Jennifer Robinson, Ph.D.

Endowed Chair in Women's Sports Medicine and Lifetime Fitness
Departments of Orthopaedics and Sports Medicine, Mechanical Engineering
Core Faculty, Institute for Stem Cell and Regenerative Medicine
University of Washington**,** Seattle, WA
jrobins1@uw.edu

PROFESSIONAL EXPERIENCE

Endowed Assistant Professor, University of Washington, 01/2023 – present
Departments of Orthopaedics and Sports Medicine, Mechanical Engineering

Assistant Professor, University of Kansas, 01/2018 – 12/2022
Department of Chemical and Petroleum Engineering, Bioengineering Graduate Program

EDUCATION AND TRAINING

Postdoctoral Training, Columbia University, 09/2014 – 12/2017
Advisors: Helen Lu, Ph.D.; Sunil Wadhwa, D.D.S, Ph.D.

Ph.D. in Biomedical Engineering, Texas A&M University, 08/2010 – 12/2014
Advisor: Elizabeth Cosgriff-Hernandez, Ph.D.
Dissertation: Development of Osteoinductive, High Porosity PolyHIPEs as Injectable Bone Grafts

B.S. in Bioengineering, Rice University, 08/2005 – 05/2009
Advisors: Tony Mikos, Ph.D.; Jane Grande-Allen, Ph.D.

RESEARCH OBJECTIVES

- Elucidate hormonal effects on structure-function relationships of musculoskeletal tissue matrix
- Develop novel materials to promote remodeling and repair from sex-dependent injury and disease
- Engineer biomimetic scaffolds for complex tissue regeneration

HONORS AND AWARDS

- **KU Office for Diversity in Science Training, Mentor of the Year Award,** 2022
- **National Academy of Engineering, US Frontiers of Engineering Symposium Delegate,** 2021
- **KU School of Engineering Miller Faculty Scholar Award,** 2021
- **AIChE Journal 2021 Futures Issues,** 2021
- **Biomaterials Science (RSC Journal), Emerging Investigator Issue,** 2021
- **HHMI Gilliam Fellow Advisor,** 2020-2023
- **US Bone and Joint Initiative, Young Investigator Program,** 2020
- **Rice University Outstanding Bioengineering Undergraduate Alumnus Award,** 2018
- **Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (F32),** 10/2016 – 12/2017
- **Johnson & Johnson Joseph Lister Young Investigator 2nd Place Award,** IADR, 2017
- **1st Place Postdoctoral Research Poster,** Columbia University Postdoc Research Symposium, 2015
- **National Institute for Dental and Craniofacial Research (National Institute for Health) K12 Fellowship,** Columbia University, College of Dental Medicine, 2014 – 2016
- **Tissue Engineering and Regenerative Medicine (TERMIS) Annual Meeting Travel Grant,** 2014
- **P.E.O. Scholar Award,** *merit-based scholarship for women doctoral students*, 2013-2014
- **2nd Place Tissue Engineering Special Interest Group Poster Competition Award,** 2013 Annual Meeting of the Society For Biomaterials
- **Texas A&M University, College of Engineering Graduate Student Travel Award**, 2013
- **National Science Foundation Graduate Research (NSF GRFP) Fellowship**, 2012-2014
- **Texas A&M Diversity Fellowship,** 2010-2013

- **1st Place Poster Award,** SFB Biomaterials Day at Rice University, 2012
- **Texas A&M University, Office of Graduate Studies Research and Presentation Grant**, 2012
- **Whitaker Fellowship**, 2009-2010
- **Outstanding Contributions to Research in Bioengineering,** Rice University, 2009
- **Hugh Scott Cameron Service Award,** Rice University, 2009
- **Fulbright Fellowship**, Honorable Mention, 2009
- **2nd Place Poster Award,** Rice University Undergraduate Research Symposium**,** 2007

RESEARCH EXPERIENCE

Postdoctoral Research Fellow, Biomedical Engineering and College of Dental Medicine, Columbia University, 09/2014 – 12/2017

- Elucidated role of estrogen signaling via estrogen receptor alpha and estrogen receptor beta on temporomandibular joint chondrogenesis and homeostasis
- Research involved maintenance of mouse colonies, development of mouse models, molecular biology techniques (RT-PCR, RNA sequencing), histology, *in vitro* and *in situ* primary culture, nanoindentation, mouse behavior models
- Managed lab orders and oversaw journal club
- Directly supervised and mentored 16 students (undergraduate, dental, and masters)

Graduate Research Assistant*,* Biomedical Engineering, Texas A&M University, 08/2010 – 12/2014

- Developed highly porous injectable composite foams for bone regeneration
- Research involved macromer and peptide synthesis, NMR/FTIR characterization, w/o emulsion scaffold fabrication, composite scaffold fabrication, scaffold characterization (degradation rate, porosity, compressive properties), *in vitro* MSC-material interactions
- Contributed to 1 US patent
- Directly supervised and mentored 6 students (undergraduate, masters, and graduate)

Whitaker Fellow, Biomedical Engineering, National University of Singapore, 09/2009 – 05/2010

- Developed *in vitro* culture conditions for undifferentiated propagation of human induced pluripotent stem cells
- Research involved human embryonic and induced pluripotent stem cell culture, RT-PCR, biochemical assays, immunocytochemistry

NSF-IREE Grantee, Network of Excellence for Functional Biomaterials, National University of Ireland-Galway, 05/2008 – 08/2008

- Investigated the efficacy of transfecting aortic valve interstitial cells on electrospun collagen substrates for studies in valve tissue engineering

Undergraduate Research Assistant, Bioengineering, Rice University, 09/2006 – 05/2007, 01/2008 – 05/2008

- Utilized molecular biology techniques to characterize the phenotype of aortic valve endothelial cells (Dr. Jane Grande Allen's Lab)
- Characterization of high porosity foams as bone tissue engineering scaffolds (Dr. Tony Mikos's Lab)

Intern at Lockheed Martin Mission Services, Anthropometric and Biomechanics Facility, Johnson Space Center, 05/2006 – 08/2006

- Conducted joint torque analysis as a function of various center of gravity configurations for the Portable Life Support System (PLSS) for the International Space Station (ISS)

FUNDING OBTAINED

- **NIH NIGMS R35 MIRA** 09/01/21 – 08/31/26 $1,250,000
- **HHMI Gilliam Fellowship for Advanced Studies,** 09/01/20 – 08/31/23 $150,000*
  *$4,000 for DEI Funding to Faculty Advisor
- **KUMC NIH CTSA Pilot Project,** 07/01/20 – 06/30/21 $50,000

- **KU New Faculty General Research Fund,** 05/25/18 – 5/30/20 $8,000
- **KU Research GO,** 01/01/19 – 09/01/20 $15,000
- **NIH COBRE Center for Molecular Analysis of Disease Pathways,** 07/01/18-06/30/2021 $405,000
- **Ruth L. Kirschstein National Research Service Award Individual Postdoctoral Fellowship (F32)** 10/2016 – 12/2017; $176,490
- **P.E.O. Scholar Award,** *merit-based scholarship for women doctoral students*, 2013-2014; $15,000
- **National Science Foundation Graduate Research (NSF GRFP) Fellowship**, 2012-2014; $90,000

