, *BMES - Biomedical Engineering Society - 2018 Annual Meeting*, Atlanta, GA, (talk)
6. 2018/10/17: **M. Ecker,** Softening Polymers for Biomedical Devices, *BMES - Biomedical Engineering Society - 2018 Annual Meeting*, Atlanta, GA, (poster at "*Meet the faculty candidate forum*")
7. 2018/06/26: **M. Ecker**, S. M. Hosseini, Aldo Garcia Sandoval, W. E. Voit, Softening Polymeric Substrates for Bioelectronic Devices with Improved Hydrolytic Stability, Neural Interfaces Conference (NIC) 2018, Minneapolis, MN, (poster)
8. 2018/06/26: A. Joshi-Imre, M. A. González-González, A. Kanneganti, A. G. Hernandez-Reynoso, G. Bendale, L. Patil, A. Khurram, R. Modi, **M. Ecker**, S. F. Cogan, W. E. Voit, and M. I. Romero-Ortega, Softening Thin-Film Cuff Electrodes for Neuromodulation, Neural Interfaces Conference (NIC) 2018, Minneapolis, MN, (poster)
9. 2018/06/25: A. M. Stiller, C. L. Frewin1, J. Usoro, V. R. Danda1, **M. Ecker**, R. Modi, W. Voit and J. J. Pancrazio, Softening Shape Memory Polymer Intracortical Probes for Chronic Neural Recordings, Neural Interfaces Conference (NIC) 2018, Minneapolis, MN, (poster)
10. 2018/06/01: **M. Ecker**, S. M. Hosseini, R. Rihani, J. J. Pancrazio, W. E. Voit, Softening Substrates for Bioelectronics Devices with Improved Hydrolytic Stability, *Biomaterials Day at Texas A&M*, College Station, TX, (poster)
11. 2018/03/28: **M. Ecker**, S. M. Hosseini, R. Rihani, J. J. Pancrazio, W. E. Voit, Softening Substrates for Bioelectronics Devices with Improved Hydrolytic Stability, *Neuroelectronic Interfaces Gordon Research Conference*, Galveston, TX, (poster)
12. 2017/11/29: S. M. Hosseini, **M. Ecker**, K. Kupke, W. Voit, Ester-free thiol-ene shape memory polymers for neural interfaces, *2017 MRS Fall Meeting*, Boston, MA, (talk)
13. 2017/10/12: A. Sridharan, V. Danda, **M. Ecker**, A. Stiller, W. Voit, J. J. Pancrazio, and J. Muthuswamy, Interfacial Mechanics of Shape Memory Polymers (SMPs) in Cortical Brain Tissue, *BMES - Biomedical Engineering Society - 2017 Annual Meeting*, Phoenix, AZ, (poster)
14. 2017/10/11: **M. Ecker**, Self-softening shape memory polymers as a substrate for bioelectronic devices, *BMES - Biomedical Engineering Society - 2017 Annual Meeting*, Phoenix, AZ, (poster at "*Meet the faculty candidate forum*")
15. 2017/08/21: **M. Ecker**, Self-softening shape memory polymers as a substrate for bioelectronic devices , *254th American Chemical Society National Meeting & Exposition*, Washington DC, (poster at AEI)
16. 2017/04/20: **M. Ecker**, V. Danda, J. Pancrazio, W. Voit, Self-softening shape memory polymers as a scaffold for neural electrodes, *2017 MRS Spring Meeting*, Phoenix, AZ, (poster)
17. 2017/04/05: **M. Ecker**, V. Danda, J. Pancrazio, W. Voit, Effects of sterilization on self-softening thiol-ene/acrylate polymers for bioelectronics, *253rd American Chemical Society National Meeting & Exposition*, San Francisco, CA, (talk)
18. 2017/04/04: D.-H. Do, **M. Ecker**, and W. Voit Characterization of a thiol-ene/acrylate-based polymer for neuroprosthetic implants, *253rd American Chemical Society National Meeting & Exposition*, San Francisco, CA, (poster)
19. 2017/01/28: **M. Ecker**, V. Danda, J. Pancrazio, W. Voit, Sterilization of softening Shape Memory Polymers used as Substrate for Neural Devices, *4th ACS Young Investigators Symposium*, Richardson, TX (poster)
20. 2016/12/07: **M. Ecker**, V. Danda, J. Pancrazio, W. Voit, Thermomechanical behavior of softening shape memory polymers for flexible bioelectronics before and after sterilization, *SMART 2016 Shape Memory Applications, Research and Technology Symposium*, Richardson, TX (talk)
21. 2016/10/07: A. Joshi-Imre, **M. Ecker**, R. Modi, A. Garcia-Sandoval, W. E. Voit, Softening polymers-based bioelectronic implants. *Texas Fresh AIR,* Austin, TX, (poster)
22. 2016/10/07: V. Danda, **M. Ecker**, C. L. Frewin, A. Shoffstall, J. Capadona, J. Pancrazio, W. Voit, The Impact of Sterilization on the Mechanical Properties of Thiol-ene based Shape Memory Polymers for Bioelectronic Medicines. *BMES - Biomedical Engineering Society - 2016 Annual Meeting*, Minneapolis, MN, (poster)

