

## **George Zhuo Tan, Ph.D.**

Associate Professor  
Department of Industrial Engineering  
Cullen College of Engineering  
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### **Education**

Ph.D.	07/2015	Industrial & Systems Engineering, North Carolina State University
M.IE.	12/2012	Industrial & Systems Engineering, North Carolina State University
B.S.	06/2009	Statistics, Communication University of China

### **Research Interests**

Manufacturing of Bioinspired Structures, Hybrid Bioprinting, Electrospinning, Lab-on-a-Chip

### **Professional Positions Held**

Sep 2023 - Present	Associate Professor University of Houston, Houston, TX
Sep 2023 – Aug 2024	Associate Professor Texas Tech University, Lubbock, TX
Sep 2016 – Aug 2023	Assistant Professor Texas Tech University, Lubbock, TX
Aug 2015 - Aug 2016	Senior Project Engineer Polyzen Inc., Apex, NC

### **Refereed Publications**

#### **Journal Papers** (\*corresponding author)

1. Qavi, I., Halder, S., & **Tan, G.Z.\*** (2024). Optimization of printability of bioinks with multi-response optimization (MRO) and artificial neural networks (ANN). *Progress in Additive Manufacturing*, 1-26.
2. Qavi, I., & **Tan, G.Z.\*** (2024). Harnessing Interpretable and Ensemble Machine Learning Techniques for Precision Fabrication of Aligned Microfibers. *Manufacturing Letters*, accepted.

3. Mann, M., Qavi, I., Halder, S., & **Tan, G.Z.\*** (2024). Developing Problem Solving Competency for Future Engineers in Medicine. *Journal of Higher Education Theory and Practice*, Accepted.
4. Qavi, I., Sooriyaarachchi, D., & **Tan, G.Z.\*** (2023). The Effect of Surface Micropatterns on the Flow in a Lab-on-a-Chip with Nanowires. *Manufacturing Letters*, 35, 174-183.
5. Zhang, N., Qavi, I., Halder, S., & **Tan, G.Z.\*** (2023). Biomimetic Hydrogel Scaffolds Embedded with Porous Microtubes as Perfusion Channels. *Manufacturing Letters*, 35, 184-193.
6. Mann, M., Qavi, I., Zhang, N., & **Tan, G.Z.\*** (2023). Engineers in Medicine: Foster Innovation by Traversing Boundaries. *Critical Reviews™ in Biomedical Engineering*, 51(2).
7. Qavi, I., & **Tan, G.Z.\*** (2023). Process Control of Electrospinning Artificial Fenestrated Capillary Vessels, *Materials & Design*, 227, 111708.
8. Qavi, I., & **Tan, G.Z.\*** (2021). Near-field electrospinning polycaprolactone microfibers to mimic arteriole-capillary-venule structure. *Progress in Biomaterials*, 10(3), 223-233.
9. Chen, Y., **Tan, G.Z.**, & Zhou, Y. (2021). Effects of Viscosities and Solution Composition on Core-Sheath Electrospun Polycaprolactone (PCL) Nanoporous Microtubes. *Polymers*, 13(21), 3650.
10. Zhou, Y., Qavi, I., & **Tan, G.Z.\*** (2021). Effects of Solution Viscosity on PLLA Porous Microtubes Fabricated by Core-Sheath Electrospinning. *Journal of Micro and Nano-Manufacturing*, 9(2), 021006.
11. Zhou, Y., Sooriyaarachchi, D., & **Tan, G.Z.\*** (2021). Fabrication of Nanopores Poly(lactic Acid) Microtubes by Core-Sheath Electrospinning for Capillary Vascularization. *Biomimetics*, 6(1), 15.
12. Zaman, M.A.U., Sooriyaarachchi, D., Zhou, Y.G., **Tan, G.Z.\***, & Du, D.P.\* (2021). Modeling the density gradient of 3D nanofiber scaffolds fabricated by divergence electrospinning. *Advances in Manufacturing*, 9(3), 414-429.
13. Zhou, Y., Sooriyaarachchi, D., Liu D., **Tan, G.Z.\*** (2021). Biomimetic Strategies for Fabricating Musculoskeletal Tissue Scaffolds: A Review. *The International Journal of Advanced Manufacturing Technology*, 112, 1211–1229.
14. **Tan, G.Z.\***, & Zhou, Y. (2020). Electrospinning of biomimetic fibrous scaffolds for tissue engineering: a review. *International Journal of Polymeric Materials and Polymeric Biomaterials*, 69(15), 947-960.
15. Zhou, Y., & **Tan, G.Z.\*** (2020). Core-sheath wet electrospinning of nanoporous polycaprolactone microtubes to mimic fenestrated capillaries. *Macromolecular Materials and Engineering*, 305(7), 2000180.
16. Sooriyaarachchi, D., Maharubin, S., & **Tan, G.Z.\*** (2020). ZnO nanowire-anchored microfluidic device with herringbone structure fabricated by maskless photolithography. *Biomedical Engineering and Computational Biology*, 11, 1179597220941431.
17. Maharubin, S., Hu, Y., Sooriyaarachchi, D., Cong, W.\*, & **Tan, G.Z.\*** (2019). Laser engineered net shaping of antimicrobial and biocompatible titanium-silver alloys. *Materials Science and Engineering: C*, 110059.

