John P. Fisher

Curriculum Vitae

1. Personal Information.

a. Biographical Information.

John P. Fisher
Distinguished University Professor
MPower Professor, University of Maryland Strategic Partnership
Distinguished Scholar-Teacher
& Department Chair
Fischell Department of Bioengineering
University of Maryland
4102A Clark Hall, 8278 Paint Branch Drive
College Park, MD 20742
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Married to Gail M. Fisher
Children, Cara O. Fisher (18), Joseph P. Fisher (16), and Madeline T. Fisher (7)

b. Appointments.

University of Maryland, College Park, MD,
- Fischell Department of Bioengineering,
  - Distinguished University Professor (2024 - Present)
  - MPower Professor (2022 - Present).
  - Distinguished Scholar-Teacher (2021 - Present).
  - Department Chair (2016 - Present).
  - Fischell Family Distinguished Professor (2013 - 2024).
  - Associate Chair & Director of Graduate Studies (2012 - 2016).
  - Associate Chair & Director of Undergraduate Studies (2009 - 2012).
  - Professor (100% Appointment) (2012 - Present).
  - Associate Professor (2008 - 2012).
  - Assistant Professor (2006 - 2008).
- Department of Materials Science and Engineering,
  - Affiliate Professor, (2016 - Present).
- Department of Chemical and Biomolecular Engineering,
  - Affiliate Professor, (2007 - Present).
  - Assistant Professor, (2003 - 2006).

University of Maryland, Baltimore, MD,
- Department of Neurosurgery, School of Medicine
  - Adjunct Professor, (2021 - Present).

University of Maryland, Baltimore, MD,
Department of Oral & Maxillofacial Surgery, School of Dentistry
Adjunct Professor, (2008 - 2012).

c. Education and Training.

The Johns Hopkins University, Baltimore, MD (1991 - 1995),
Bachelor of Science (1995), Department of Chemical Engineering & Department of Biomedical Engineering.

University of Cincinnati, Cincinnati, OH (1995 - 1998),
Master of Science (1998), Department of Chemical Engineering.

Rice University, Houston, TX (1998 - 2002),
Doctor of Philosophy (2003), Department of Bioengineering.

University of California Davis Medical Center, Sacramento, CA (2002 - 2003),
Postdoctoral Fellow, Department of Orthopedic Surgery.

d. Professional Membership.

American Institute for Medical and Biological Engineering (AIMBE),
Fellow (2012 - Present).

Biomedical Engineering Society (BMES),
Member (2003 - Present),
Fellow (2016 - Present),
Chair, BMES Annual Meeting (2018),
Chair, Meetings Committee (2020 - 2021),
Board of Directors (2023 – Present; term ends in 2026).

Council of Chairs (CoC) of the Biomedical Engineering / Bioengineering Academic Departments,
Member (2016 - Present),
Chair-Elect (2024),
Chair (2025 – Present; term ends in 2026).

International Academy of Medical and Biological Engineering (IAMBE),
Fellow (2020 - Present).

International Society for Biofabrication (ISBF),
Member (2016 - Present),
Board Member (2017 - 2021).

Tissue Engineering & Regenerative Medicine International Society (TERMIS),
Member (2006 - Present),
Meeting Co-Chair, Americas Chapter Meeting (2014),
Chair-Elect, Americas Chapter (2015 - 2017),
Chair, Americas Chapter (2018 - 2020),
Past-Chair, Americas Chapter (2021 - 2023).

Society For Biomaterials (SFB),
Member (2003 - Present),
Member-At-Large (2021 - 2022),
Fellow, Biomaterials Science and Engineering (2024 - Present), International Union of Societies for Biomaterials Science and Engineering (IUSBSE).

2. Research, Scholarly, and Creative Activities.

> Google Scholar Page: https://scholar.google.com/citations?hl=en&user=ZDDU4hQAAAAJ.
> 250 Published Works (books, book chapters, articles, proceedings, editorials), 20,000+ Citations, h-index = 79.

a. Books.

i. Books Edited.

1. Co-Editor, Tissue Engineering section, The Biomedical Engineering Handbook, 3rd Edition, (Bronzino, ed.) CRC Press, Boca Raton, FL. (2004).

2. Editor, Tissue Engineering, Advances in Experimental Medicine and Biology Series, (Fisher, ed.) Springer, New York, NY. (2006).

3. Co-Editor, Tissue Engineering, (Fisher, Mikos, Bronzino, eds.) CRC Press, Boca Raton, FL. (2007).

4. Co-Editor, Tissue Engineering: Principles and Practices, (Fisher, Mikos, Bronzino, Peterson, eds.) CRC Press, Boca Raton, FL. (2013).

5. Co-Editor, 3D Bioprinting and Nanotechnology in Tissue Engineering and Regenerative Medicine, (Zhang, Leong, Fisher, eds.) Elsevier, Waltham, MA. (2015).

6. Co-Editor, Tissue Engineering section, The Biomedical Engineering Handbook, 4th Edition, (Bronzino and Peterson, eds.) CRC Press, Boca Raton, FL. (2015).

7. Co-Editor, 3D Bioprinting and Nanotechnology in Tissue Engineering and Regenerative Medicine, 2nd Ed. (Zhang, Leong, Fisher, eds.) Elsevier, Waltham, MA. (2022).

ii. Chapters in Books. (**Corresponding Author, ‡JPF Mentored Author*)

1. SH Gehrke*, JP Fisher, JF McBride, SM O'Connor, and H Zhu. Gel Coated Catheters as Drug Delivery Systems. In: *Intelligent Materials & Novel Concepts for Controlled Release Technologies*. (Dinh and DeNuzzio, eds.) ACS Symposium Series, Washington, D.C. 728: 43-53 (1999).

2. JP Fisher and AH Reddi*. Functional Tissue Engineering of Bone: Signals and Scaffolds. In: *Topics in Tissue Engineering 2003.* (Ashammakhi and Ferreti, eds.) 20-1 – 20-29 (2003).

3. DM Yoon‡ and JP Fisher*. Polymeric Scaffolds for Tissue Engineering Applications. In: *The Biomedical Engineering Handbook, 3rd Edition: Tissue Engineering and Artificial Organs*. (Bronzino, ed.) CRC Press, Boca Raton, FL. 37-1 - 37-18 (2006).

4. MW Betz‡, DM Yoon‡, and JP Fisher*. Engineering Polymeric Scaffolds for Bone Grafts. In: *Engineering of Functional Skeletal Tissues. Topics in Bone Biology*. (Bronner, Farach-Carson,

Mikos eds.) Springer, New York, NY. 3: 81-94 (2006).

5. DM Yoon[‡] and JP Fisher*. Polymeric Scaffolds for Tissue Engineering Applications. In: *Tissue Engineering*. (Bronzino, ed.) CRC Press, Boca Raton, FL. 8-1 - 8-18 (2007).

6. M Patel[‡] and JP Fisher*. Biodegradable Materials for Tissue Engineering. In: *McGraw-Hill 2008 Yearbook of Science and Technology*. McGraw-Hill Press, New York. 39-41 (2008).

7. DM Yoon[‡] and JP Fisher*. Natural and Synthetic Polymer Scaffolds. In: *Biomedical Materials*. (Narayan, ed.) Springer, New York, NY. 415-442 (2009).

8. L Procter, EE Falco[‡], JP Fisher, and JS Roth*. Abdominal Wall Hernias and Biomaterials. In: *Bioengineering Research of Chronic Wounds*. (Gefen, ed.) Springer, New York, NY. 425-447 (2010).

9. EE Coates[‡] and JP Fisher*. Cartilage Engineering: Current Status and Future Trends. In: *Biomaterials for Tissue Engineering Applications: A Review of the Past and Future Trends.* (Burdick and Mauck, eds.) Springer, New York, NY. 279-306 (2011).

10. K Kim[‡], M Patel[‡], and JP Fisher*. Nanobiomaterials for Musculoskeletal Tissue Engineering. In: *Nanobiomaterials Handbook.* (Sitharaman, ed.) CRC Press, Boca Raton, FL. 23-1-23-25 (2011).

11. AB Yeatts[‡] and JP Fisher*. Biological Implications of Polymeric Scaffolds for Bone Tissue Engineering Developed Via Solid Freeform Fabrication. In: *Handbook of Intelligent Scaffolds for Regenerative Medicine.* (Khang, ed.) Pan Stanford Publishing, New Jersey. 483-508 (2012).

12. MO Wang[‡] and JP Fisher*. Signal Expression in Engineered Tissues. In: *Tissue Engineering: Principles and Practices.* (Fisher, Mikos, Bronzino, Peterson, eds.) CRC Press, Boca Raton, FL. 7-1 - 7-23 (2013).

13. EE Coates[‡] and JP Fisher*. Cartilage Tissue Engineering. In: *Tissue Engineering: Principles and Practices.* (Fisher, Mikos, Bronzino, Peterson, eds.) CRC Press, Boca Raton, FL. 30-1 - 30-25 (2013).