23. 2016/10/07: **M. Ecker**, V. Danda, J. J Pancrazio, W. E. Voit, Thermomechanical Analysis of thin Shape Memory Polymer Films for Bioelectronic Medicines, *BMES - Biomedical Engineering Society - 2016 Annual Meeting*, Minneapolis, MN (poster)
24. 2016/08/25: **M. Ecker**, V. Danda, A. Joshi-Imre, J. Pancrazio, W. Voit, Understanding the material properties of implantable shape memory polymers with tunable degree of softening, *252nd American Chemical Society National Meeting & Exposition*, Philadelphia, PA (talk)
25. 2016/08/12: **M. Ecker**, V. Danda, J. Pancrazio, W. Voit, Thermomechanical behavior of softening shape memory polymer substrates for flexible bioelectronics before and after sterilization, *Texas Soft Matter Meeting 2016*, Richardson, TX (talk)
26. 2016/06/28: C. Frewin, R. Modi, V. Danda, **M. Ecker**, R. Ayub, W. Voit, and J. Pancrazio Electrochemical Evaluation of Shape Memory Polymer Electrodes, *NANS 2 NIC - Neural Interfaces joint meeting*, Baltimore, MD (poster)
27. 2016/06/28: **M. Ecker**, V. Danda, J. Pancrazio, W. Voit Sterilization of softening Shape Memory Polymers used as Substrate for Neural Devices, *NANS 2 NIC - Neural Interfaces joint meeting*, Baltimore, MD (poster)
28. 2014/09/30: **M. Ecker** and T. Pretsch; Multifunctional information carriers, *Polydays 2014: Beyond Self Assembly – Making Polymeric Materials More Versatile*, Berlin, Germany. (poster)
29. 2014/05/26: **M. Ecker** and T. Pretsch, Multifunctional information carriers with concealed quick response codes, *E-MRS 2014 Spring Meeting, Symposium L*, Lille, France. (talk)
30. 2012/09/21: **M. Ecker** and T. Pretsch; Durability of QR code carriers based on shape memory polymer, *ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems*, Stone Mountain, GA. (talk)
31. 2012/08/28: **M. Ecker** and T. Pretsch, Freely configurable functionalization tool for switchable information carriers, *3rd WMRIF International Workshop for Young Materials Scientists*, National Metal and Materials Technology Center (MTEC), Pathum Thani, Thailand. (talk and poster)
32. 2012/05/14: T. Pretsch and **M. Ecker**, Deformable QR codes with shape memory functionality, *E-MRS 2012 Spring Meeting*, *Symposium Q,* Straßburg, France. (talk)
33. 2012/04/03: **M. Ecker**, N. Fritzsche and T. Pretsch, Smart tags carrying QR codes, *2. Berliner Chemiesymposium, Gesellschaft Deutscher Chemiker – JungChemikerForum*, Berlin, Germany. (poster)

Patent Applications

- US 16/677,243; Hydrolytically stable polymers, method of synthesis thereof and use in bio-electronic devices, W. Voit, M. Ecker, S. Hosseini, non-provisional utility patent application (filed Nov 2019, projected publication May 2020)
- US 62/760,582; Hydrolytically stable polymers, method of synthesis thereof and use in bio-electronic devices, W. Voit, M. Ecker, S. Hosseini, provisional patent application (filed Nov 2018)
- DE 102011054925 A1; Dyeing surface of polymer article comprising shape memory polymer, comprises pre-treating surface of polymer article, dyeing surface with dye solution comprising organic dye and organic solvent, and cleaning surface and drying dye solution; T. Pretsch, M. Ecker, M. Schildhauer (filed 2011, published 2013, accepted 2017)
- EP 000002771392A2/WO 002013060831 A2/WO 002013060831 A3 Method and dye mixtures for marking shape memory polymers, and shape memory polymer articles with switchable readability; Pretsch, M. Ecker, M. Schildhauer (filed 2012, published 2014)
- US 20150119238 A1/US9670330 B2; Method and dye mixtures for marking shape memory polymers, and shape memory polymer articles with switchable readability; T. Pretsch, M. Ecker, M. Schildhauer (filed 2012, published 2015, accepted 2017)