18. Maharubin, S., Nayak, C., Phatak, O., Kurhade, A., Singh, M., Zhou, Y., & **Tan, G.\*** (2019). Polyvinylchloride coated with silver nanoparticles and zinc oxide nanowires for antimicrobial applications. *Materials Letters*, 249, 108-111.
19. Peng, S., Yang, Y., Li, T., Smith, T. M., **Tan, G.**, & Zhang, H.C. (2019). Environmental benefits of engine remanufacture in China's circular economy development. *Environmental Science & Technology*, 53(19), 11294-11301.
20. Wang, M., Zhou, Y., & **Tan, G. Z.\*** (2019). Multivariate analysis of variance (MANOVA) on the microstructure gradient of biomimetic nanofiber scaffolds fabricated by cone electrospinning. *Journal of Manufacturing Processes*, 44, 55-61.
21. Peng, S., Li, T., Zhao, J., Guo, Y., Lv, S., **Tan, G. Z.**, & Zhang, H. (2019). Petri net-based scheduling strategy and energy modeling for the cylinder block remanufacturing under uncertainty. *Robotics and Computer-Integrated Manufacturing*, 58, 208-219.
22. Peng, S., Li, T., Zhao, J., Lv, S., **Tan, G. Z.**, Dong, M., & Zhang, H. (2019). Towards energy and material efficient laser cladding process: Modeling and optimization using a hybrid TS-GEP algorithm and the NSGA-II. *Journal of Cleaner Production*, 227, 58-69.
23. Sooriyaarachchi, D., Minière, H. J., Maharubin, S., & **Tan, G. Z.\*** (2019). Hybrid additive microfabrication scaffold incorporated with highly aligned nanofibers for musculoskeletal tissues. *Tissue engineering and regenerative medicine*, 16(1), 29-38.
24. Peng, S., Li, T., Wang, Y., Liu, Z., **Tan, G.Z.**, & Zhang, H. C. (2019). Prospective life cycle assessment based on system dynamics approach: a case study on large-scale centrifugal compressor. *Journal of Manufacturing Science and Engineering*. 141(2), 021003.
25. Peng, S., Li, T., Li, M., Guo, Y., Shi, J., **Tan, G.Z.**, & Zhang, H. (2019). An integrated decision model of restoring technologies selection for engine remanufacturing practice. *Journal of Cleaner Production*, 206, 598-610.
26. Maharubin, S., Zhou, Y., & **Tan, G.Z.\*** (2019). Integration of Silver Nanoparticles and Microcurrent for Water Filtration. *Separation and Purification Technology*, 212(9), 57-64.
27. Zhou, Y., Hu, Z., Du, D., & **Tan, G.Z.\*** (2019). The effects of collector geometry on the internal structure of the 3D nanofiber scaffold fabricated by divergent electrospinning. *The International Journal of Advanced Manufacturing Technology*, 100, 3045-3054.
28. Zhou, Y., Thakurathi, M., Quitevis, E., **Tan, G.Z.\*** (2018) Electrospinning 3D Nanofiber Structure of Polycaprolactone Incorporated with Silver Nanoparticles. *JOM*, 71(3), 956-962.
29. Nowlin, J., Bismi, M. A., Delpech, B., Dumas, P., Zhou, Y., & **Tan, G.Z.\*** (2018). Engineering the hard-soft tissue interface with random-to-aligned nanofiber scaffolds. *Nanobiomedicine*, 5, 1849543518803538.
30. **Tan, G.Z.\***, & Zhou, Y. (2018). Tunable 3D Nanofiber Architecture of Polycaprolactone by Divergence Electrospinning for Potential Tissue Engineering Applications. *Nano-Micro Letters*, 10(4), 73.
31. Maharubin, S., Zhou, Y., & **Tan, G.Z.\*** (2018). Development and investigation on a Silver Nanoparticle-Incorporated Electrofiltration System for Biofouling Control. *IEEE Transactions on Nanotechnology* 17(5), 948 - 954.
32. **Tan, G.Z.**, Orndorff, P. E., & Shirwaiker, R.A. (2018). The Ion Delivery Manner Influences

the Antimicrobial Efficacy of Silver Oligodynamic Iontophoresis. *Journal of Medical and Biological Engineering*, 1-10.