14. KM Ferlin[‡], DS Kaplan, and JP Fisher*. Characterization of the Adhesive Interactions Between Cells and Biomaterials. In: *Micro and Nanotechnologies in Engineering Stem Cells and Tissues.* (Ramalingam, Jabbari, Ramakrishna, and Khademhosseini, eds.) Wiley – IEEE Press, Hoboken, NJ. 159 – 182 (2013).

15. JK Placone[‡] and JP Fisher*. Blood Vessel Regeneration. In: *3D Bioprinting and Nanotechnology in Tissue Engineering and Regenerative Medicine.* (Zhang, Leong, Fisher, eds.) Elsevier, Waltham, MA. (2015).

16. MO Wang[‡] and JP Fisher*. Signal Expression in Engineered Tissues. In: *The Biomedical Engineering Handbook, 4th Edition: Tissue Engineering*. (Bronzino and Peterson, eds.) CRC Press, Boca Raton, FL. 45-1 – 45-23 (2015).

17. EE Coates[‡] and JP Fisher*. Cartilage Tissue Engineering. In: *The Biomedical Engineering Handbook, 4th Edition: Tissue Engineering*. (Bronzino and Peterson, eds.) CRC Press, Boca Raton, FL. 68-1 – 68-25 (2015).

18. AJ Melchiorri[‡] and JP Fisher*. Bioprinting of Blood Vessels. In: *3D Biofabrication for Biomedical and Translational Research.* (Atala and Yoo, eds.) Elsevier, Waltham, MA. 337-350 (2015). **DOI:** 10.1016/B978-0-12-800972-7.00020-7

19. BNB Nguyen[‡] and JP Fisher*. In Vivo Techniques and Strategies for Enhanced Vascularization of Engineered Bone. In: *Vascularization: Regenerative Medicine and Tissue Engineering.* (Brey, ed.) CRC Press, Boca Raton, FL. 263-282 (2015).

20. T Guo[‡], KM Ferlin[‡], DS Kaplan, and JP Fisher*. Engineering Niches for Cartilage Tissue Regeneration. In: *Biology and Engineering of Stem Cell Niches* (Vishwakarma and Karp, eds.) Elsevier, Waltham, MA. (2017). **DOI:** 10.1016/B978-0-12-802734-9.00033-0

21. N Arumugasaamy[‡], HB Baker[‡], DS Kaplan, PCW Kim, and JP Fisher*. Fabrication and Printing of Multi-Material Hydrogels. In: *Tissue Engineering and Regeneration: 3D Printing and Biofabrication* (Ovsianikov, Yoo, and Mironov, eds.) Springer, Heidelberg, Germany (2017). **DOI:** 10.1007/978-3-319-40498-1_13-1

22. J Navarro[‡], G Calderon, J Miller, and JP Fisher*. Bioinks for Three-Dimensional Printing in Regenerative Medicine. In: *Principles of Regenerative Medicine, 3rd Edition* (Atala, Lanza, Nerem, and Mikos eds.) Elsevier, Waltham, MA. 805-830 (2018). **DOI:** 10.1016/B978-0-12-809880-6.00046-1

23. S Van Belleghem[‡], B Mahadik[‡], KL Snodderly[‡], and JP Fisher*. Overview of Tissue Engineering Concepts and Applications. In: *Biomaterials Science, 4th Edition* (Wagner, Sakiyama-Elbert, Zhang, and Yaszemski eds.) Elsevier, Waltham, MA. 1289-1316 (2020). **DOI:** 10.1016/B978-0-12-816137-1.00081-7

24. DM Yoon[‡] and JP Fisher*. Natural and Synthetic Polymer Scaffolds. In: *Biomedical Materials*. (Narayan, ed.) Springer, New York, NY. 415-442 (2021). **DOI:** 10.1007/978-3-030-49206-9_6

25. JK Placone[‡], M Kimicata[‡], and JP Fisher*. Blood Vessel Regeneration. In: *3D Bioprinting and Nanotechnology in Tissue Engineering and Regenerative Medicine, 2nd Edition.* (Zhang, Leong, Fisher, eds.) Elsevier, Waltham, MA. (2022).

26. ST McLoughlin[‡], B Mahadik[‡], and JP Fisher*. Bioreactors and Scale Up in Bone Tissue Engineering. In: *Bone Tissue Engineering*. (Guastaldi and Mahadik eds) Springer Nature, Switzerland (2022). **DOI:** 10.1007/978-3-030-92014-2_10

27. R Choe[‡], E Jabari[‡], B Mahadik[‡], and JP Fisher*. 3D Bioprinting and Nanotechnology for Bone Tissue Engineering. In: *Bone Tissue Engineering*. (Guastaldi and Mahadik eds) Springer Nature, Switzerland (2022). **DOI:** 10.1007/978-3-030-92014-2_9

b. Articles in Refereed Journals.

i. Articles. (**Corresponding Author, [‡]JPF Mentored Author*)

1. SH Gehrke*, JP Fisher, M Palasis, and M Lund. Factors Determining Hydrogel Permeability.

Annals of the New York Academy of Sciences, New York, NY. 831: 179-207 (1997). **DOI:** 10.1111/j.1749-6632.1997.tb52194.x

2. S Jo, H Shin, AK Shung, JP Fisher, and AG Mikos*. Synthesis and Characterization of Oligo(Poly(Ethylene Glycol) Fumarate) Macromer. Macromolecules. 34: 2839-2844 (2001). **DOI:** 10.1021/ma001563y

3. JP Fisher, D Dean, PS Engel, and AG Mikos*. Photoinitiated Polymerization of Biomaterials. Annual Review of Materials Research. 31: 171-181 (2001). **DOI:** 10.1146/annurev.matsci.31.1.171

4. JP Fisher, TA Holland‡, D Dean, PS Engel, and AG Mikos*. Synthesis and Properties of Photocross-linked Poly(Propylene Fumarate) Scaffolds. Journal of Biomaterials Science, Polymer Edition. 12: 673-687 (2001). **DOI:** 10.1163/156856201316883476

5. MS Wolfe, D Dean, JEK Chen, JP Fisher, S Han, C Rimnac, and AG Mikos*. In Vitro Degradation and Fracture Toughness of Multilayered Porous Poly(Propylene Fumarate)/Beta-Tricalcium Phosphate Scaffolds. Journal of Biomedical Materials Research, Part A. 61: 159-164 (2002). **DOI:** 10.1002/jbm.10058

6. JWM Vehof, JP Fisher, D Dean, JPCM van der Waerden, PHM Spauwen, AG Mikos, and JA Jansen*. Bone Formation in Transforming Growth Factor Beta-1 Coated Porous Poly(Propylene Fumarate) Scaffolds. Journal of Biomedical Materials Research, Part A. 60: 241-251 (2002). **DOI:** 10.1002/jbm.10073

7. JP Fisher, JWM Vehof, D Dean, JPCM van der Waerden, TA Holland, AG Mikos, and JA Jansen*. Soft and Hard Tissue Response to Photocrosslinked Poly(Propylene Fumarate) Scaffolds in a Rabbit Model. Journal of Biomedical Materials Research, Part A. 59: 547-556 (2002). **DOI:** 10.1002/jbm.1268

8. JP Fisher, D Dean, and AG Mikos*. Photocrosslinking Characteristics and Mechanical Properties of Diethyl Fumarate/Poly(Propylene Fumarate) Biomaterials. Biomaterials. 23: 4333-4343 (2002). **DOI:** 10.1016/S0142-9612(02)00178-3

9. D Dean, NS Topham, SC Meneghetti, MS Wolfe, K Jepsen, S He, JEK Chen, JP Fisher, MN Cooke, CM Rimnac, and AG Mikos*. Poly(Propylene Fumarate) and Poly(D,L-Lactic-co-Glycolic Acid) as Scaffold Materials for Solid and Foam Composite Tissue Engineered Constructs for Cranial Reconstruction. Tissue Engineering. 9: 495-504 (2003). **DOI:** 10.1089/107632703322066679

10. MN Cooke, JP Fisher, D Dean, CM Rimnac, and AG Mikos*. Use of Stereolithography to Manufacture Critical-Sized 3D Biodegradable Scaffolds for Bone Ingrowth. Journal of Biomedical Materials Research, Part B. 64: 65-69 (2003). **DOI:** 10.1002/jbm.b.10485

11. JP Fisher, MD Timmer, TA Holland‡, D Dean, PS Engel, and AG Mikos*. Photoinitiated Crosslinking of the Biodegradable Polyester Poly(Propylene Fumarate). Part I: Determination of Network Structure. Biomacromolecules. 4: 1327-1334 (2003). **DOI:** 10.1021/bm030028d

12. JP Fisher, TA Holland‡, D Dean, and AG Mikos*. Photoinitiated Crosslinking of the

Biodegradable Polyester Poly(Propylene Fumarate). Part II: In Vitro Degradation. Biomacromolecules. 4: 1335-1342 (2003). **DOI:** 10.1021/bm0300296