PUBLICATIONS (*Maiden name is Holm) (*Joint First Authorship)*

1. K. Castillo, P. Elrod, K. Burkey, M. Suekuni, E. Aikman, S. Gehrke, A. Allgeier, **J. Robinson**, "Modulating Pentenoate-Functionalized Hyaluronic Acid Hydrogel Network Properties for Meniscal Fibrochondrocyte Mechanotransduction", *Journal of Biomedical Materials Research A, under revisions*
2. J. Hodge, H. Decker, **J. Robinson**, A.J. Mellott, "Secretome of Mesenchymal Stem Cells Cultured in a 3D Hydrogel System has Enhanced Wound Healing Capabilities" *Wound Repair and Regeneration, under revisions*
3. P. Johnson*, K. Meinhold*, N. Ohl, J. Lehtinen, **J. Robinson**, "Surfactant Molecular Properties Control Location in Emulsion Electrospun Fibers and Dictate Resulting Fiber Properties" *Macromolecules,* 55, 20, 9186-9195 (2022), https://doi.org/10.1021/acs.macromol.2c00998
4. J. Hodge, **J. Robinson**, A.J. Mellott, "Novel Hydrogel System Eliminates Subculturing and Improves Retainment of Non-Senescent Mesenchymal Stem Cell Populations," *Regenerative Medicine*, 18, 1, 23-36 (2023), DOI: 10.2217/rme-2022-0140
5. J. Hodge, D. Zamierowski, **J. Robinson**, A.J. Mellott, "Evaluating the Role of Polymeric Biomaterials in Developing Next Generation Bioengineered Wound Dressings," *Biomaterials Research*, 26 (1), doi: 10.1186/s40824-022-00291-5
6. K. Fogg, N-H Tseng, S. Peyton, P. Holeman, S. McLoughlin, J. Fisher, A. Sutton, A. Shikanov, J. Gnecco, K. Knight, E. Slaby, J. Weaver, N. Hashemi, Y. Zhang, M. House, B. Vogt, B. Aguado, J. Bradford, **J. Robinson**, P. Thomas, A. Lau, M. Oyen, "Sex Differences in Tissue Regeneration: Roadmap on Biomaterials in Women's Health", *Journal of Physics: Materials*, published online August 28, 2022. https://doi.org/10.1088/2515-7639/ac90ee
7. K. Knewtson, N. Ohl, **J. Robinson**, "Estrogen Signaling Dictates Musculoskeletal Stem Cell Behavior: Sex Differences in Tissue Repair," *Tissue Engineering Part B*, (2022) DOI: 10.1089/ten.teb.2021.0094, *<u>*Cover Art Selected*</u>
8. V. Drapal, J. Gamble, **J. Robinson**, C. Tamerler, P. Arnold, E. Friis, "Integration of Clinical Perspective into Biomimetic Bioreactor Design for Orthopedics," *Journal of Biomedical Materials Research Part B: Applied Biomaterials*, 110, 2, 321-337 (2022). DOI: 10.1002/jbm.b.34929
9. P. Johnson, J. Lehtinen, **J. Robinson**, "Surfactant Interactions and Solvent Phase Solubility Modulate Small Molecule Release from Emulsion Electrospun Fibers," *AIChE Journal Futures Issue,* 67 (12), e17470 (2021)
10. S. Bansal, E. Floyd, M. Kowalski, E. Aikman, P. Elrod, K. Burkey, J. Chahla, **J. Robinson**, R. LaPrade, J. Patel, "The Future of Meniscal Repair: Clinical, Biologic, and Material Insights from the ORS Meniscus Section," *Journal of Orthopaedic Research*, 1-15 (2021). DOI: 10.1002/jor.25021
11. P. Johnson, K. Knewtson, J. Hodge, J. Lehtinen, A. Trofimoff, J. Fritz, **J. Robinson**, "Surfactant Location Dictates Emulsion Electrospun Fiber Morphology and Modulates Drug Release and Cell Response," *Biomaterials Science, Emerging Investigator Issue*, 9, 1397-1408 (2021). DOI: 10.1039/d0bm01751e
12. **J. Robinson**, A. Shikanov, B. Harley, "Special Issue on Tissue Engineering for Women's Health," *Tissue Engineering Part A*, 26 (13-14), 685-687 (2020).
13. **J. Robinson*,** P. Soria*, H. H. Lu, J. Chen, S. Wadhwa, "Structure-Function Relationship of Mandibular Condylar Fibrocartilage in Response to Altered Loading in Skeletally Mature Male Mice," *Journal of Oral & Facial Pain and Headache,* (2019), doi: 10.11607/ofph.2094
14. **J. Robinson,** P. Johnson, K. Kister, M. Yin, J. Chen, S. Wadhwa, "Estrogen Signaling Impacts Temporomandibular Joint and Periodontal Disease Pathology," *Odontology*, 108(2), 153-165 (2019), doi.org/10.1007/s10266-019-00439-1

15. **J. Robinson**, P. Soria, M. Xu, M. Vrana, J. Luchetti, H. H. Lu, J. Chen, S. Wadhwa, "Estrogen Promotes TMJ Condylar Cartilage Chondrogenesis and Maintains Homeostasis via Estrogen Receptor Alpha," *Scientific Reports*, 8 (1), 8527 (2018), DOI: 10.1038/s41598-018-26937-w
16. S. Yadav, Y. Yang, E. Dutra, **J. Robinson**, S. Wadhwa, "Temporomandibular Joint Disorders in Older Adults," *Journal of the American Geriatrics Society*, 66 (6), 1213-1217 (2018).
17. M. Shirakura, V. Kram, **J. Robinson**, S. Sikka, T. Kilts, S. Wadhwa, M. Young, "Extracellular matrix mediates BMP-2 in a model of temporomandibular joint osteoarthritis," *Cells, Tissues, and Organs*, 204 (2), 84-29 (2017).
18. M. Whitely*, **J. Robinson***, M. Stuebben, H. Pearce, M. McEnery, and E. Cosgriff-Hernandez. "Prevention of Oxygen Inhibition of PolyHIPE Radical Polymerization using a Thiol-based Crosslinker," *ACS Biomaterials Science and Engineering*, 3(3), 409-419 (2017).
19. **J. Robinson**, V. Gupta, P. Soria, E. Clanaman, S. Gurbarg, M. Xu, J. Chen, S. Wadhwa, "Estrogen Receptor Alpha Mediates Mandibular Condylar Cartilage Growth in Male Mice," *Orthodontics and Craniofacial Research*, 20 (Suppl 1), 167-171 (2017). PMID: 28643917
20. **J. Robinson,** K. Cass, R. Aronson, T. Choi, M. Xu, R. Buttenbaum, H. Drissi, H. H. Lu, J. Chen, S. Wadhwa, "Sex Differences in the Estrogen-Dependent Regulation of Temporomandibular Joint Remodeling in Altered Loading," *Osteoarthritis and Cartilage*, 25 (4), 533-543 (2017).
21. N. Lee, **J. Robinson**, H. H. Lu, "Biomimetic Strategies for Engineering Composite Tissues," *Current Opinions in Biotechnology,* 40, 64-74 (2016)
22. **J. Robinson,** M. McEnery, H. Pearce, M. Whitely, D. Munoz-Pinto, M. Hahn, H. Li, N. Sears, E. Cosgriff-Hernandez, "Osteoinductive PolyHIPE Foams as Injectable Bone Grafts," *Tissue Engineering: Part A*, 22 (5-6), 403-414 (2016).
23. A. Kishan, R. Nezarati, C. Radzicki, A. Renfro, **J. Robinson**, M. Whitely, E. Cosgriff-Hernandez, "In Situ Crosslinking of Electrospun Gelatin for Improved Fiber Morphology Retention and Tunable Degradation," *Journal of Materials Chemistry B*, 3 (40), 7930-7938 (2015).
24. **J. Robinson**, A. O'Brien, J. Chen, S. Wadhwa, "Progenitor Cells of the Mandibular Condylar Cartilage," *Current Molecular Biology Reports*, 1 (3), 110-114 (2015).
25. R. Moglia, M. Whitely, M. Brooks, **J. Robinson**, M. Pishko, E. Cosgriff-Hernandez, "Solvent-Free Fabrication of PolyHIPE Microspheres for Controlled Release of Growth Factors," *Macromolecular Rapid Communications*, 35 (14), 1301-1305 (2014).
26. R. Moglia, M. Whitely, P. Dhavilikar, **J. Robinson**, H. Pearce, M. Brooks, M. Stuebben, N. Cordner, and E. Cosgriff-Hernandez, "Injectable PolyHIPEs with Rapid *In Situ* Curing," *Biomacromolecules,* 15 (8), 2870-2878 (2014).
27. **J. Robinson,** R. Moglia, M. C. Stuebben, M. A. P. McEnery, E. Cosgriff-Hernandez, "Achieving Interconnected Pore Architecture in Injectable PolyHIPEs for Bone Tissue Engineering," *Tissue Engineering: Part A*, 20 (5-6), 1103-1112 (2014).
28. D. Dempsey, **J. Robinson**, A. Iyer, J. Parakka, R. Bezwada, and E. Cosgriff-Hernandez, "Characterization of a Resorbable Poly(ester urethane) with Biodegradable Hard Segments," *Journal of Biomaterials Science, Polymer Edition*, 25 (6), 535-554 (2014).
29. R. Moglia, **J. Robinson**, A. Muschenborn, T. Touchet, D. Maitland, E. Cosgriff-Hernandez, "Injectable PolyMIPE Scaffolds for Soft Tissue Regeneration," *Polymer SI: Porous Polymers***,** *55* (1), 426-434 (2014).
30. Y. Peng, M. T. Blocker, **J. Holm**, W. S. Toh, C. S. Hughes, G. A. Lajoie, F. Lyko, M. Raghunath, "Human Fibroblast Matrices Bioassembled under Macromolecular Crowding Support Stable Propagation of Human Embryonic Stem Cells," *Journal of Tissue Engineering and Regenerative Medicine,* 6 (10), e74-e86, (2012).
31. R. Moglia, **J. Holm**, C. Wilson, D. Harrison, E. Cosgriff-Hernandez, "Development of Injectable PolyHIPEs as High Porosity Bone Grafts," *Biomacromolecules,* 12, 3621-3628 (2011).
32. E. M. Christenson, W. Soofi, **J. Holm**, N. Cameron, A.G. Mikos, "Biodegradable Fumarate-based PolyHIPEs as Tissue Engineering Scaffolds," *Biomacromolecules*, 8, 3806–3814 (2007).