33. Zhou, Y., Maharubin, S., Tran, P., Reid, T., & **Tan, G.Z.\*** (2018). Anti-biofilm AgNP-polyaniline-polysulfone composite membrane activated by low intensity direct/alternating current. *Environmental Science: Water Research & Technology*, 4(10), 1511-1521.
34. Zhou, Y., & **Tan, G.Z.\*** (2017). Fabrication of nanofiber mats with microstructure gradient by cone electrospinning. *Nanomaterials and Nanotechnology*, 7, 1847980417748478.
35. **Tan, Z.**, Havell, E.A., Orndorff, P.E., & Shirwaiker, R.A. (2017). Antibacterial efficacy and cytotoxicity of low intensity direct current activated silver–titanium implant system prototype. *BioMetals*, 30(1), 113-125.
36. Cavanaugh, D.L., **Tan, G.Z.**, Norris, J.P., Hardee, A., Weinhold, P.S., Dahners, L.E., Orndorff, P.E. and Shirwaiker, R.A., (2016). Evaluation of silver - titanium implants activated by low intensity direct current for orthopedic infection control: An in vitro and in vivo study. *Journal of Biomedical Materials Research Part B: Applied Biomaterials*. 104(5), 1023–1031.
37. **Tan, Z.**, Xu, G., Orndorff, P.E., & Shirwaiker, R.A. (2016). Effects of electrically activated silver–titanium implant system design parameters on time-kill curves against *Staphylococcus aureus*. *Journal of Medical and Biological Engineering*, 36(3), 325-333.
38. Narayanan, L.K., Kumar, A., **Tan, Z.**, Bernacki, S., Starly, B. & Shirwaiker, R.A. (2015). Alginate microspheroid encapsulation and delivery of MG-63 cells into polycaprolactone scaffolds: a new biofabrication approach for tissue engineering constructs. *Journal of Nanotechnology in Engineering and Medicine*. 6(2), 021003.
39. **Tan, Z.**, Orndorff, P.E. & Shirwaiker, R.A. (2015). Modified pharmacokinetic/ pharmacodynamic model for electrically activated silver-titanium implant system. *Biomaterials & Biomedical Engineering*, 2(3):127-141.
40. **Tan, Z.**, Ganapathy, A., Orndorff, P.E. & Shirwaiker, R.A. (2015). Effects of cathode design parameters on in vitro antimicrobial efficacy of electrically-activated silver-based iontophoretic system. *Journal of Materials Science: Materials in Medicine*, 26(1):1-10.
41. Samberg, M.E., **Tan, Z.**, Monteiro-Riviere, N.A., Orndorff, P.E. & Shirwaiker, R.A. (2012). Biocompatibility analysis of an electrically-activated silver-based antibacterial surface system for medical device applications. *Journal of Materials Science: Materials in Medicine*, 24(3), 755-760.

### Conference Papers

1. Qavi, I., Halder, S., Du, D., & **Tan, G.\*** (2024). Machine Learning Enhanced High-Fidelity and High-Biocompatibility Bioprinting Using Rheological and Compositional Predictors. 2024 IISE Annual Conference and Expo.
2. **Tan, G.Z.\*** Halder, S. & LeFebvre, L. (2023) Cultivate the Problem Exploration Skills for Biomedical Innovation, 2023 ASEE Annual Conference and Exposition.
3. LeFebvre, L., Jaromvzyk, J.W., Allen, M., **Tan, G.Z.**, Dao, M., Tapia, A. (2023) An OpenPose Intervention for Engineering Students, 2023 ASEE Southeastern Section Conference.