13. JP Fisher, Z Lalani, CM Bossano, EM Brey, N Demian, CM Johnston, D Dean, JA Jansen, MEK Wong, and AG Mikos*. Effect of Biomaterial Properties on Bone Healing in a Rabbit Tooth Extraction Socket Model. Journal of Biomedical Materials Research, Part A. 68: 428-438 (2004). **DOI:** 10.1002/jbm.a.20073

14. JP Fisher, S Jo, AG Mikos, and AH Reddi*. Thermoreversible Hydrogel Scaffolds for Articular Cartilage Engineering. Journal of Biomedical Materials Research, Part A. 71: 268-274 (2004). **DOI:** 10.1002/jbm.a.30148

15. D Dean, MS Wolfe, Y Ahmad, A Totonchi, JEK Chen, JP Fisher, MN Cooke, CM Rimnac, DP Lennon, AI Caplan, NS Topham, and AG Mikos*. Effect of Transforming Growth Factor β2 on Marrow-Infused Foam Poly(Propylene Fumarate) Tissue-Engineered Constructs for the Repair of a Critical-Size Cranial Defect in Rabbits. Tissue Engineering. 11: 923-939 (2005). **DOI:** 10.1089/ten.2005.11.923

16. DM Yoon[‡] and JP Fisher*. Chondrocyte Signaling and Artificial Matrices for Articular Cartilage Engineering. Advances in Experimental Medicine and Biology. 585: 67-86 (2006). **DOI:** 10.1007/978-0-387-34133-0_5

17. JL Moreau[‡], D Kesselman[‡], and JP Fisher*. Synthesis and Properties of Cyclic Acetal Biomaterials. Journal of Biomedical Materials Research, Part A. 81: 594-602 (2007). **DOI:** 10.1002/jbm.a.31104

18. DM Yoon[‡], EC Hawkins[‡], S Francke-Carroll, and JP Fisher*. Effect of Construct Properties on Encapsulated Chondrocyte Expression of Insulin-Like Growth Factor-1. Biomaterials. 28: 299-306 (2007). **DOI:** 10.1016/j.biomaterials.2006.08.039

19. K Kim[‡] and JP Fisher*. Nanoparticle Technology in Bone Tissue Engineering. Journal of Drug Targeting. 15: 241-252 (2007). **DOI:** 10.1080/10611860701289818

20. S Kaihara[‡], S Matsumura, AG Mikos, and JP Fisher*. Synthesis of Poly(L-Lactide) and Polyglycolide by Ring-Opening Polymerization. Nature Protocols. 2: 2767-2771 (2007). **DOI:** 10.1038/nprot.2007.391

21. S Kaihara[‡], S Matsumura, and JP Fisher*. Synthesis and Properties of Poly[Poly(Ethylene Glycol)-co-Cyclic Acetal] Based Hydrogels. Macromolecules. 40: 7625-7632 (2007). **DOI:** 10.1021/ma071297p

22. JL Moreau[‡], JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher*. Tissue Engineering Solutions for Cleft Palates: Current Therapy. Journal of Oral and Maxillofacial Surgery. 65: 2503-2511 (2007). **DOI:** 10.1016/j.joms.2007.06.648

23. PC Johnson*, AG Mikos, JP Fisher, and JA Jansen. Strategic Directions in Tissue Engineering. Tissue Engineering. 13: 2827-2837 (2007). **DOI:** 10.1089/ten.2007.0335

24. S Kaihara[‡], S Matsumura, and JP Fisher*. Synthesis and Characterization of Cyclic Acetal

Based Degradable Hydrogels. European Journal of Pharmaceutics and Biopharmaceutics. 68: 67-73 (2008). **DOI:** 10.1016/j.ejpb.2007.05.019

25. M Patel[‡] and JP Fisher*. Biomaterial Scaffolds in Pediatric Tissue Engineering. Pediatric Research. 63: 497-501 (2008). **DOI:** 10.1203/01.PDR.0b013e318165eb3e

26. DM Yoon[‡] and JP Fisher*. Effects of Exogenous IGF-1 Delivery on the Early Expression of IGF-1 Signaling Molecules by Alginate Embedded Chondrocytes. Tissue Engineering. 14: 1263-1273 (2008). **DOI:** 10.1089/ten.tea.2007.0172

27. MW Betz[‡], PC Modi[‡], JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher*. Cyclic Acetal Hydrogel System for Bone Marrow Stromal Cell Encapsulation and Osteodifferentiation. Journal of Biomedical Materials Research, Part A. 86: 662-670 (2008). **DOI:** 10.1002/jbm.a.31640

28. EE Falco[‡], JS Roth, and JP Fisher*. EH Networks as a Scaffold for Skeletal Muscle Regeneration in Abdominal Wall Hernia Repair. Journal of Surgical Research. 149: 76-83 (2008). **DOI:** 10.1016/j.jss.2007.08.016

29. EE Falco[‡], M Patel[‡], and JP Fisher*. Recent Developments in Cyclic Acetal Biomaterials for Tissue Engineering Applications. Pharmaceutical Research. 25: 2348-2356 (2008). **DOI:** 10.1007/s11095-008-9620-5

30. EE Falco[‡], JS Roth, and JP Fisher*. Skeletal Muscle Tissue Engineering Approaches to Abdominal Wall Hernia Repair. Birth Defects Research Part C: Embryo Today: Reviews. 84: 315-321 (2008). **DOI:** 10.1002/bdrc.20134

31. FK Kasper, K Tanahashi, JP Fisher, and AG Mikos*. Synthesis of Poly(Propylene Fumarate). Nature Protocols. 4: 518-525 (2009). **DOI:** 10.1038/nprot.2009.24

32. AD Thompson[‡], MW Betz[‡], DM Yoon[‡], and JP Fisher*. Osteogenic Differentiation of Bone Marrow Stromal Cells Induced by Coculture with Chondrocytes Encapsulated in Three-Dimensional Matrices. Tissue Engineering. 15: 1181-1190 (2009). **DOI:** 10.1089/ten.tea.2007.0275

33. MW Betz[‡], JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher*. Tissue Response and Orbital Floor Regeneration Using Cyclic Acetal Hydrogels. Journal of Biomedical Materials Research, Part A. 90: 819-829 (2009). **DOI:** 10.1002/jbm.a.32131

34. S Kaihara[‡], S Matsumura, and JP Fisher*. Cellular Responses to Degradable Cyclic Acetal Modified PEG Hydrogels. Journal of Biomedical Materials Research, Part A. 90: 863-873 (2009). **DOI:** 10.1002/jbm.a.32149

35. S Kaihara*[‡], JP Fisher, and S Matsumura. Chemo-Enzymatic Synthesis of Degradable PTMC-b-PECA-b-PTMC Triblock Copolymers and Their Micelle Formation for pH-Dependent Controlled Release. Macromolecular Bioscience. 9: 613-621 (2009). **DOI:** 10.1002/mabi.200800308

36. DM Yoon[‡], S Curtis, AH Reddi, and JP Fisher*. Addition of Hyaluronic Acid to Alginate

Embedded Chondrocytes Interferes with IGF-1 Signaling In Vitro and In Vivo. Tissue Engineering. 15: 3449-3459 (2009). **DOI:** 10.1089/ten.tea.2009.0069

37. K Kim[‡], D Dean, AG Mikos, and JP Fisher*. Effect of Initial Cell Seeding Density on Early Osteogenic Signal Expression of Rat Bone Marrow Stromal Cells Cultured on Crosslinked Poly(Propylene Fumarate) Disks. Biomacromolecules. 10: 1810-1817 (2009). **DOI:** 10.1021/bm900240k

38. M Patel[‡], MW Betz[‡], E Geibel[‡], KJ Patel, JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher*. Cyclic Acetal Hydroxyapatite Nanocomposites for Orbital Bone Regeneration. Tissue Engineering Part A. 16: 55-65 (2010). **DOI:** 10.1089/ten.tea.2009.0027

39. M Patel[‡], KJ Patel, JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher*. Characterization of Cyclic Acetal Hydroxyapatite Nanocomposites for Craniofacial Tissue Engineering. Journal of Biomedical Materials Research, Part A. 94: 408-418 (2010). **DOI:** 10.1002/jbm.a.32683

40. M Patel[‡], TA Dunn[‡], S Tostanoski[‡], and JP Fisher*. Cyclic Acetal Hydroxyapatite Composites and Endogenous Osteogenic Gene Expression of Rat Marrow Stromal Cells. Journal of Tissue Engineering and Regenerative Medicine. 4: 422-436 (2010). **DOI:** 10.1002/term.252

41. TK Bhowmick, DM Yoon[‡], M Patel[‡], JP Fisher, and SH Ehrman*. In Vitro Effects of Cisplatin Functionalized Silica Nanoparticles on Chondrocytes. Journal of Nanoparticle Research. 12: 2757-2770 (2010). **DOI:** 10.1007/s11051-010-9849-x