RECOGNITION

Awards, Honors

- IOP Outstanding Reviewer Award 2018 for Materials Research Express
- Resubmission of a proposal for the NIH Pathway to Independence Award (Parent K99/R00), July 2018
- Submitted a proposal for the NIH Pathway to Independence Award (Parent K99/R00), October 2017

- ACS Postdoc to Faculty Workshop Scholar, August 2017
- Travel Grant from BAM to participate in the *3rd WMRIF International Workshop for Young Materials Scientists* in Pathum Thani, Thailand, August 2012

Invited Talks

- 2019/11/15: "From small molecules to chronically stable neural implants", 2019 ACS Southwest-Rocky Mountain Regional Meeting, El Paso, TX
- 2018/07/20: "Self-Softening Bioelectronics", The University of Texas at El Paso, PREM seminar, El Paso, TX
- 2017/08/14: "Development and characterization of bioelectronic devices using shape memory polymers with tunable degree of softening as substrates", Duke University, Shen Lab, Durham, NC
- 2017/07/20: "Development and characterization of bioelectronic devices using shape memory polymers with tunable degree of softening as substrates" , Federal Institute for Materials Research and Testing, Berlin, Germany
- 2017/07/14: "Development and characterization of bioelectronic devices using shape memory polymers with tunable degree of softening as substrates" , Fraunhofer Institute for Applied Polymer Research, Golm, Germany

PROFESSIONAL ACTIVITIES

Professional Memberships

- Member: Society for Biomaterials (SfB), 2019–present
- Member, National Postdoctoral Association, 2017–2019
- Member, American Chemical Society (ACS), 2016–present
- Member, Biomedical Engineering Society (BMES), 2016–present
- Member, Materials Research Society (MRS), 2015–present
- Member, American Society of Mechanical Engineers (ASME), 2012–2014

Service Activities and Outreach

- Volunteer for "Comet Chemistry Camp", a one week chemistry camp at UT Dallas in collaboration with the ACS Dallas-Fort Worth section targeting girls ages 11-14, July 2018
- MRS Member Engagement Committee, 2017–present
- MRS Broadening Participation in Materials Subcommittee, 2017–present

Conference Activities

- Poster-Judge for the "Broadening Participation in Materials Undergraduate Student Event" at the *2017 MRS Fall Meeting*, Boston, MA
- Mentor for the "Broadening Participation in Materials Undergraduate Student Program" at the *2017 MRS Spring Meeting*, Phoenix, AZ
- Symposium Chair at the SMART 2016 Shape Memory Applications, Research and Technology Symposium (12 sessions), 12/2016 Richardson, TX
- Planning and organization of SMART 2016 Shape Memory Applications, Research and Technology Symposium, Richardson, TX
- Session Chair for POLY SYMPOSIUM: Advanced Functional Biopolymers & Biomaterials at the 252nd American Chemical Society National Meeting & Exposition, 08/2016, Philadelphia, PA

Editorial Activities (Publons; 32 verified reviews)

- Editorial Board Member for Smart Materials in Medicine
- Reviewer Board Member for MDPI Polymers
- Ad hoc reviewer for MDPI Coatings
- Ad hoc reviewer for MDPI Materials
- Ad hoc reviewer for MRS Advances
- Ad hoc reviewer for Wiley Macromolecular Bioscience
- Ad hoc reviewer for Elsevier Materials Chemistry and Physics
- Ad hoc reviewer for IOP Biomedical Materials
- Ad hoc reviewer for IOP Materials Research Express
- Ad hoc reviewer for Science Advances

CAREER DEVELOPMENT AND CERTIFICATIONS

- Responsible Conduct of Research Professional Series Program, Office of Research Compliance, University of Texas at Dallas, 2018
- Principles of Rodent Surgery, Anesthesia, Analgesia and Peri-operative care Workshop, Office of Research Compliance, University of Texas at Dallas, 2018
- Rat Biomethodology Workshop, Office of Research Compliance, University of Texas at Dallas, 2018
- Rodent surgery Hands-on Workshop, Office of Research Compliance, University of Texas at Dallas, 2018
- Postdoctoral Teaching Certificate, Center for Teaching and Learning, University of Texas at Dallas, 2018
- ACS Postdoc to Faculty Workshop (P2F), American Chemical Society (ACS), 2017
- Manager and Supervisor Certificate, University of Texas at Dallas, 2016