4. Zhang, N., **Tan, G.Z.\***, LeFebvre, L., Dallas, T., Xu, C., & Biro, J., (2022) Teaming Engineering Students with Medical Students - Interdisciplinary Learning for Biomedical Innovation, 2022 ASEE Annual Conference and Exposition.
5. Qavi, I., Zhang, N., & **Tan, G.Z.\*** (2022) Fabrication of Dual-Material Microfiber Bundles by Co-Axial Near-Field Electrospinning, 2022 IISE Annual Conference and Expo.
6. Qavi, I., Sooriyaarachchi, D., Mathews, A. & **Tan, G.Z.\*** (2021) Rapid Fabrication of Branched Microfibers by Near-Field-Electrospinning, 2021 IISE Annual Conference and Expo Proceedings, 259-264.
7. Mann, M., **Tan, G.Z.\*** (2021) Recent Strategies for Improving Undergraduate Engineering Education: A Review. ASEE 2021 Gulf-Southwest Annual Conference.
8. Zhou, Y., Mahurubin, S., Sooriyaarachchi, D., & **Tan, G.Z.\*** (2020). Toward Fabrication of Capillary Blood Vessels, 2020 IISE Annual Conference and Expo, IISE 2020, 233-238.
9. Sooriyaarachchi, D., Zhou, Y., Maharubin, S., & **Tan, G.Z.\*** (2020). Microtube-Embedded Microfluidic Devices for Potential Applications in Blood Brain Barrier Research. *Procedia Manufacturing*, 48, 294-301.
10. Sooriyaarachchi, D., Wu, J., Feng, A., Islam, M., & **Tan, G. Z.\*** (2019). Hybrid Fabrication of Biomimetic Meniscus Scaffold by 3D Printing and Parallel Electrospinning. *Procedia Manufacturing*, 34, 528-534.
11. Zhou, Y., Mahurubin, S., Sooriyaarachchi, D., & **Tan, G.Z.\*** (2019). The Effect of Nanoclays on Nanofiber Density Gradient in 3D Scaffolds Fabricated By Divergence Electrospinning. *Procedia Manufacturing*, 34, 110-117.
12. Sooriyaarachchi, D., Maharubin, S., **Tan, G.Z.\*** (2019). ZnO nanowire anchored microfluidic device with herringbone structure fabricated by maskless photolithography. 2019 World Congress on Micro and Nano Manufacturing, Raleigh, NC.
13. Maharubin, S., Singh, M., Shu, X., Reyes, D.B., **Tan, G.Z.\*** (2019). Surface modification of titanium with covalently-bonded silver nanoparticles for antimicrobial applications, ASME 2019 14th International Manufacturing Science and Engineering Conference. Erie, PA.
14. Nowlin, J., Islam, M., Zhou, Y., **Tan, G.Z.\*** (2019). Cone electrospinning polycaprolactone/collagen scaffolds with microstructure gradient. ASME 2019 14th International Manufacturing Science and Engineering Conference. Erie, PA.
15. **Tan, G.Z.\***, Zhou, Y. (2018). Fabrication of aligned nanofibers along Z-axis – A novel 3D Electrospinning technique, Proceedings of the 29th Annual International Solid Freeform Fabrication Symposium (pp. 2396)
16. Hu, Y., Maharubin, S., Cong, W., **Tan, G.Z.\*** (2018). Laser Engineered Net Shaping of Titanium-Silver Alloy for Orthopedic Implant. ASME 2018 13th International Manufacturing Science and Engineering Conference (pp. V001T05A016-V001T05A016). American Society of Mechanical Engineers.
17. Zhou, Y., **Tan, G.Z.\*** (2018). Generation of 3D Nanofiber Structure by Divergence Electrospinning for Tissue Engineering Scaffold. ASME 2018 13th International Manufacturing Science and Engineering Conference (pp. V001T01A001-V001T01A001). American Society of Mechanical Engineers.

18. **Tan, Z.**, Shirwaiker, R.A., Orndorff, P.E. (2013). Determining Optimal Current Intensity and Duration for Electrically Activated Silver-Based Prophylactic Hip Implant Prototype Design. ASME 2013 Summer Bioengineering Conference (pp. V01BT26A001-V01BT26A001). American Society of Mechanical Engineers.
19. **Tan, Z.** & Wysk, R.A. (2012). An Applicable Strategy for Scheduling Optimization in Multi-stage Flexible Manufacturing. IIE Annual Conference. Proceedings (p. 1). Institute of Industrial and Systems Engineers (IISE).
20. **Tan, Z.** & Shirwaiker, R.A. (2012). A Review of Emerging Industrial and Systems Engineering Trends and Future Directions in Biomanufacturing. IIE Annual Conference. Proceedings (p. 1). Institute of Industrial and Systems Engineers (IISE).