42. MW Betz[‡], AB Yeatts[‡], WJ Richbourg[‡], JF Caccamese, DP Coletti, EE Falco, and JP Fisher*. Macroporous Hydrogels Upregulate Osteogenic Signal Expression and Promote Bone Regeneration. Biomacromolecules. 11: 1160-1168 (2010). **DOI:** 10.1021/bm100061z

43. K Kim[‡], AB Yeatts[‡], D Dean, and JP Fisher*. Stereolithographic Bone Scaffold Design Parameters: Osteogenic Differentiation and Signal Expression. Tissue Engineering Part B, Reviews. 16: 523-539 (2010). **DOI:** 10.1089/ten.teb.2010.0171

44. EE Coates[‡] and JP Fisher*. Phenotypic Variations in Chondrocyte Subpopulations and Their Response to In Vitro Culture and External Stimuli. Annals of Biomedical Engineering. 38: 3371-3380 (2010). **DOI:** 10.1007/s10439-010-0096-1

45. MW Betz[‡], JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher*.Challenges Associated with Orbital Floor Bone Regeneration. Tissue Engineering Part B, Reviews. 16: 541-550 (2010). **DOI:** 10.1089/ten.teb.2009.0393

46. CW Chen, MW Betz[‡], JP Fisher, A Paek, and Y Chen*. Macroporous Hydrogel Scaffolds and Their Characterization By Optical Coherence Tomography. Tissue Engineering Part C, Methods. 17:101-112 (2011). **DOI:** 10.1089/ten.tec.2010.0072

47. AB Yeatts[‡] and JP Fisher*. Bone Tissue Engineering Bioreactors: Dynamic Culture and the Influence of Shear Stress. Bone. 48: 171–181 (2011). **DOI:** 10.1016/j.bone.2010.09.138

48. AB Yeatts[‡] and JP Fisher*. Tubular Perfusion System for the Long Term Dynamic Culture of Human Mesenchymal Stem Cells. Tissue Engineering Part C, Methods. 17: 337-348 (2011).

DOI: 10.1089/ten.tec.2010.0172

49. K Kim‡, D Dean, A Lu‡, AG Mikos, and JP Fisher*. Early Osteogenic Signal Expression of Rat Bone Marrow Stromal Cells is Influenced by Both Hydroxyapatite Nanoparticle Content and Initial Cell Seeding Density in Biodegradable Nanocomposite Scaffolds. Acta Biomaterialia. 7: 1249-1264 (2011). **DOI:** 10.1016/j.actbio.2010.11.007

50. EE Falco‡, MO Wang‡, JA Thompson, JM Chetta, DM Yoon‡, EZ Li‡, MM Kulkami, S Shah, A Pandit, JS Roth, and JP Fisher*. Porous EH and EH-PEG Scaffolds as Gene Delivery Vehicles to Skeletal Muscle. Pharmaceutical Research. 28: 1306-1316 (2011). **DOI:** 10.1007/s11095-010-0358-5

51. EE Falco‡, EE Coates‡, EZ Li‡, JS Roth, and JP Fisher*. Fabrication and Characterization of Porous EH Scaffolds and EH-PEG Bilayers. Journal of Biomedical Materials Research, Part A. 97: 264-271 (2011). **DOI:** 10.1002/jbm.a.33052

52. K Kim‡, D Dean, J Wallace, R Breithaupt‡, AG Mikos, and JP Fisher*. The Influence of Stereolithographic Scaffold Architecture and Composition on Osteogenic Signal Expression with Rat Bone Marrow Stromal Cells. Biomaterials. 32: 3750-3763 (2011). **DOI:** 10.1016/j.biomaterials.2011.01.016

53. J Choi, K Kim‡, T Kim, G Liu, T Hyeon, MT McMahon, JW Bulte, JP Fisher, and AA Gilad*. Multimodal Imaging of Sustained Drug Release from 3-D Poly(Propylene Fumarate) Scaffolds. Journal of Controlled Release. 156: 239-245 (2011). **DOI:** 10.1016/j.jconrel.2011.06.035

54. AB Yeatts‡, CN Gordon‡, and JP Fisher*. Formation of an Aggregated Alginate Construct in a Tubular Perfusion System. Tissue Engineering Part C, Methods. 17: 1171-1178 (2011). **DOI:** 10.1089/ten.tec.2011.0263

55. EE Coates‡ and JP Fisher*. Gene Expression of Alginate Embedded Chondrocyte Subpopulations and Their Response to Exogenous IGF-1 Delivery. Journal of Tissue Engineering and Regenerative Medicine. 6: 179-192 (2012). **DOI:** 10.1002/term.411

56. DS Kaplan*, VM Hitchins, TJ Vegella, RA Malinauskas, KM Ferlin‡, JP Fisher, and CG Frondoza. Centrifugation Assay for Measuring Adhesion of Serially-Passaged Bovine Chondrocytes to Polystyrene Surfaces. Tissue Engineering Part C: Methods. 18:537-544 (2012). **DOI:** 10.1089/ten.tec.2011.0043

57. AB Yeatts‡, EM Geibel‡, FF Fears‡, and JP Fisher*. Human Mesenchymal Stem Cell Position within Scaffolds Influences Cell Fate During Dynamic Culture. Biotechnology and Bioengineering. 109:2381-2391 (2012). **DOI:** 10.1002/bit.24497

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39. JP Fisher*. Biodegradable Materials for Tissue Engineering: Applications and Safety Assessment. Society of Toxicology Annual Meeting. Washington, DC (2011).

40. JP Fisher*. Cellular & Biomaterial Strategies for Engineering Craniofacial Bone Tissue. Advances in Tissue Engineering, 19th Annual Short Course at Rice University. Houston, TX (2011).

41. JP Fisher*. Cellular Bioengineering and Biomedical Devices in Regenerative Medicine. Department of Mechanical, Aeronautical, and Biomedical Engineering, University of Limerick. Limerick, Ireland (2012).

42. JP Fisher*. Stem Cell Bioengineering and Biomedical Devices in Regenerative Medicine. Cardiac Surgery Research Meeting, Children's National Medical Center. Washington, DC (2012).

43. JP Fisher*. Cellular & Biomaterial Engineering of Craniofacial Bone Tissue. Advances in Tissue Engineering, 20th Annual Short Course at Rice University. Houston, TX (2012).

44. JP Fisher*. Biomaterials & Bioreactors in Bone Tissue Engineering. Institute for Bioscience and Biotechnology Research, University of Maryland, Shady Grove Campus, Rockville, MD (2012).

45. JP Fisher*. Bioreactors & Biomaterials in Bone Tissue Engineering. Department of Mechanical and Aerospace Engineering, George Washington University, Washington, DC (2012).

46. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in Orthopedic Regenerative Medicine. Department of Orthopaedic Surgery, University of Virginia. Charlottesville, VA (2013).

47. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in Regenerative Medicine. The 16th US-Japan Cellular and Gene Therapy Conference: Potential Applications of Mesenchymal Multipotent Stromal Cells. National Institutes of Health, Bethesda, MD (2013).

48. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in Regenerative Medicine. Sheikh Zayed Institute for Pediatric Surgical Innovation, Children's National Medical Center. Washington, DC (2013).

49. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in Musculoskeletal

Tissue Engineering. Department of Biomedical Engineering, University of Virginia. Charlottesville, VA (2013).

50. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in Orthopedic Regenerative Medicine. Advances in Tissue Engineering, 21st Annual Short Course at Rice University. Houston, TX (2013).

51. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in Regenerative Medicine. Department of Biomedical Engineering, University of Texas. Austin, TX (2013).

52. JP Fisher*, JA Jansen, P Johnson, AG Mikos. Writing Scientific Manuscripts. Tissue Engineering and Regenerative Medicine International Society – Asia Pacific Chapter (TERMIS-AP) Annual Meeting. Wuzhen, China (2013).

53. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in Regenerative Medicine. Department of Biomedical Engineering, Rutgers University. Piscataway, NJ (2013).

54. JP Fisher*. Biomaterials in Tissue Engineering and Regenerative Medicine: Materials Cooperating with the Human Environment. Smithsonian Associates. Washington, DC (2014).

55. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in Regenerative Medicine. Centre for Integrative Biology, University of Trento. Trento, Italy (2014).

56. JP Fisher*. Synthetic Biomaterials: From Degradable Polymers to 3D Printed Materials. Regenerative Medicine Essentials Course. Wake Forest School of Medicine. Winston-Salem, NC (2014).

57. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in for Tissue Engineering. Advances in Tissue Engineering, 22nd Annual Short Course at Rice University. Houston, TX (2014).

58. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in for Tissue Engineering. Hanyang University. Seoul, South Korea (2014).

59. JP Fisher*. Bridging Stem Cell Technology with Tissue Vascularization in for Tissue Engineering. U.S. Food and Drug Administration. White Oak, MD (2014).

60. JP Fisher*. Three Dimensional Printing of Biodegradable Tissue Engineered Materials. Maryland 3D Printing Expert User Group - Maryland Center for Entrepreneurship. Columbia, MD (2015).