BOOK CHAPTERS *(*Joint First Authorship)*

1. **J. Robinson***, P. Brudnicki*, H. H. Lu, "Composite Bioactive Ceramics/Polymers" *Comprehensive Biomaterials,* Ed. Paul Ducheyne, 2016

2. Imad Maleeh**, J. Robinson,** S. Wadhwa "Cellular and Biochemical Basis for Orthodontic Tooth Movement" *Biology of Orthodontic Tooth Movement – Current Concepts and Applications in Orthodontic Practice,* Ed. Bhavna Shroff, 2015

PATENTS

1. E. Cosgriff-Hernandez, R. Moglia, **J. Holm**, N. Sears; The Texas A&M University System, assignee. "High Porosity Materials, Scaffolds and the Making Thereof," Patent Granted October 2015; US9180094 B2

CONFERENCE PROCEEDINGS

1. K. Knewtson, J. G Gonzalez Flores, A. Podgorny, C. Zhong, D. Pacicca, **J. Robinson, "**Sex Differences in Human Mesenchymal Stromal Cells and Meniscal Fibrochondrocytes Response to Material Properties and Estrogen Treatment," *Society For Biomaterials Annual Meeting*, April 19-22, 2023, San Diego, CA
2. S. Mosier, V. Drapal, **J. Robinson**, E. Friis, "Watt's the buzz? Electrically Active Hernia Repair Mesh Cellular Viability Study," *Society For Biomaterials Annual Meeting*, April 19-22, 2023, San Diego, CA
3. A. Alemifar, S. Hurt, **J. Robinson**, "Modulating Macrophage Polarization Using Surface Roughness of Electrospun Fibrous Mesh," *Society For Biomaterials Annual Meeting*, April 19-22, 2023, San Diego, CA
4. K. Castillo, P. Elrod, K. Burkey, M. Suekuni, S. Gehrke, A. Allgeier, **J. Robinson**, "Modulating Pentenoate-Functionalized Hyaluronic Acid Hydrogel Network Formation for Meniscal Fibrochondrocyte Mechanotransduction," *Society For Biomaterials Annual Meeting*, April 19-22, 2023, San Diego, CA
5. K. Meinhold, T. Tankersley, **J. Robinson**, "Investigation of non-ionic surfactant effects on aligned fiber morphology and macroscopic scaffold properties," *Society For Biomaterials Annual Meeting*, April 19-22, 2023, San Diego, CA
6. J. Hodge, A. Medina-Lopez, H. Decker, **J. Robinson**, A. Mellott, "Changing the Potential of Mesenchymal Cell Production by Semi-Automating Cell Culture at the Benchtop" *Tissue Engineering and Regenerative Medicine Americas Meeting,* April 11-14, 2023, Boston, MA
7. J. Hodge, **J. Robinson**, A. Mellott, "Tailoring ASC Biologics to Augment Wound Healing: An in vitro Chronic Diabetic Wound Model," *Tissue Engineering and Regenerative Medicine Americas Meeting,* April 11-14, 2023, Boston, MA
8. J. Hodge, **J. Robinson**, A. Mellott, "Tissue-Mimetic Hydrogel and Secretome Stratification Identify Key Role of Exosomes in Regenerative Wound Healing," *Tissue Engineering and Regenerative Medicine Americas Meeting,* April 11-14, 2023, Boston, MA
9. K. Castillo, P. Elrod, M. Suekuni, J. Scalet, E. Aikman, S. Gehrke, A. Allgeier, **J. Robinson**, "Characterizing Properties of Thiolene Crosslinked Hyaluronic Acid Hydrogels for Meniscus Tissue Engineering," *Society for Advancement of Chicanos/Hispanics & Native Americans in Science, National Diversity in STEM Conference,* October 27-29, 2022, San Juan, Puerto Rico
10. R. Nataraj, P. Elrod, K. Burkey, **J. Robinson**, "Tuning Viscoelastic Response of Pentanoate-Functionalized Hyaluronic Acid (PHA) Hydrogels for Probing Cell Behavior" *Biomedical Engineering Society Annual Meeting,* October 12-15th, 2022
11. K. Knewtson, J. G Gonzalez Flores, A. Podgorny, C. Zhong, D. Pacicca, **J. Robinson, "**Sex Differences in Human Mesenchymal Stromal Cells and Meniscal Fibrochondrocytes Response to Fibrous Scaffold Properties and Estrogen Treatment," *Tissue Engineering and Regenerative Medicine Americas Meeting,* July 10-13, 2022, Toronto, ON, Canada
12. J. Bradford, D. K. Chavez, A. Morrell, **J. Robinson**, "Sex Differences in Human Meniscal Fibrochondrocyte Repair Phenotype in Response to TGFβ-3", *Tissue Engineering and Regenerative Medicine Americas Meeting,* July 10-13, 2022, Toronto, ON, Canada
13. J. Hodge, **J. Robinson,** A.J. Mellott, "Novel 3D Hydrogel System For Tailoring Stem Cell Biologics to Improve Wound Healing," *Tissue Engineering and Regenerative Medicine Americas Meeting,* July 10-13, 2022, Toronto, ON, Canada
14. J. Hodge, A. Pistorio, R. Korentager, D. Zamierowski, **J. Robinson**, A.J. Mellott, "Wound Stratification Elucidates Novel Genomic Perspective of Negative Pressure Therapy in a Porcine Model," *Plastic Surgery Research Council Annual Meeting*, June 8-12, 2022, Toronto, ON, Canada
15. J. Hodge, D. Zamierowski, **J. Robinson**, A.J. Mellott, "Wound Stratification Elucidates Novel Genomic Perspective of Negative Pressure Therapy in a Porcine Model," *Wound Healing Society Annual Meeting,* April 6-10, 2022, Phoenix, AZ (*Oral Presentation)*