### **Patent**

Capillary-Embedded Rapid Adaptable Multiscale Bioprinting for Engineering Large Vascularized Tissues 63/507065. Provisional Patent application filed on June 8, 2023.

### **Book Chapters**

1. Sooriyaarachchi, D., Maharubin, S., & **Tan, G.Z.\***. (2022). Fabrication of Microtube-Embedded Chip to Mimic Blood–Brain Barrier Capillary Vessels. In *The Blood-Brain Barrier: Methods and Protocols* (pp. 241-249). New York, NY: Springer US.
2. **Tan, G.Z.\***, Zhou, Y., & Sooriyaarachchi, D. (2021). Musculoskeletal Tissue Engineering Using Fibrous Biomaterials. In *Wound Regeneration* (pp. 31-40). Humana, New York, NY.

### **Research Grants**

- “3D Printing Titanium-Silver Alloys for Orthopedic Implants”, Advanced Manufacturing Institute, University of Houston. \$35,000, PI: **Tan, G.Z.** 02/2025-01/2026
- “CAREER: Capillary-Incorporated Bioprinting of Biomimetic Soft Tissue Constructs”, National Science Foundation (CMMI-2145108), \$600,711, PI: **Tan, G.Z.** 06/2022-05/2027.
- “An Interdisciplinary Team-based Framework to Engage Undergraduate Students in Biomedical Innovation”, National Science Foundation (DUE-2013484), \$485,236, PI: **Tan, G.Z.**, Co-PIs: Biros, J., LeFevre, L., Xu, C., Dallas, T. 07/2020-06/2023.
- “Development of a minimally invasive strategy for transarticular fixation of spine fracture”, Texas Tech University (Presidents Strategic Growth Initiative Fellowship), \$157,812 PI: **Tan, G.Z.**, Co-PI: Nagy, L. 8/2018-7/2022.
- “Research and Education in Hybrid Manufacturing and Advanced Material Remanufacturing”, Office of Naval Research (N00014-18-1-2287), \$174,000. PI: Zhang, H.C., Co-PIs: **Tan, G.Z.**, Xu, C., Du, D. 6/2018-6/2019.

### **Honors and Awards**

- Manufacturing & Design Track Best Student Paper Award, 2024 Institute of Industrial and Systems Engineers Annual Conference & Expo. 2024

- Cross-Disciplinary Research Excellence Award, Texas Tech University System 2024
- “Most Influential Faculty Member” by Honors Convocation from Edward E. Whitacre Jr. College of Engineering, Texas Tech University 2023
- Innovation Award, 2023 TechConnect World Innovation Conference and Expo 2023
- Ed and Linda Whitacre Faculty Fellowship, Texas Tech University 2023
- Junior Investigator Research Award, Biomedical Engineering Society Advanced Biomanufacturing Special Interest Group. 2023
- The Faculty Early Career Development Award, National Science Foundation 2022
- Manufacturing & Design Track Best Student Paper Award Finalist, 2022 Institute of Industrial and Systems Engineers Annual Conference & Expo. 2022
- President’s Excellence in Engaged Scholarship Award, Texas Tech University 2021
- First Place in Graduate Student Paper Competition, 2021 American Society for Engineering Education Gulf-Southwest Section. 2021
- Manufacturing & Design Track Best Student Paper Award, 2020 Institute of Industrial and Systems Engineers Annual Conference & Expo. 2020
- Coauthored poster (by R.A. Shirwaiker and G.Z. Tan) won the Best Young Investigator Poster Award, American Academy of Orthopaedic Surgeons- Orthopaedic Research Society (AAOS-ORS) Research Symposium, Chicago, IL. 2014
- Edward P. Fitts Fellowship, North Carolina State University. 2010 – 2011

### **Invited Talks**

1. "Machine Learning Reinforced Process Optimization for Biofabrication", University of Texas at Austin, Operations Research and Industrial Engineering Program Research Seminar, Austin, TX (April 18, 2025).
2. “Biofabrication of soft tissues embedded with artificial capillary vessels”, North Carolina State University Graduate Research Seminar, Raleigh, NC (November 16, 2023).
3. "Hybrid Biofabrication of Scaffolds with Artificial Capillary Vessels for Tissue Engineering", International Conference on Advanced Manufacturing 2023, American Society for Testing and Materials, Washington DC (November 1, 2023).