61. JP Fisher*. Engineering Vascularized Tissues. McDaniel College. Westminster, MD (2015).

62. JP Fisher*. Vascular Engineering and 3D Printing. Tsing Hua University. Hsinchu City, Taiwan (2015).

63. JP Fisher*. Bioreactors for Bone Tissue Engineering. Tsing Hua University. Hsinchu City, Taiwan (2015).

64. JP Fisher*. Articular Cartilage Engineering and Cell-Matrix Interactions. Tsing Hua University. Hsinchu City, Taiwan (2015).

65. JP Fisher*. Expansion of Mesenchymal Stem Cells in Bioreactors. Center for Stem Cell Biology and Regenerative Medicine, University of Maryland School of Medicine. Baltimore, MD (2015).

66. JP Fisher*. Applications of Vasculogenesis in Orthopedic Regenerative Medicine. International Conference on Regenerative Biomedical Materials. Wuhan, China (2015).

67. JP Fisher*. Reinforced Pericardium for Cardiovascular Applications. Cook Biotech. College Park, MD (2015).

68. JP Fisher*. Bioprinting of Vascularized Tissues for Orthopedic Regenerative Medicine. ORS Sun Valley Workshop. Sun Valley, ID (2015).

69. JP Fisher*. Bridging Stem Cell Engineering with Tissue Vascularization in Regenerative Medicine. Department of Biomedical Engineering, National University of Ireland, Galway. Galway, Ireland (2015).

70. JP Fisher*. Bridging Stem Cell Engineering with Tissue Vascularization in Regenerative Medicine. Trinity Centre of Bioengineering, Trinity College Dublin, Dublin, Ireland (2015).

71. AJ Melchiorri* and JP Fisher. Bioreactors for Bone Tissue Engineering. IBC Life Sciences Conference: Cell Therapy Bioprocessing and Commercialization. Alexandria, VA (2015).

72. JP Fisher*. Bridging Stem Cell Engineering with Tissue Vascularization in Regenerative Medicine. University of Leipzig, Leipzig, Germany (2015).

73. JP Fisher*. Bridging Stem Cell Engineering with Tissue Vascularization in Regenerative Medicine. Ludwig Boltzmann Institute, Vienna, Austria (2015).

74. JP Fisher*. Bridging Stem Cell Engineering with Tissue Vascularization in Regenerative Medicine. National Institutes of Health / National Eye Institute, Rockville, MD (2015).

75. JP Fisher*. Bridging Stem Cell Engineering with Tissue Vascularization in Regenerative Medicine. Radboud University Medical Center, Department of Dentistry - Biomaterials, Nijmegen, The Netherlands (2015).

76. JP Fisher*. Biomaterials for Tissue Vascularization in Regenerative Medicine. Research and Education in Nanotoxicology IGERT, West Virginia University. Morgantown, WV (2016).

77. JP Fisher*. 3D Printing and Bioprinting in Complex Engineered Tissues. The 19th US-Japan Cellular and Gene Therapy Conference: 3D Modeling and Printing of Tissues and Organs. U.S. Food and Drug Administration. White Oak, MD (2016).

78. JP Fisher*. Current Status and Future Perspectives of 3D Printing and Bioprinting for Regenerative Medicine. NSF Workshop on Additive Manufacturing for Health. Arlington, VA (2016).

79. JP Fisher*. 3D Printing and Bioprinting for Regenerative Medicine Applications. Department of Biomedical Engineering, University of Arkansas. Fayetteville, AR (2016).

80. JP Fisher*. 3D Printed Scaffolds for Tissue Engineering. Advances in Tissue Engineering, 24th Annual Short Course at Rice University. Houston, TX (2016).

81. JP Fisher*. 3D Printing and Bioprinting for Regenerative Medicine Applications. Annual ACS National Meeting. Philadelphia, PA (2016).

82. JP Fisher*. 3D Printing and Bioprinting in Vascularized Bone Tissue Engineering. Biofabrication 2016. Winston-Salem, NC (2016).

83. JP Fisher*. 3D Printing and Bioprinting for Regenerative Medicine Applications. Department of Chemical and Biomedical Engineering, West Virginia University. Morgantown, WV (2016).

84. JP Fisher*, JA Jansen, P Johnson, AG Mikos. How to Write a Good Scientific Manuscript. Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (TERMIS-AM) Annual Meeting. San Diego, CA (2016).

85. J Lembong and JP Fisher*. 3D Printing for Engineering Complex Tissues. 7th PERSH Meeting. Alexandria, VA (2017).

86. J Lembong and JP Fisher*. 3D Printing for Engineering Complex Tissues. 2nd Musculoskeletal Development and Regeneration Conference. Cancun, Mexico (2017).

87. C Piard and JP Fisher*. 3D Bioprinting: State of the Field. 3D Bioprinting Roadmapping Workshop. Winston-Salem, NC (2017).

88. JP Fisher*. 3D Printing for Engineering Complex Tissues. 3D Bioprinting: Physical and Chemical Processes. Winston-Salem, NC (2017).

89. JP Fisher*. 3D Printing for Engineering Complex Tissues. Hanyang University. Seoul, South Korea (2017).

90. JP Fisher*. 3D Printing for Engineering Complex Tissues. 12th International Symposium on Frontiers in Biomedical Polymers. Seoul, South Korea (2017).

91. JP Fisher*. 3D Printing for Engineering Complex Tissues. 2nd International Conference on Tissue Engineering and Regenerative Medicine. Vanderbijlpark, South Africa (2017).

92. JP Fisher*. 3D Printing for Engineering Complex Tissues. The Johns Hopkins University Applied Physics Laboratory. Laurel, MD (2017).

93. JP Fisher*. 3D Printing for Engineering Complex Tissues. Advances in Tissue Engineering, 25th Annual Short Course at Rice University. Houston, TX (2017).

94. B Mahadik, C Piard, and JP Fisher. 3D Printing of Medical Products: Emerging Science. Regulatory Science to Advance Precision Medicine Forum. Washington, DC (2017).

95. JP Fisher*. 3D Printing for Engineering Complex Tissues. University of Minnesota, Department of Biomedical Engineering. Minneapolis, MN (2017).

96. JP Fisher*. 3D Printing for Engineering Complex Tissues. Maryland Stem Cell Research Fund Symposium. Baltimore, MD (2017).

97. JP Fisher*. 3D Printing of Medical Products: Emerging Science. Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (TERMIS-AM) Annual Meeting. Charlotte, NC (2017).

98. JP Fisher*. Senior Scientist Award: A Brief (Pictorial) History... Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (TERMIS-AM) Annual Meeting. Charlotte, NC (2017).

99. JP Fisher*. 3D Printing for Engineering Complex Tissues. Rice University's Biomaterials Lab Workshop. Houston, TX (2018).

100. JP Fisher*. 3D Printing for Engineering Complex Tissues: Bone and Cartilage. Grand Rounds, Department of Orthopedic Surgery, University of California, Davis. Sacramento, CA (2018).

101. JP Fisher*. 3D Printing for Engineering Complex Tissues. 12th Annual Nano-Bio Symposium: Advanced Biomanufacturing. Johns Hopkins University, Baltimore, MD (2018).

102. JP Fisher*. 3D Printing for Engineering Complex Tissues. ARMI's Automated Manufacturing: Tissue Design and Biofabrication Strategies Workshop. Manchester, NH (2018).

103. JP Fisher*. Engineering and Applications of Biomaterials in 3D Printing. Regenerative Medicine Essentials Course. Wake Forest School of Medicine. Winston-Salem, NC (2018).

104. JP Fisher*. Professional Development in Academic Careers. 2018 NIBIB Training Grantees Meeting. National Institutes of Health. Bethesda, MD (2018).

105. B Mahadik* and JP Fisher. 3D Printing for Engineering Complex Tissues. Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress. Kyoto, Japan (2018).

106. B Mahadik* and JP Fisher. Workshop on 3D Printing and Bioprinting for Complex Tissue Engineering. 3rd Annual 3D Tissue Models. Boston, MA (2018).

107. JP Fisher*. 3D Printed Bioreactors for Cell Culture. Advances in Tissue Engineering, 26th Annual Short Course at Rice University. Houston, TX (2018).

108. JP Fisher*. 3D Printing for Engineering Complex Tissues. Biomedical Engineering Society (BMES) Annual Meeting. Atlanta, GA (2018).

109. JP Fisher*. 3D Printing for Engineering Complex Tissues. University of Illinois. Urbana-Champaign, IL (2018).

110. JP Fisher*. Foundation, Challenges, and Future Directions in Tissue Engineering. Translational Science 2019: Association for Clinical and Translational Science Workshop: Regenerative Medicine in Translation. Washington, DC (2019).

111. JP Fisher*. Building a 3D Placenta Model to Better Understand its Functionality as a Tissue Barrier. Society For Biomaterials Annual Meeting. Seattle, WA (2019).

112. JP Fisher*. Engineering and Applications of Biomaterials in 3D Printing. Regenerative Medicine Essentials Course. Wake Forest School of Medicine. Winston-Salem, NC (2019).

113. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Orthopedics, University of Maryland School of Medicine. Baltimore, MD (2019).