16. J. Hodge, **J. Robinson**, A.J. Mellott, "3D Hydrogel System for Tailoring Stem Cell Biologics to Improve the Reepithelialization of Wounds" *Wound Healing Society Annual Meeting,* April 6-10, 2022, Phoenix, AZ (*Oral Presentation)*
17. K. Meinhold, P. Johnson, N. Ohl, J. Lehtinen, **J. Robinson,** "Manipulation of Non-Ionic Surfactant Chemistry to Control Emulsion Electrospun Fiber Properties and Wettability" *Society For Biomaterials Annual Meeting*, April 27-30, 2022, Baltimore, MD
18. K. Castillo, P. Elrod, M. Suekuni, J. Scalet, E. Aikman, S. Gehrke, A. Allgeier, **J. Robinson**, "Characterizing Properties of Thiol-ene Crosslinked Hyaluronic Acid Hydrogels for Meniscus Tissue Engineering," *Society For Biomaterials Annual Meeting*, April 27-30, 2022, Baltimore, MD
19. J. Lehtinen, P. Johnson, **J. Robinson, "**Surfactant Interactions and Solvent Phase Solubility Modulate Small Molecule Release from Emulsion Electrospun Fibers," *Society For Biomaterials Annual Meeting*, April 27-30, 2022, Baltimore, MD
20. J. Hodge, **J. Robinson**, A.J. Mellott, "Novel 3D Hydrogel System Improves the Retainment of Viable MSC Populations Overtime," *Society For Biomaterials Annual Meeting*, April 27-30, 2022, Baltimore, MD
21. V. Drapal, S. Mosier, **J. Robinson**, L. E. Friis, "Piezoelectric-Driven Hernia Repair Mesh Mechanically Loaded with Ultrasound for Soft Tissue Healing," *Society For Biomaterials and Japanese Society For Biomaterials Joint Symposium*, January 8-10, 2022
22. K. Knewtson, A. Podgorny, C. Zhong, D. Pacicca, **J. Robinson**, "RNA Sequencing Reveals Donor Variability in Sex- and Age-Matched Human Meniscal Fibrochondrocyte Response to Estrogen," *Orthopaedic Research Society Annual Meeting*, February 4-8, 2022
23. N. Ohl, P. Johnson, K. Meinhold, **J. Robinson**, "Modulating Emulsion Electrospun Mesh Surface Wettability via Surfactant Chemistry," *Biomedical Engineering Society Annual Meeting*, Undergraduate Poster Session, October 6-9, 2021
24. K. Castillo, P. Elrod, R. Rodriquez, E. Aikman, **J. Robinson**, "Characterizing Mechanical Properties of Thiol-ene Hyaluronic Acid Hydrogels for Tissue Applications," *Biomedical Engineering Society Annual Meeting*, Undergraduate Poster Session, October 6-9, 2021
25. V. Drapal, J. Gamble, **J. Robinson**, E. Friis, "Proof of Concept Bioreactor: Mechanically Synced Electrical Stimulation via Piezoelectric Spinal Fusion Interbody Device on Porcine Explants," *International Mechanical Engineering Congress & Exposition*, November 1-2, 2021
26. D. Chavez, J. Bradford, A. Morrell, K. Donnelly, **J. Robinson**, "Tools to Assess Estrogen Dosing Effects on Meniscal Fibrochondrocyte-Derived Spheroids," *Biomedical Engineering Society Annual Meeting*, October 6-9, 2021
27. J. Hodge, **J. Robinson**, A. J. Mellott, "Priming Adipose-Derived Mesenchymal Stem Cells to Improve the Epithelialization of Wounds," *Wound Healing Society Virtual Annual Meeting*, May 12-14, 2021
28. J. Bradford, **J. Robinson**, "The Effects of Estrogens on Common Cell Types for Osteoarthritis Research," *KU GEA Research Showcase,* April 9-10, 2021
29. A. Trofimoff, P. Johnson, **J. Robinson**, "The Effect of Increasing Internal Phase, Organic Phase Composition, and Relative Humidity on Emulsion Electrospun Scaffold Wettability," *Day at the Capitol,* Topeka, Kansas, Feb 2021. *virtual
30. J. R. Robinson, **J. L. Robinson**, "Microchip to Assess Synovium-Derived Stem Cell Response to Estrogen as a Function of Dose and Kinetics," *Biomedical Engineering Society 2020 Virtual Annual Meeting,* October 14-17, 2020. **declined*
31. P. Johnson, K. Knewtson, J. Fritz, K. Donnelly, A. Trofimoff, **J. Robinson**, "Controlling Surfactant Location in Emulsion Electrospun Fibers for Drug Delivery and Tissue Engineering Applications," *Biomedical Engineering Society 2020 Virtual Annual Meeting,* October 14-17, 2020. **declined due to COVID19*
32. P. Johnson, **J. Robinson**, "Controlling Surfactant Location to Dictate Emulsion Electrospun Fiber Morphology and Surface Properties for Tissue Engineering Applications," *ACS Fall 2020 Virtual Meeting,* August 17-20, 2020.
33. P. Johnson, **J. Robinson**, "Tuning Fiber Diameter and Internal Fiber Porosity of Emulsion Electrospun Scaffolds via Solvent Properties and Relative Humidity," *World Biomaterials Congress,* Glascow, Scotland, May 19-24, 2020. **postponed due to COVID-19, virtual December 11-15, 2020*
34. K. E. Knewtson, J. G. Gonzalez Flores, **J. Robinson**, "Estrogen Differentially Regulates Gene Expression in Meniscal Fibrochondrocytes Based on Sex and Dosing Kinetics", *Orthopaedic Research Society Annual Meeting,* Phoenix, AZ, February 8-11, 2020.

35. P. Johnson, A. Trofimoff, **J. Robinson**, "Inducing Temporomandibular Joint Fibrochondrogenesis through the Controlled Release of Estrogen from Emulsion Electrospun Scaffolds", *Orthopaedic Research Society Great Lakes/Midwest Regional Symposium*, Chicago, Illinois, August 12, 2019
36. J. Fritz, P. Johnson, J. Lehtinen, **J. Robinson**, "Modulating Surfactant Hydrophilic-Lipophilic Balance (HLB) Ratios to Control Water-in-Oil Emulsion Droplet Size", *Undergraduate Research Symposium*, Lawrence, Kansas, July 2019
37. V. Ly, P. Johnson, J. Fritz, J. Lehtinen, **J. Robinson**, "Controlling Mixing Speeds and Times to Modulate Water-in-Oil Emulsion Droplet Size for Emulsion Electrospinning Applications", *Undergraduate Research Symposium*, Lawrence, Kansas, July 2019
38. P. Johnson, A. Trofimoff, J. Fritz, **J. Robinson**, "Precision Hierarchical Micro-Nano Fibers through an Emulsion Electrospinning Process for Tissue Engineering Applications", *Midwest Regional 3D Symposium*, Kansas City, Kansas, June 7, 2019, 1st place poster award
39. P. Johnson, **J. Robinson**, "Tuning Internal Architecture of Emulsion Electrospun Scaffolds for Release of Estrogen Receptor Agonists," *KU HBC Biomedical Science Symposium*, Lawrence, Kansas, April 2019, invited speaker
40. E. Aikman, J. G. Gonzalez Flores, **J. Robinson**, "Optimizing Primary Amine Substitution for Gel-Norbornene," *University of Kansas Undergraduate Research Symposium,* Lawrence, KS, April 27, 2019, 1st place poster award
41. A. Trofimoff, P. Johnson, J. Fritz, **J. Robinson**, "The Effect of Relative Humidity on Emulsion Electrospun Scaffold Fiber Diameter," *University of Kansas Engineering Showcase*, Lawrence, Kansas, April 2019, 1st place presentation award
42. J. Lehtinen, P. Johnson, J. Fritz, **J. Robinson**, "Tailoring Solution and Emulsion Viscosity," *University of Kansas Engineering Showcase*, Lawrence, Kansas, April 2019
43. P. Johnson, A. Trofimoff, J. Lehtinen, **J. Robinson**, "Tuning Hierarchical Pore Structure in Emulsion Electrospun Fibers for Estrogen Receptor Agonist Release," *Society For Biomaterials Annual Meeting*, Seattle, WA, April 3-6, 2019
44. J. Lehtinen, P. Johnson, J. Fritz, **J. Robinson**, "Tailoring Emulsion Electrospun Scaffolds through Analysis of Emulsion Bulk Viscosity," *University of Kansas Biomaterials Day*, Lawrence, Kansas, March 2019
45. P. Johnson, A. Trofimoff, J. Lehtinen, J.Fritz, **J. Robinson**, "Tuning Hierarchal Structure of Emulsion Electrospun Fibrous Scaffolds for Estrogen Receptor Agonist Release," *University of Kansas Biomaterials Day*, Lawrence, Kansas, March 2019
46. A. Trofimoff, P. Johnson, J. Fritz, **J. Robinson**, "Effect of Relative Humidity on Surface Morphology in Emulsion Electrospun Scaffolds," *University of Kansas Biomaterials Day*, Lawrence, Kansas, March 2019
47. P. Johnson, A. Trofimoff, J. Lehtinen, **J. Robinson**, "Growing 3D Cartilage to Treat Osteoarthritis," *Kansas Capital Graduate Research Summit*, Topeka, KS, February 26, 2019
48. J. Gonzalez Flores, **J. Robinson**, "Estrogen Regulates Male and Female Meniscal Fibrochondrocyte Behavior," *Orthopaedic Research Society Annual Meeting,* Austin, Tx, February 2-5, 2019
49. A. Abbott, J. Lehtinen, P. Johnson, **J. Robinson**, "Effect of Solvent Conductivity and Volatility on Electrospun Fiber Diameter," *KU Summer Undergraduate Research Symposium*, July 27, 2018
50. J. Lehtinen, P. Johnson, **J. Robinson**, "Fiber Architecture Analysis of Electrospun Fibers," *KU Summer Undergraduate Research Symposium*, July 27, 2018
51. A. Trofimoff, P. Johnson, **J. Robinson**, "Effect of Relative Humidity on Fiber Diameter and Morphology of Emulsion Electrospun Scaffolds," *KU Summer Undergraduate Research Symposium*, July 27, 2018
52. J. G. Nguyen, J. G. Gonzalez Flores, **J. Robinson**, "Optimization of Decellularization of Meniscus," *KU Summer Undergraduate Research Symposium*, July 27, 2018
53. J. G. Gonzalez Flores, **J. Robinson**, "The Effect of Estrogen on Knee Fibrochondrocyte Proliferation and Extracellular Matrix Production," *KU Engineering Showcase*, April 19, 2018
54. P. Johnson, A. Abbott, J. Lehtinen, A. Trofimoff, **J. Robinson**, "Porous Meshes for Tunable Release of Estrogen Receptor Agonists," *KU Engineering Showcase*, April 19, 2018
55. A. Abbott, J. Lehtinen, J. Nguyen, A. Trofimoff, J. G. Gonzalez Flores, P. Johnson, **J. Robinson**, "Personalized Tissue Engineering Laboratory," *KU Engineering Showcase*, April 19, 2018
56. J. G. Gonzalez Flores, **J. Robinson**, "The Effect of Estrogen on Knee Fibrochondrocyte Proliferation and Extracellular Matrix Production," *KU Graduate Research Competition*, April 3, 2018