### **Ph.D. Dissertations Supervised**

#### **Chair**

- Sampa Halder, projected completing in 2027
- Nan Zhang, projected completing in 2025
- Trent Kelly, projected completing in 2025
- Imtiaz Qavi, projected completing in 2025

- Dilshan Sooriyaarachchi, graduated in 2021
- Shahrima Maharubin, graduated in 2020
- Yingge Zhou, graduated in 2020

#### **Committee member**

- Henry Johnston, (Industrial Engineering), projected completing in 2025.
- Md Shahriar, (Industrial Engineering), projected completing in 2025.
- Jiachen, Liu, (Industrial Engineering), projected completing in 2025.
- Kuo Chun Chiu, (Industrial Engineering), projected completing in 2024.
- Jie Li, (Electrical and Computer Engineering), projected completing in 2024.
- Abdullah Al Masud, (Mechanical Engineering), projected completing in 2024.
- Ying Liao, (Industrial Engineering), graduated in 2023.
- Arefin, (Mechanical Engineering), graduated in 2023.
- Yunze Li, (Industrial Engineering), graduated in 2023.
- Olusanmi Adeniran, (Industrial Engineering), graduated in 2022.
- Ding Zhenya (Chemical Engineering), graduated in 2022.
- Adib Zaman (Industrial Engineering), graduated in 2021.
- Dong Guo (Electrical and Computer Engineering), graduated in 2021.
- Srikumar Krishnamoorthy (Industrial Engineering), graduated in 2020.
- Amir Koneshloo (Industrial Engineering), graduated in 2020.
- Godlove Wanki (Mechanical Engineering), graduated in 2019.
- Hoyeol Kim (Industrial Engineering), graduated in 2018.
- Fuda Ning (Industrial Engineering), graduated in 2017.

#### **Industry Projects**

- Development of an inflatable abdominal specimen retrieval apparatus. Polyzen Inc., 2016.
- Development of a plastic sealing method for pressure-controlled air vents. Polyzen Inc., 2016.
- Development of a database for process optimization on stoma appliance manufacturing. Polyzen Inc., 2015.

#### **Professional Service**

##### **Professional Activities**

- Journal review: Critical Reviews in Biotechnology, Nanotechnology, Biofabrication, Biomacromolecules, Journal of Manufacturing Processes, Additive Manufacturing, Materials Science & Engineering C, Biomedical Materials, Materials Science in Semiconductor



Processing, Materials Letters, ACS Applied Materials & Interfaces, Separation and Purification Technology, Membrane Water Treatment, Engineering in Life Sciences, Biomedical Physics & Engineering Express, Materials Research Express, Nano Future.

- IISE Annual Conference & Expo 2025, Track Chair, Manufacturing and Design Division; IISE Annual Conference & Expo 2024, Track Co-Chair, Manufacturing and Design Division
- NSF Panel Review: Manufacturing Machines and Equipment/CMMI (2017), Materials Engineering and Processing/CMMI (2018), Improving Undergraduate STEM Education (IUSE) (2021), Advanced Manufacturing/CMMI (2024)
- Research proposal review for the Pre-Application of Peer Reviewed Medical Research Program under the Congressionally Directed Medical Research Programs (2018, 2019, 2020)
- Research proposal review for the Czech Health Research Council (2018)
- Faculty Advisor of the IISE Student Chapter at TTU (2021 – present)
- Advisory Committee Member of Industrial Technology Department in South Plains College, Levelland, TX (2018 - present)

#### **University Service (University of Houston)**

- Biomanufacturing President Frontier Faculty Position Search Committee, (2024-2025)

#### **University Service (Texas Tech University)**

- Member of Research Strategic Planning Committee, Whitacre College of Engineering (2024)
- Member of Bioengineering (Master) Program Committee, Whitacre College of Engineering (2022-2024)
- Member of Internal STEM Advisory Board for TTU's Advancing Equity Project (2022 - 2023)
- Faculty Advisor for Research Experiences for Undergraduates (REU) (2017 - 2020)
- Faculty Advisor for Inquiry and Investigation Pi Squared Program for Undergraduate Research (2018 - 2019)

#### **Department Service (Department of Industrial Engineering, University of Houston)**

- Graduate Committee, (2024-present)

#### **Department Service (Department of Industrial, Manufacturing & Systems Engineering (IMSE), Texas Tech University)**

- Chair of Undergraduate Student Affairs Committee, (2021-2024)
- Member of Undergraduate Committee, (2018-2021)
- Undergraduate Advisor, (2017-2024)
- Member of Safety Committee, (2017-2024)