114. JP Fisher*. 3D Printed Bioreactors for Cell Culture. Advances in Tissue Engineering, 27th Annual Short Course at Rice University. Houston, TX (2019).

115. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Bioengineering Distinguished Seminar Series. University of Louisville. Louisville, KY (2019).

116. A Jones‡, J Katsnelson‡, B Mahadik‡, T Mollot‡, D Najafali‡, D Rivkin‡, C Piard‡, J Pinsky‡, A Robinson‡, G Yang‡, and JP Fisher*. Perfusion Based Liver Engineering: University of Maryland's Fearless Mpact. Vascular Tissue Challenge Meeting. NASA Ames Research Center, Mountain View, CA (2019).

117. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Biomedical Engineering. University of North Carolina / North Carolina State University. Raleigh, NC (2020).

118. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Polymer Science. University of Akron. Akron, OH (2020).

119. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Biomedical Engineering. SUNY, Stony Brook University. Stony Brook, NY (2020).

120. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Biomedical Engineering. Columbia University. New York, NY (2020).

121. JP Fisher*. 3D Printing for Engineering Complex Tissues. Cell Therapy Working Group, Center for Biologics Evaluation and Research. US Food and Drug Administration. White Oak, MD (2020).

122. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Biomedical Engineering. Virginia Commonwealth University. Virtual Presentation. (2020).

123. JP Fisher*. 3D Printing for Engineering Complex Tissues. Biomanufacturing Workshop. World Biomaterials Congress. Virtual Presentation. (2020).

124. JP Fisher*. Applied Biomaterials & Tissue Engineering: Clemson Award for Contributions to the Literature. World Biomaterials Congress. Virtual Presentation. (2020).

125. JP Fisher*. Tissue Engineering and 3D Bioprinting for Female Reproductive Organs: Building a 3D Placenta Model. 15th Annual Conference of the Korean Society for Fertility Preservation. Virtual Presentation. (2021).

126. JP Fisher*. 3D Printing for Engineering Complex Tissues. Division of Nephrology. Vanderbilt University. Virtual Presentation. (2021).

127. JP Fisher*. Clinical Applications of 3D Printed Biomaterials. Regenerative Medicine Essentials Course. Wake Forest School of Medicine. Virtual Presentation. (2021).

128. JP Fisher*. 3D Printed Bioreactors for Cell Culture. Advances in Tissue Engineering, 28th Annual Short Course at Rice University. Virtual Presentation. (2021).

129. JP Fisher*. 3D Printing for Engineering Complex Tissues. 3D Bioprinting Technical Conference. American Institute of Chemical Engineers. Virtual Presentation. (2021).

130. JP Fisher*. Commercialization Workshop. Next Generation Tissue Engineering Workshop at Columbia University. Virtual Presentation. (2021).

131. JP Fisher*. 3D Printing Human Tissues. Distinguished Scholar-Teacher Lecture Series. University of Maryland. College Park, MD. (2021).

132. JP Fisher*. 3D Printing for Engineering Complex Tissues. Tissue Engineering and Regenerative Medicine International Society - World Congress (TERMIS-WC). Virtual Presentation. (2021).

133. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Biomedical Engineering. Washington University. Virtual Presentation. (2022).

134. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Bioengineering. Rice University. Virtual Presentation. (2022).

135. JP Fisher*. Regeneration: 3D Printing for Human Tissues. Healthquake. Detroit International Research and Education Foundation. Detroit, MI (2022).

136. JP Fisher*. 3D Printing Strategies for Stem Cells in Complex Engineered Tissues. International Society for Stem Cell Research Annual Meeting. San Francisco, CA (2022).

137. JP Fisher*. 3D Printing for Engineering Complex Tissues. Regenerative Medicine Essentials Course. Wake Forest School of Medicine. Virtual Presentation. (2022).

138. JP Fisher*. 3D Printing of Complex Engineered Tissues. Advances in Tissue Engineering, 29th Annual Short Course at Rice University. Virtual Presentation. (2022).

139. JP Fisher*. 3D Printing to Engineer Complex Tissues. Advanced Cell and Tissue Biomanufacturing Gordon Research Conference. Newry, ME. (2023).

140. JP Fisher*. 3D Printing of Complex Engineered Tissues. Advances in Tissue Engineering, 30th

Annual Short Course at Rice University. Virtual Presentation. (2023).

141. JP Fisher*. 3D Printing for Engineering Complex Tissues. Department of Biomedical Engineering. Texas A&M University. College Station, TX. (2023).

142. S Mclaughlin, R Choe, and JP Fisher*. Biofabrication Approaches to Engineer Biomimetic Bone Tissue Interfaces. International Conference on Biofabrication. Saskatoon, SK, Canada. (2023).

143. JP Fisher*. 3D Printing to Engineer Gynecological Tissues. 2024 Bioengineering Symposium & 3D Biofabrication Workshop. University of Otago. New Zealand. Virtual Presentation (2024).

144. JP Fisher*. 3D Printing to Engineer Gynecological Tissues. School of Medicine. Georgetown University. Washington, DC. (2024).

145. JP Fisher*. 3D Printing to Engineer Gynecological Tissues. Biodesign Institute. Arizona State University. Tempe, AZ. (2024).

146. JP Fisher*. 30 Years of Tissue Engineering. Tissue Engineering and Regenerative Medicine International Society - World Congress (TERMIS-WC). Seattle, WA. (2024).

147. JP Fisher*. 3D Printing of Complex Engineered Tissues. Advances in Tissue Engineering, 31st Annual Short Course at Rice University. Virtual Presentation. (2024).

148. JP Fisher*. 3D Printing to Engineer Gynecological Tissues. Queenstown Research Week. Queenstown, New Zealand. (2024).

149. JP Fisher*. 3D Printing to Engineer Gynecological Tissues. University of Otago. Dunedin, New Zealand. (2024).

150. JP Fisher*. 3D Printing of Complex Engineered Tissues. Department of Bioengineering. George Mason University. Fairfax, VA. (2024).

151. JP Fisher*. 3D Printing of Complex Engineered Tissues. 12th US Korea Biomedical Engineering Workshop at the Biomedical Engineering Society Annual Meeting. Baltimore, MD (2024).

152. JP Fisher*. 3D Printing of Complex Engineered Tissues. Department of Biomedical Engineering. University of Virginia. Charlottesville, VA. (2024).

153. JP Fisher*. 3D Printing of Complex Engineered Tissues. Department of Biomedical Engineering. Purdue University. West Lafayette, IN. (2024).

154. JP Fisher*. 3D Printing of Complex Engineered Tissues. Department of Biomedical Engineering. New York University. Brooklyn, NY. (2025).

155. A Shabazz* and JP Fisher. 3D Printing to Engineer Functional Nipple Tissue. University of Otago. Dunedin, New Zealand (2025).

156. JP Fisher*. 3D Printing of Complex Engineered Tissues. Department of Biomedical Engineering. University of California, Davis. Davis, CA. (2025).

157. JP Fisher*. 3D Printing of Complex Engineered Tissues. Advances in Tissue Engineering, 32nd Annual Short Course at Rice University. Virtual Presentation. (2025).

158. JP Fisher*. 3D Printing of Complex Engineered Tissues. Bioengineering Symposium and 3D Biofabrication Workshop. University of Otago. Virtual Presentation. (2025).

ii. Refereed Presentations. (**Speaker, ‡JPF Mentored Author*)

1. JF McBride, JP Fisher*, and SH Gehrke. The Permeability of Temperature-Responsive Gels. Annual National AIChE Meeting. Chicago, IL (1996).

2. JP Fisher and SH Gehrke*. Influence of Microstructure on the Permeability of Hydrogels used for Drug Delivery Systems. Annual National AIChE Meeting. Los Angeles, CA (1997).

3. SH Gehrke*, S Rao, JP Fisher, and NE Nevers. Temperature-Triggered Solute Release from Hydrogels: Contributions of Diffusion and Convection. Annual National AIChE Meeting. Dallas, TX (1999).

4. JP Fisher*, TA Holland‡, PS Engel, D Dean, and AG Mikos. Preparation and Characterization of Photocrosslinked Poly(Propylene Fumarate) for Orthopedic Applications. Annual National AIChE Meeting. Los Angeles, CA (2000).

5. JP Fisher, TA Holland*‡, PS Engel, D Dean, and AG Mikos. Photocrosslinked Poly(Propylene Fumarate) Scaffolds for Orthopedic Applications. Annual MRS Meeting. Boston, MA (2000).

6. JP Fisher*, JWM Vehof, D Dean, JA Jansen, and AG Mikos. The In Vivo Biocompatibility of Photocrosslinked Poly(Propylene Fumarate) Scaffolds. Houston Society for Engineering in Medicine and Biology. Houston, TX (2001).

7. JP Fisher*, D Dean, and AG Mikos. Photocrosslinking of Diethyl Fumarate and Poly(Propylene Fumarate) for the Engineering of Bone Grafts. Annual National AIChE Meeting. Reno, NV (2001).