57. P. Johnson, A. Abbott, J. Lehtinen, A. Trofimoff, **J. Robinson**, "Porous Meshes for Tunable Release of Estrogen Receptor Agonists," *KU Graduate Research Competition*, April 3, 2018

58. **J. Robinson**, M. Vrana, J. Luchetti, H. H. Lu, J. Chen, S. Wadhwa, "Estrogen Exhibits Different Transcriptional Roles on the TMJ Condylar Fibrocartilage as a Function of Age," *Orthopaedic Research Society Annual Meeting*, New Orleans, LA, March 10-13, 2018

59. E. Clanaman, **J. Robinson**, J. Chen, S. Wadhwa, "Role of Estrogen in Monosodium Iodoacetate-induced TMJ Osteoarthritis," *International Association of Dental Research Annual Meeting,* Ft. Lauderdale, FL, March 21-24, 2018

60. V. Gupta**, J. Robinson**, P. Soria, J. Chen, S. Wadhwa, "Structure-Function Relationships of the TMJ in Response to Altered Loading," *International Association of Dental Research Annual Meeting,* Ft. Lauderdale, FL, March 21-24, 2018

61. **J. Robinson**, P. Soria, J. Chen, H. H. Lu, S. Wadhwa, "Estrogen via Estrogen Receptor Alpha Inhibits Mandibular Condylar Fibrocartilage Degeneration through Upregulation of Protease Inhibitors," *American Society for Bone and Mineral Research*, Denver, CO, September 8-11, 2017.

62. **J. Robinson,** P. Soria, J. Chen, M. Xu, H. H. Lu, S. Wadhwa, "Estrogen Receptor Alpha Mediates Chondrogenesis in the Mandibular Condylar Cartilage," *International Association of Dental Research Annual Meeting*, San Francisco, CA, March 22-25, 2017.

63. **J. Robinson,** P. Soria, J. Chen, M. Xu, H. H. Lu, S. Wadhwa, "Estrogen Receptor Alpha Mediates Chondrogenesis and Inhibits Degradation in the Mandibular Condylar Fibrocartilage," *International Association of Dental Research – Joseph Lister Award Presentation*, San Francisco, CA, March 23, 2017.

64. **J. Robinson,** P. Soria, J. Chen, M. Xu, H. H. Lu, S. Wadhwa, "Estrogen's Effects on TMJ Mandibular Fibrocartilage Growth and Homeostasis," *NIH NIDCR Trainee Session - International Association of Dental Research*, San Francisco, CA, March 22, 2017.

65. P. Soria**, J. Robinson,** J. Chen, S. Wadhwa, "Role of Estrogen Receptor Alpha in Mediating Decreased Occlusal Loading Induced TMJ Remodeling," *International Association of Dental Research Annual Meeting*, San Francisco, CA, March 22-25, 2017.

66. **J. Robinson**, M. Xu, J. Chen, H. H. Lu, S. Wadhwa, "Estrogen Promotes Chondrogenesis and Maintains Homeostasis in the Temporomandibular Joint Fibrocartilage via Estrogen Receptor Alpha," 2016 *Columbia University Postdoc Research Symposium*, NY, NY, October 14, 2016.

67. **J. Robinson**, M. Xu, J. Chen, H. H. Lu, S. Wadhwa, "Estrogen Promotes Chondrogenesis and Maintains Homeostasis in the Temporomandibular Joint Fibrocartilage via Estrogen Receptor Alpha," *5th Annual Musculoskeletal Repair and Regeneration Symposium,* Albert Einstein College of Medicine, New York, New York, October 13, 2016.

68. **J. Robinson**, M. Xu, J. Chen, H. H. Lu, S. Wadhwa, "Estrogen Promotes Chondrogenesis and Maintains Homeostasis in the Temporomandibular Joint Fibrocartilage via Estrogen Receptor Alpha," *2016 Gordon Research Seminar and Conference: Musculoskeletal Biology and Bioengineering,* Andover, NH, August 6-12, 2016.

69. R. Buttenbaum, **J. Robinson**, K. Cass, M. Xu, J. Chen, S. Wadhwa, "Role of Estradiol-Estrogen Receptor Beta Signaling and Decreased Occlusal Loading in Mediating Mandibular Condylar Cartilage Chondrogenesis in Male Mice," *American Association of Dental Research Annual Meeting*, Los Angeles, CA, March 16-19, 2016.

70. K. Cass, **J. Robinson**, R. Buttenbaum, M. Xu, J. Chen, S. Wadhwa, "Estrogen Receptor Beta Mediates Loading-Induced Remodeling of the TMJ," *American Association of Dental Research Annual Meeting*, Los Angeles, CA, March 16-19, 2016.

71. **J. Robinson**, J. Chen, M. Xu, K. Korach, H. H. Lu, S. Wadhwa, "Estrogen Receptor Alpha Mediates Mandibular Condylar Chondrogenesis," *American Association of Dental Research Annual Meeting*, Los Angeles, CA, March 16-19, 2016.

72. A. O'Brien, **J. Robinson**, D. Qu, J. Chen, M. Xu, S. Wadhwa, "Histological Analysis of ACL Fibrocartilage in Estrogen Receptor Alpha and Beta Deficient Mice," *Hinman Student Research Symposium*, Memphis, TN, October 31, 2015.

73. M. Xu, A. O'Brien, S. Wadhwa, T. Choi, **J. Robinson**, J. Chen, "Male Estrogen Receptor Beta Knock Out Mice Develop TMJ Degeneration," *American Society for Bone and Mineral Research*, Seattle, WA, October 9-12, 2015.

74. **J. Robinson**, J. Chen, M. Xu, T. Choi, K. Korach, H. H. Lu, S. Wadhwa, "Estrogen via Estrogen Receptor Alpha Promotes Mandibular Condylar Chondrogenesis," *American Society for Bone and Mineral Research*, Seattle, WA, October 9-12, 2015.
75. **J. Robinson**, K. Cass, R. Buttenbaum, J. Chen, M. Xu, H. H. Lu, S. Wadhwa, "Estrogen Receptor Beta Mediates Loading-Induced Remodeling of the TMJ," *Columbia University and NYC ASCENT Postdoc Research and Career Symposium*, NY, NY, September 17-18, 2015.
76. **J. Robinson**, J. Chen, M. Xu, H. H. Lu, S. Wadhwa, "Estrogen Receptor Beta Mediates Mechanical Loading Induced TMJ Remodeling," *International Association for Dental Research General Session*, Boston, MA, March 11-14, 2015.
77. **J. Robinson**, M. Whitely, M. C. Stuebben, H. Pearce, M. A.P. McEnery, T. Touchet, E. Cosgriff-Hernandez, "Development of Injectable Foams for the Delivery of Autologous Mesenchymal Stem Cells," *Tissue Engineering and Regenerative Medicine International Society-North America Annual Conference*, Washington, D.C., December 13-16, 2014.
78. N. Sears, **J. Robinson**, M. Whitely, E. Cosgriff-Hernandez, "Solid Freeform Fabrication of Biomaterials Scaffolds via Photopolymerization of High Internal Phase Emulsions," *2014 Biomedical Engineering Society Annual Meeting*, San Antonio, TX, October 22-25, 2014.
79. M. Whitely, R. Moglia, M. Brooks, **J. Robinson**, M. Pishko, E. Cosgriff-Hernandez, "Solvent-free Fabrication of PolyHIPE Microspheres for Controlled Release of Growth Factors." *2014 Biomedical Engineering Society Annual Meeting*, San Antonio, TX, October 22-25, 2014.
80. M.A.P. McEnery, **J.L. Robinson**, M.C. Stuebben, E. Cosgriff-Hernandez, "Osteoinductive Modification of Injectable PolyHIPE Bone Grafts," *2014 Annual Meeting of the Society For Biomaterials*, Denver, CO, April 16-19, 2014.
81. **J. Robinson,** R. Moglia, M. Stuebben, M. McEnery, E. Cosgriff-Hernandez, "Injectable Foams for the Delivery of Autologous Mesenchymal Stem Cells," *Tissue Engineering and Regenerative Medicine International Society-North America Annual Conference,* Atlanta, GA, November 10-13, 2013.
82. **J. Robinson**, R. Moglia, M. Stuebben, M. McEnery, E. Cosgriff-Hernandez, "Development of Osteoinductive, High Porosity PolyHIPEs as Injectable Bone Grafts," *2013 Gordon Research Seminar and Conference: Biomaterials and Tissue Engineering*, Holderness, NH, July 27-August 2, 2013.
83. **J. Robinson,** R. Moglia, M. C. Stuebben, M. A. P. McEnery, E. Cosgriff-Hernandez, "Development of Interconnected PolyHIPEs for Injectable Bone Grafts," *38th Annual Meeting of the Society for Biomaterials* Boston, MA, April 10-13, 2013.
84. R. Moglia, **J. Holm**, S. Buffington, T. Touchet, E. Cosgriff-Hernandez, "Fabrication of injectable and high porosity polyMIPE scaffolds for soft tissue regeneration," *245th ACS National Meeting*, New Orleans, LA, April 7-11, 2013.
85. **J. Holm,** R. Moglia, S. Buffington, D. Munoz-Pinto, M. Hahn, E. Cosgriff-Hernandez, "High Porosity PolyHIPEs as Injectable Bone Grafts," *2011 Biomedical Engineering Society Annual Meeting*, Hartford, CT, October 12-15, 2011.
86. **J. Holm,** Y. Peng, M. Raghunath, "*In vitro* Feeder and Xeno-Free Culture Conditions for the Undifferentiated Propagation of Human Induced Pluriopotent Stem Cells," *Whitaker Grantee Annual Conference*, Budapest, Hungary, April 15, 2010.

INVITED TALKS/SEMINARS/WEBINARS

1. **Biomaterial Tools to Interrogate Sex Differences in Connective Tissue Regeneration**
   University of Kansas, Bioengineering Graduate Program Colloquium, October 3, 2022
2. **Sex- and Age-Specific Biomaterials**
   Auburn University, Biomedical Engineering Society Student Chapter Meeting, September 22, 2022
3. **Biomaterial Tools to Interrogate Sex Differences in Connective Tissue Regeneration**
   Kansas State University, Department of Chemical Engineering, September 7, 2022
4. **Biomaterial Tools to Interrogate Sex Differences in Tissue Regeneration**
   KU Medical Center, Department of Microbiology, Molecular Genetics, Immunology, May 19, 2022
5. **Biomaterial Tools for Tissue Repair**
   University of Florida Biomaterials Day, March 18, 2022
6. **Biomaterial Tools to Interrogate Sex Differences in Fibrocartilage Repair**
   University of Washington, Orthopedics and Sports Medicine Seminar, February 15, 2022

7. **Biomaterial Tools to Interrogate Sex Differences in Fibrocartilage Repair**
   Arizona State University, School of Biological and Health Systems Engineering Seminar**,** April 16, 2021
8. **Harnessing the Role of Estrogen Signaling in Fibrocartilage Regeneration**
   University of Illinois at Chicago, Regenerative Sciences Seminar Series, January 14, 2021
9. **Designing Sex-Specific Biomaterials for Musculoskeletal Tissue Engineering Applications**, Tissue Engineering and Regenerative Medicine International Society, TWIG Webinar, October 20, 2020
10. **Sex Differences in Maintaining Synovial-Derived Stem Cell Regenerative Phenotype**
    7th Midwest Conference on Cell Therapy and Regenerative Medicine, September 18-19th, 2020 **postponed due to COVID-19*
11. **Biomaterial Considerations for Avascular Meniscal Tear Repair**
    Orthopaedic Research Society, Meniscus Section Webinar, July 24th, 2020
12. **Estrogen Mediates Fibrochondrogenesis and Inhibits Degradation in Mandibular Condylar Fibrocartilage**
    TMJ Bioengineering Conference, Pittsburgh, PA, June 18-19th, 2020 **postponed due to COVID-19*
13. **Engineering New Body Parts**
    KU Engineering Expo for elementary and middle school students, February 24, 2020
14. **Harnessing the Role of Estrogen Signaling in Fibrocartilage Regeneration**
    University of Missouri – Kansas City, School of Dentistry, October 10, 2019
15. **Emulsion Electrospun Fibers for Sex-Dependent Fibrocartilage Regeneration**
    University of Oklahoma, Biomedical Engineering Seminar, June 14, 2019
16. **Estrogen as a Mediator of Fibrocartilage Homeostasis and Regeneration**
    2019 NIH IDeA Central Region Conference, June 13, 2019
17. **Combining Electrospinning and Additive Manufacturing for Tissue Engineering Scaffolds**
    3rd Annual Midwest 3D Technologies Symposium, Kansas City, KS, June 7, 2019
18. **Tailoring the Release of Estrogen Receptor Agonists for Sex-Dependent Regeneration**
    St. Louis University, Biomedical Engineering Seminar, April 23, 2019
19. **Capitalizing on Opportunities as a Postdoctoral Researcher**
    Ku Postdoctoral Association, Monthly Seminar Series, February 15, 2019