8. JP Fisher*, JWM Vehof, D Dean, JA Jansen, and AG Mikos. An In Vivo Study of Poly(Propylene Fumarate) Scaffolds: Tissue Response and Bone Formation. Annual BMES Meeting. Durham, NC (2001).

9. D Dean*, MN Cooke, JP Fisher, and AG Mikos. Stereolithographic Design and Production of Tissue Engineered Grafts. Computer Assisted Surgery. Nuremberg, Germany (2001).

10. F Mwale*, CN Demers, A Petit, J Temenoff, V Lim, JP Fisher, D Zukor, O Huk, AG Mikos, P Roughley, and J Antoniou. Analysis of Poly(Propylene Fumarate-co-Ethylene Glycol) As A Scaffold For Use In Tissue Engineering Of Intervertebral Disc: Retention Of Collagen And Proteoglycan. Annual Society For Biomaterials Meeting. Tampa, FL (2002).

11. JWM Vehof, JP Fisher, D Dean, PHM Spauwen, AG Mikos, and JA Jansen*. Bone Formation in Transforming Growth Factor beta-1-Coated Porous Poly(Propylene Fumarate) Scaffolds.

Annual Society For Biomaterials Meeting. Tampa, FL (2002).

12. MN Cooke, JP Fisher, D Dean*, C Rimnac, and AG Mikos. Control of 3D Biodegradable Scaffold Geometry. Annual Society For Biomaterials Meeting. Tampa, FL (2002).

13. JP Fisher*, Z Lalani, N Demian, MEK Wong, and AG Mikos. Immunohistochemical Characterization of Guided Bone Formation by a Biodegradable Tissue Engineering Scaffold in a Healing Tooth Socket of a Rabbit Model. Annual BMES Meeting. Houston, TX (2002).

14. JP Fisher*, Z Lalani, N Demian, MEK Wong, and AG Mikos. Characterization of Bone Formation within a Biodegradable Tissue Engineering Scaffold Using Immunohistochemical Techniques. Annual National AIChE Meeting. Indianapolis, IN (2002).

15. JP Fisher*, Z Lalani, CM Bossano, EM Brey, N Demian, MEK Wong, and AG Mikos. Immunohistochemical Evaluation of Bone Formation within Biodegradable Tissue Engineering Scaffolds. 4th International Conference on Bone Morphogenetic Proteins. Sacramento, CA (2002).

16. JP Fisher*, AG Mikos, and AH Reddi. Hydrogel Scaffolds for Tissue Engineering of Articular Cartilage. Annual National AIChE Meeting. San Francisco, CA (2003).

17. MS Wolfe*, JP Fisher, JEK Chen, A Totonchi, D Lennon, MN Cooke, AI Caplan, C Rimnac, AG Mikos, and D Dean. UV-polymerized Poly(Propylene Fumarate)/□-Tricalcium Phosphate Solid/Foam Composite Scaffolds with Autologous Marrow and TGF-□2 for Tissue Engineered Cranial Grafts. Midwestern Tissue Engineering Consortium. Cincinnati, OH (2003).

18. D Dean*, MS Wolfe, A Totonchi, JEK Chen, JP Fisher, Y Ahmad, CM Rimnac, JE George, and AG Mikos. Photopolymerized Composite Foam/Solid Poly(Propylene Fumarate) Scaffolds Treated with Transforming Growth Factor-β2 in a Critical-Size, Rabbit, Skull-Defect Model. FASEB: American Association of Anatomists. Washington, DC (2004).

19. JP Fisher*, S Jo, AG Mikos, and AH Reddi. Thermoreversible Hydrogel Scaffolds for Articular Cartilage Engineering. 7th World Biomaterials Congress. Sydney, Australia (2004).

20. DM Yoon*‡ and JP Fisher. Engineering Molecular Signaling within an Artificial Articular Cartilage Graft. Annual BMES Meeting. Philadelphia, PA (2004).

21. DM Yoon*‡ and JP Fisher. Biomaterial Effects upon Molecular Signaling within Engineered Articular Cartilage Grafts. University of Maryland Biosciences Day. College Park, MD (2004).

22. DM Yoon*‡ and JP Fisher. Biomaterial Effects upon Molecular Signaling within Engineered Articular Cartilage Grafts. Annual National AIChE Meeting. Austin, TX (2004).

23. DM Yoon*‡ and JP Fisher. Altering Biomaterial Properties Affect Growth Factor Expression by Chondrocytes. Annual Society For Biomaterials Meeting. Memphis, TN (2005).

24. DM Yoon*‡ and JP Fisher. Engineered Articular Cartilage Grafts. University of Maryland Biosciences Day. College Park, MD (2005). Best Poster Award.

25. DM Yoon[‡] and JP Fisher*. Engineered Tissues Through Biomaterial Control of Encapsulated Cell Signaling. 2nd International Conference on Tissue Engineering. Crete, Greece (2005).

26. SW An[‡], AD Thompson[‡], MW Betz*[‡], JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher. Scaffold Facilitated Osteoblastic Differentiation for Orbital Bone Repair. Annual BMES Meeting. Baltimore, MD (2005).

27. DM Yoon*[‡] and JP Fisher. Hydrogel Water Content Effects Chondrocyte Gene Expression By Signaling Pathway Activation. Annual BMES Meeting. Baltimore, MD (2005).

28. S Kaihara[‡], P Modi[‡], JL Curcio*[‡], and JP Fisher. Development of Cyclic Acetal Networks as Novel Degradable Biomaterials. Annual BMES Meeting. Baltimore, MD (2005).

29. EE Falco[‡], JS Roth, and JP Fisher*. EHD Monomer Effect on Myoblastic Cell Attachment and Proliferation. Annual National AIChE Meeting. Cincinnati, OH (2005).

30. EE Falco*[‡], JS Roth, and JP Fisher. Growth Factor Influence on Myoblastic Cells Attached to a Novel Polymer. Annual Society For Biomaterials Meeting. Pittsburgh, PA (2006).

31. AD Thompson*[‡], MW Betz[‡], DM Yoon[‡], and JP Fisher. Osteoblastic Differentiation of Mesenchymal Stem Cells Induced by Coculture with Encapsulated Chondrocytes. Annual BMES Meeting. Chicago, IL (2006).

32. JL Moreau[‡] and JP Fisher*. A Novel Cyclic Acetal Biomaterial and Its Use in Cleft Palate Repair. Annual BMES Meeting. Chicago, IL (2006).

33. S Kaihara*[‡], P Modi[‡], K Toshima, JP Fisher, and S Matsumura. Synthesis and Properties of Novel Biomaterials Based on Cyclic Acetal. IUPAC International Symposium on Advanced Polymers for Emerging Technologies. Pusan, Korea (2006).

34. DM Yoon*[‡] and JP Fisher. Chondrocytic IGF-1 Signaling Within a Degradable Biomaterial. Annual National AIChE Meeting. San Francisco, CA (2006).

35. EE Falco*[‡], EM Rubinstien[‡], JS Roth, and JP Fisher. Effects of IGF-1 Modified EHD Networks on Myoblastic Cell Proliferation. Annual National AIChE Meeting. San Francisco, CA (2006).

36. MW Betz*[‡], PC Modi[‡], JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher. Initiator System for Encapsulation of Mesenchymal Stem Cells and Analysis of Osteoblastic Differentiation for Orbital Bone Repair. Annual National AIChE Meeting. San Francisco, CA (2006).

37. AD Thompson*[‡], MW Betz[‡], DM Yoon[‡], and JP Fisher. Osteoblastic Differentiation of Mesenchymal Stem Cells Induced by Coculture with Encapsulated Chondrocytes. University of Maryland Biosciences Day. College Park, MD (2006).

38. DM Yoon[‡] and JP Fisher*. Biomaterials and Molecular Signaling within Engineered Cartilage. Hilton Head Workshop on Engineering Tissues. Hilton Head, NC (2007).

39. S Kaihara*[‡], JP Fisher, and S Matsumura. Synthesis and Characterization of Novel Biomaterials Based on Cyclic Acetal and PEG Units. American Chemical Society Annual

Meeting. Chicago, IL (2007).

40. EE Falco*‡, JS Roth, and JP Fisher. Growth Factor Influence on Myoblastic Cells Attached to a Novel Polymer. Engineering Faculty Research Day, National University of Ireland. Galway, Ireland (2007).

41. DM Yoon*‡ and JP Fisher. Exogenous Insulin-like Growth Factor-1 Delivery Effects on Endogenous Signaling of Encapsulated Chondrocytes in Alginate Hydrogels. Annual Society For Biomaterials Meeting. Chicago, IL (2007).

42. MW Betz*‡, PC Modi‡, JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher. Orbital Floor Regeneration Using Cyclic Acetal Hydrogels. Annual Society For Biomaterials Meeting. Chicago, IL (2007).

43. DM Yoon‡ and JP Fisher*. Engineered Cartilage through Biomaterial Control of Encapsulated Chondrocyte Signaling. Arthritis Research Conference. Stone Mountain, GA (2007).