TEACHING EXPERIENCE

University of Kansas

Spring 2019: C&PE 522 Economic Appraisal of Chemical and Petroleum Projects (4.24/5)
Fall 2019: C&PE 752 Principles of Tissue Engineering (4.81/5)
Spring 2020: C&PE 522 Economic Appraisal of Chemical and Petroleum Projects *(*no quant review COVID)*
Spring 2020: C&PE 112 (Co-taught) Intro to Chem Engineering Profession *(*no quant review COVID)*
Fall 2020: C&PE 656/756 Introduction to Biomedical Engineering *(*no quant review COVID)*
Spring 2021: C&PE 522 Economic Appraisal of Chemical and Petroleum Projects *(*no quant review COVID)*
Spring 2021: C&PE 112 (Co-taught) Intro to Chem Engineering Profession *(*no quant review COVID)*
Spring 2022: C&PE 752 Principles of Tissue Engineering *(*no quant review COVID)*
Spring 2022: C&PE 112 (Co-taught) Intro to Chem Engineering Profession *(*no quant review COVID)*
Fall 2022: C&PE 656/756 Introduction to Biomedical Engineering

Certification

Teaching Certificate, Scientists Teaching Science Online Course, New York Academy of Science - Barbara Houtz, M. Ed., 2016

Guest Lecturer

Texas A&M University
BMEN 342: Biomaterials and Medical Devices

- Induced Pluripotent Stem Cells and Regenerative Potential (April 2013)
- Calcification of Biomaterials (November 2012)

BMEN 680: Biomedical Engineering of Tissues

- Culture Platforms for Induced Pluripotent Stem Cells (October 2010)

Columbia University
BMEN E6505: Advanced Scaffold Design
- Hydrogels for Tissue Engineering (November 2014)

Summer@SEAS, Fu Foundation School of Engineering & Applied Sciences
- Strategies for Tissue Regeneration (July 2015)

New York University
Biomaterial Tissue Interfaces II
- Composite Scaffolds for Tissue Engineering (April 2015)

Research Mentoring

University of Washington

Students Mentored at the University of Washington

Graduate Students

*Moved to the University of Washington from the University of Kansas
- Kyley Burkey* (BioE MD/PhD Student) (2022 – present)
- Katherine Meinhold* (BioE PhD Student) (2021 – present), *SELF Graduate Fellow (2022-2023)*
- Aidan Alemifar* (BioE MD/PhD Student) (2021 – present)
- John Bradford* (BioE PhD Student) (2020 – present), *Engineering Dean's Fellow (2020-2021)*

Undergraduate Students
- Sydney Lynch (Biology) (2023 – present)

University of Kansas

Thesis Committee at the University of Kansas
- Mitchell Vedepo (BioE PhD 2018)
- Kait Howard (BioE MS 2019)
- Aparna Chakravarti (BioE PhD), *AAUW International Fellowship*
- Zheng Zhao (BioE PhD)
- Coleman Vaclaw (BioE PhD)
- Valerie Pringle (C&PE PhD)
- Anil Basra (PharmChem PhD)
- Lanjing Wei (BioE PhD)
- Joe Scalet (C&PE PhD)
- Mikala Heon (BioE PhD)
- Bailey Banach (BioE PhD)
- Bryce Stottlemire (BioE PhD)
- Swarnagowri Vaidyanathan (BioE PhD)
- Kimberly Merritt (BioE MS)
- Victoria Drapal (BioE PhD)
- Siddharth Subham (BioE PhD)
- Anna Norman (BioE MS)
- George Wang (PharmChem PhD)
- Riley Morgan (BioE MS)
- Savannah Mosier (BioE MS)
- Jane Wang (CPE MS)
- Jordan Gamble (ME PhD)
- Grant Downes (BioE PhD)

Trainees mentored at the University of Kansas

- Kelsey Knewtson, Postdoctoral Researcher (2019 – present)

Students mentored at the University of Kansas

Graduate Students (9)

- Kyley Burkey (BioE MD/PhD Student) (2022 – present)
- Katherine Meinhold (BioE PhD Student) (2021 – present), *SELF Graduate Fellow (2022-2026)*
- Aidan Alemifar (BioE MD/PhD Student) (2021 – present)
- John Bradford (BioE PhD Student) (2020 – present), *Engineering Dean's Fellow (2020-2021)*
- Jacob Hodge (BioE MD/PhD Student) (2019 – 2023), *Engineering Dean's Fellow (2019-2020), KUMC BRTP Fellow (2022), 1st Place Kansas Graduate Capitol Research Summit*
- Philip Elrod (BioE MS Student) (2019 – 2022)
    - Masters' Thesis, 04/22/22: "*Tuning the Viscoelastic Properties of Hyaluronic Acid-Based Thiolene Hydrogels for Tissue Engineering Applications*", Current Position: Ronawk Consultant
- Kevin Chavez (BioE MS Student) (2019 – 2021)
    - Masters' Thesis, 06/04/21: *"Tools to Assess Drug Effects on Meniscal Fibrochondrocyte-Derived Spheroids for Meniscal Health and Reduced Osteoarthritis"*, Current Position: LabCorps
- Pamela Johnson (BioE PhD Student) (2017 – 2021), *NIH NIGMS T32 Fellow, ACS CAS Future Leaders Fellow, HHMI Gilliam Graduate Fellow, KU SOE Outstanding PhD Student*
    - Dissertation 04/26/21: "*Tuning Emulsion Chemistry to Control Electrospun Fiber Morphology, Topography, and Drug Release"*, Current Position: Patent Agent/Science Advisor at Goodwin Procter LLP (Boston, MA)
- Jesus Gonzalez (BioE MS Student) (2017 – 2019), *Ford Foundation Honorable Mention*
    - Masters' Thesis, 08/26/19: "*Models for Determining Estrogen Effects on Meniscal Fibrochondrocytes"*, Current Position: Senior Engineer at Boehringer Ingelheim

Undergraduate Students (20)

- Austin Abbott (C&PE Undergraduate Student) (2018-2019): Current Position: Process Engineering Consultant at River City Engineering, Inc.
- Jennifer Nguyen (C&PE Undergraduate Student) (2018 – 2019), *KU: UGRA Fellow*
- Justin Lehtinen (C&PE Undergraduate Student) (2018 – 2022) Current Position: Master's Student University of Minnesota, Biomedical Engineering
- Anna Trofimoff (C&PE Undergraduate Student), (2018 – 2021) *KU: UGRA Fellow, SURF Fellow, University Scholar;* Current Position: Medical Student at KU Medical Center
- Elizabeth Aikman (C&PE Undergraduate Student) (2018 – 2021), *KU Undergraduate Poster Award, UGRA Fellow, KU SOE UGR Fellow;* Current Position: PhD Student at University of Florida
- Joe Fritz (C&PE Undergraduate Student) (2018 – 2021); Current Position: Medical Student at KU Medical Center
- Saif Elattar (C&PE Undergraduate Student) (2018 – 2019)
- Priscilla Flores (C&PE Undergraduate Student) (2019 – 2019) *McNair Scholar, UGRA Fellow;* Current Position: MS Student at Carnegie Mellon
- Kyley Burkey (C&PE Undergraduate Student) (2019 – 2020), Current Position: MD/PhD Student at KUMC
- Vy Ly (REU Student, University of Florida) (Summer 2019), Current Position: Pharma Technical Operations at Genentech (Roche)
- Katie Donnelly (C&PE Undergraduate Student) (Fall 2019 – present), *KU SOE UGR Fellow, UGRA Fellow*
- Shannon Mosher (ME Undergraduate Student) (Fall 2019 – 2020), *SELF Engineering Fellow*
- Alyssa Morrell (C&PE Undergraduate Student) (Summer 2020 – present), *UGRA Fellow, 2022 KU Undergraduate Research Symposium Outstanding Presentation Award*
- Nathan Ohl (C&PE Undergraduate Student) (Summer 2020 – present), *UGRA Fellow, KU SOE UGR Fellow*

- Kayla Castillo (C&PE Undergraduate Student) (Spring 2021 – present), *McNair Fellow, KU MARC Fellow*
- Rebekah Rodriguez (REU Student, Louisiana State University) (Summer 2021)
- Samuel Hurt (C&PE Undergraduate Student) (Summer 2021 – Summer 2023)
- Tyler Tankersley (C&PE Undergraduate Student) (Summer 2022 – Summer 2023)
- Ravi Nataraj (REU Student, Auburn University) (Summer 2022)
- Chad Harper (RET Student, KU STEMTeach Program) (Summer 2022)

Students mentored at Columbia University (19)

- Paola Soria, DDS (visiting orthodontist)
- Grace Hur, DDS (orthodontic resident)
- Patricia Solarte, DDS (orthodontic resident)
- Todor Stavrev, DDS (orthodontic resident)
- Rohit Chauhan (BME master student)
- Alina O'Brien (dental student, 2nd place Birnberg Research Symposium, Columbia University)
- Thomas Choi (dental student)
- Jonathan Lomboy (dental student)
- Katelyn Cass (dental student)
- Ryan Buttenbaum (dental student)
- Vikas Gupta (dental student, 1st place AADR DentsPly Sirona Restorative Competition)
- Elizabeth Clanaman (dental student)
- Stacy Gurbarg (dental student)
- Mark Vrana (dental student)
- Jeffrey Luchetti (dental student)
- Taylor Finn (dental student)
- Kimberly Chow (visiting undergraduate student)
- Tolulope Akinade (BME undergraduate)
- Skylar Regan (high school student)

Students mentored at Texas A&M University (6)

- Michael Whitely (BMEN graduate student) *NSF GRFP Honorable Mention*
- Dawn Harrison (CHEG master student, Prairie View A&M)
- Hannah Pearce (BMEN undergraduate student)
- Madison McEnery (BMEN undergraduate student) *NSF GRFP, Vanderbilt University*
- Melissa Stuebben (BCBP undergraduate student)
- Shelby Buffington (BMEN undergraduate student) *NSF GRFP Honorable Mention, Syracuse*

K-12 Outreach Teaching

Texas A&M University

College Station Middle School Science Club

- Co-coordinator of monthly polymer-based experiments with 30-40 middle school students (2011-2014)

Texas A&M University Teacher Summit

- Developed and led classroom models for high school teachers in STEM (Summer 2013)

Aggieland Saturday Volunteer

- Developed and led biomaterial demonstrations for prospective college students (2013)

Columbia University

Fu School of Engineering, Engineering Summer Research Program

- Organized a group of postdocs to lead workshops on research basics, led 3 workshops (Summer 2016)

Columbia University Society For Biomaterials Chapter Middle School Science Fair Volunteer

- Aid dual-language middle school students in testing hypotheses and report findings for science fair (2015 – present)

New York Academy of Sciences Afterschool STEM Mentoring Program
- Engage 30 middle school students from Harlem, NY in science experiments weekly (Spring 2015)

STEM Outreach Colloquium: Columbia University and New York Department of Education
- TED-style talk on my research "Estrogen's healing effects" for 100 high school students (2015)

PROFESSIONAL ACTIVITIES

Leadership Activities
- Orthopaedic Research Society, Meniscus Section Membership Chair (2020 – present)
- Vice Chair, Scaffolds, Matrices, and Biomaterials TWIG, TERMIS (2019 – 2022)
- Secretary and Outreach Chair, Columbia University Postdoctoral Society (2015 – 2017)
- Editor for Columbia University Postdoc Newsletter (2015 – 2017)
- TAMU Biomedical Engineering Department Ambassador (2012 – 2014)
- Treasurer, TAMU AEMB Student Chapter (2012-2014)
- Founder and President of Texas A&M Chapter of Society of Biomaterials (2010 – 2012)
- Sponsorship Coordinator, TAMU Student Research Week (2011)

Service Activities
- Review Editor, Frontiers in Biomaterials Science - Bioinspired and Complex Materials (2021-present)
- KU SOE Diversity, Equity, Inclusion, and Belonging Committee, Department Rep (2021 – 2022)
- Graduate Women and Allies Network (GWAN) via HHMI Gilliam Funding, Founder (2021- 2022)
- KU SOE Distinguished Lecture Series Co-Organizer (2021-2022)
- Midwest Stem Cell Therapy Center (KUMC), Advisory Board (2021-2022)
- Picture a Scientist, KU Diversity in Physics, Faculty Panelist (Fall 2020)
- KU SOE Program Coordinator for Graduate Recruitment and Research Search Committee (Su 2020)
- KU Chemical and Petroleum Engineering Chair Search Committee, Diversity Advocate (Spring 2020)
- KU SELF Engineering Leadership Program, Interviewer (Spring 2020, Spring 2022)
- KU Higuchi Biosciences Center (HBC) Internal Advisory Board (Fall 2019 – present)
- ORS Annual Meeting Abstract Reviewer (2019 – present)
- BMES Annual Meeting Abstract Reviewer (2019 – present)
- KU BioE Graduate Program Admissions Committee (Fall 2018 – Fall 2021)
- Faculty Advisor for KU Society For Biomaterials Chapter (Fall 2018 – 2022)
    - KU Biomaterials Day, March 2nd 2019
    - 1st Annual Great Plains Biomaterials Day 2020, postponed
    - 2nd Annual Great Plains Biomaterials Day (Virtual), April 17th 2021
    - 3rd Annual Great Plains Biomaterials Day, November 4, 2022
- Midwest 3D Printing Symposium Planning Committee (Spring 2018 – present)
- Faculty Advisor for KU Postdoctoral Association (Summer 2018 – present)
- Judge for KU Engineering Research Showcase (April 2018)
- Judge for KU Graduate Research Competition, Graduate Research Studies (April 2018)
- Judge for Birnberg Research Program, Columbia College of Dental Medicine (2016, 2017)
- National Science Foundation GRFP Reviewer Panelist (2015)
- Rice University Alumni Volunteers for Admission (RAVA), (2015 – present)
- Session Student Co-Chair, TERMIS Annual Meeting (2013)
- TAMU Biomedical Engineering Senior Design Sponsor (2011-2012)
- Student Volunteer Coordinator, Biomaterials Day at Texas A&M University (2011)
- AIChE Women's Initiative Committee Graduate Student Panel Moderator (2010)

Professional Societies
- Alpha Eta Mu Beta (AEMB), National Biomedical Engineering Honor Society
- American Association for Dental Research (AADR)
- American Institute of Chemical Engineers (AIChE)
- American Society for Bone and Mineral Research (ASBMR)

- Biomedical Engineering Society (BMES)
- New York Academy of Sciences (NYAS)
- Orthopaedic Research Society (ORS)
- Society For Biomaterials (SFB)
- Tissue Engineering and Regenerative Medicine International Society (TERMIS)

Reviewer for Journals

- ACS Applied Bio Materials *(IF = 3.25)*
- ACS Biomaterials Science and Engineering *(IF = 4.511)*
- ACS Omega *(IF = 2.87)*
- Acta Biomaterialia *(IF = 6.638)*
- Advanced Healthcare Materials (*IF = 7.367)*
- Advanced Materials *(IF = 25.809)*
- Advanced Science *(IF = 15.840)*
- AIChE Journal (*IF = 4.04)*
- Annals of Biomedical Engineering *(IF = 3.474)*
- Archives of Oral Biology *(IF = 1.663)*
- Current Pharmaceutical Design *(IF = 2.412)*
- Expert Review of Medical Devices *(IF = 2.212)*
- Frontiers in Bioengineering and Biotechnology *(IF = 5.89)*
- IEEE Transactions on Biomedical Engineering *(IF = 4.491)*
- Journal of Biomaterials Applications *(IF = 2.442)*
- Journal of Biomedical Materials Research: Part A *(IF = 3.221)*
- Journal of Bone and Mineral Research *(IF = 5.711)*
- Journal of Functional Biomaterials *(IF = 3.27)*
- Journal of Materials Science: Materials in Medicine *(IF = 2.467)*
- Journal of Tissue Engineering and Regenerative Medicine *(IF = 3.319)*
- Journal of Dental Research *(IF = 5.125)*
- Langmuir *(IF = 3.683)*
- Microgravity (npj) *(IF= 4.40)*
- Molecular and Cellular Endocrinology *(IF = 3.693)*
- PLOS ONE *(IF = 2.776)*
- Polymer *(IF = 4.329)*
- Science Advances *(IF = 11.5)*
- Stem Cell Research & Therapy *(IF = 4.627)*

Grant Reviewer

- NSF Graduate Research Fellowship Program Reviewer
- MTF Biologics
- NIH NIDCR DSR
- KU New Faculty General Fund Research Program