44. EE Falco*‡, MM Kulkarni, SJ Roth, JP Fisher, and A Pandit. Use of EH Networks as a Delivery System for GFP Encoded Lipoplexes. 21st European Conference on Biomaterials. Brighton, UK (2007).

45. K Kim*‡, D Dean, AG Mikos, and JP Fisher. Effect of Cell Seeding Density in Osteogenic Signaling of Bone Marrow Stromal Cells in Three Dimensional Porous Scaffolds. Annual BMES Meeting, Los Angeles, CA (2007).

46. S Kaihara*‡, S Matsumura, and JP Fisher. Cell Encapsulation and Degradation Properties of a Novel Hydrogel Based on Cyclic Acetal and PEG. Annual BMES Meeting, Los Angeles, CA (2007).

47. J Wallace*, K Kim‡, AG Mikos, JP Fisher, and D Dean. Photo-Crosslinking of Low (i.e., Less Than 1000 Da) Molecular Weight Poly(Propylene Fumarate) by Stereolithography. Midwestern Tissue Engineering Consortium. Cincinnati, OH (2008).

48. MW Betz*‡, JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher. Orbital Floor Regeneration Using Macroporous Cyclic Acetal Hydrogels. 8th World Biomaterials Congress. Amsterdam, The Netherlands (2008).

49. S Kaihara*‡, S Matsumura, and JP Fisher. Cellular Response to a Degradable Cyclic Acetal Modified PEG Hydrogel. 8th World Biomaterials Congress. Amsterdam, The Netherlands (2008).

50. DM Yoon*‡ and JP Fisher. Effect of Interpenetrating Hyaluronic Acid in Alginate Hydrogels on Endogenous Chondrocyte Signaling Mechanisms. 8th World Biomaterials Congress. Amsterdam, The Netherlands (2008).

51. JP Fisher*. Molecular Signaling Events in Engineered Tissues. 3rd International Conference on Tissue Engineering. Rhodes, Greece (2008).

52. MW Betz*‡, JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher. Osteogenic Cell Signaling in

Macroporous Cyclic Acetal Hydrogels. Annual BMES Meeting. St. Louis, IL (2008).

53. EE Falco*‡, SJ Roth, and JP Fisher. Release of Insulin Like Growth Factor-1/Green Fluorescent Protein Plasmids from Porous EH Networks. Annual BMES Meeting. St. Louis, IL (2008).

54. K Kim*‡, D Dean, AG Mikos, and JP Fisher. Effect of Cell Seeding Density on Osteogenic Signaling of Bone Marrow Stromal Cells in Two Dimensional PPF Disks. Annual BMES Meeting. St. Louis, IL (2008).

55. MW Betz*‡, JF Caccamese, DP Coletti, JJ Sauk, and JP Fisher. Macroporous Cyclic Acetal Hydrogels for Orbital Floor Regeneration. Annual AIChE Meeting. Philadelphia, PA (2008).

56. EE Falco*‡, SJ Roth, and JP Fisher. Release of Insulin Like Growth Factor-1/Green Fluorescent Protein Plasmids from PEG Coated Porous EH Networks. Annual AIChE Meeting. Philadelphia, PA (2008).

57. K Kim*‡, M Patel‡, D Dean, AG Mikos, and JP Fisher. Endogenous Growth Factor Gene Expression Profile of Bone Marrow Stromal Cells on 3D Porous Poly(Propylene Fumarate)/Hydroxyapatite Nanocomposites. Annual AIChE Meeting. Philadelphia, PA (2008).

58. M Patel*‡ and JP Fisher. Cyclic Acetal Hydroxyapatite Nanocomposites for Bone Tissue Engineering Applications. Annual AIChE Meeting. Philadelphia, PA (2008).

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225. K Jones[‡]*, M Santoro[‡], JP Fisher. Comparison of 3D Microprinting Biocompatible Photoresist. Biomedical Engineering Society (BMES) Annual Meeting. Atlanta, GA (2018).

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240. J Allbritton-King‡*, M Kimicata‡, and JP Fisher. Gradation of Porcine Bladder ECM in Hydrogels for Chronic Wound Treatment. Bioscience Day. College Park, MD (2019).

241. M Kimicata‡*, J Allbritton-King‡, P Swamykumar‡, J Navarro‡, M Santoro‡, and JP Fisher. PPF/Pericardium Biohybrid Scaffolds for Vascular Graft Applications. Bioscience Day. College Park, MD (2019).

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243. JR Yu‡*, M Janssen‡, BJ Liang, H-C Huang, and JP Fisher. A Liposome/Gelatin Methacrylate Nanocomposite Hydrogel System for SDF-1α Delivery and Stimulation of Cell Migration. UMD BIOE Departmental Retreat. College Park, MD (2019).

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245. JY Choi‡*, B Mahadik‡, and JP Fisher. Recreating a Novel 3D Cellular Microenvironment of Human Joint Tissue to Understand the Mechanism of Cellular Senescence in Aged Stem Cells. American Society for Cell Biology Annual Meeting. Washington DC (2019).

246. JR Yu‡*, M Janssen‡, BJ Liang, H-C Huang, and JP Fisher. A Liposome/Gelatin Methacrylate Nanocomposite Hydrogel System for SDF-1α Delivery and Stimulation of Cell Migration. Biomedical Engineering Society (BMES) Annual Meeting. Philadelphia, PA (2019).

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254. R Choe‡* and JP Fisher. Computational Investigation of Printing Patterns Within 3D Printed Multilayered / Interface Scaffolds for Osteochondral Tissue Engineering. Biomedical Engineering Society (BMES) Annual Meeting. Virtual Presentation. (2020).

255. J Choi‡*, B Mahadik‡, and JP Fisher. Tri-Chamber Bioreactor for Modeling Cellular Senescence in Osteoarthritis. Biomedical Engineering Society (BMES) Annual Meeting. Virtual Presentation. (2020).

256. B Mahadik‡*, A Melchiorri, SJ Lee, J Yoo, A Atala, A Mikos, and JP Fisher. Development Of An Open Source 3D Bioprinting Database For Microextrusion Printing. Biomedical Engineering Society (BMES) Annual Meeting. Virtual Presentation. (2020).

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260. RH Choe‡* and JP Fisher. Proteoglycan Functionalized Methacrylated Hyaluronic Acid Hydrogels for 3D Bioprinting of Cartilage. Biomedical Engineering Society (BMES) Annual Meeting. Virtual Presentation. (2021).

261. E Jabari‡*, RH Choe‡, and JP Fisher. Modulating Scaffold Stiffness to Investigate the Role of Osteoclasts in Bone Tissue Engineering. Biomedical Engineering Society (BMES) Annual Meeting. Virtual Presentation. (2021).

262. ST McLoughlin[‡]* and JP Fisher. Harnessing GelMA Hydrogel Charge Interactions to Enhance Resolution of Extrusion Bioprinting. Biomedical Engineering Society (BMES) Annual Meeting. Virtual Presentation. (2021).

263. PH Nguyen[‡]*, ST McLoughlin[‡], and JP Fisher. Modular Compression Bioreactor for Patient-Specific Craniofacial Bone Tissue Engineering. Biomedical Engineering Society (BMES) Annual Meeting. Virtual Presentation. (2021).

264. M Williams[‡]*, S Yee[‡], JY Choi[‡], and JP Fisher. Investigation of Aberrant Cellular Mechanisms with the Exposure of Nanoplastics in Perfusion Cell Culture. Biomedical Engineering Society (BMES) Annual Meeting. Virtual Presentation. (2021).

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266. JY Choi[‡]*, B Mahadik[‡], and JP Fisher. Creating Human Joint Tissue Bioreactor for Studying the Impact of Osteoarthritis Synoviocytes on Stem Cell Differentiation Potential and Altered Cellular Functions in Neighboring Human Mesenchymal Stem Cells. Society For Biomaterials (SFB) Annual Meeting. Baltimore, MD (2022).

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268. NM Eby[‡]*, RH Choe[‡], B Kuzemchak[‡], J Osborne[‡], and JP Fisher. 3D Hybrid Printed PCL/MEHA Scaffolds for Osteochondral Tissue Regeneration. Society For Biomaterials (SFB) Annual Meeting. Baltimore, MD (2022).

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270. C Johnson[‡]*, H Aranda-Espinoza, and JP Fisher. Exploring the Synergistic Connection between Glucose Metabolism and Mechanosensitivity in Macrophage Function. Society For Biomaterials Annual Meeting. Baltimore, MD (2022)

271. B Kuzemchak[‡]*, RH Choe[‡], M Sherry[‡], J Osborn[‡], and JP Fisher. Assessing Permittivity Frequency Response in GelMA/NaCl Hydrogels for Dielectrically Accurate Tissue Phantoms. Society For Biomaterials (SFB) Annual Meeting. Baltimore, MD (2022).

272. ST McLoughlin[‡]* and JP Fisher. Manipulation of Hydrogel Charge Interactions for the Enhancement of Extrusion Bioprinting Resolution. Society For Biomaterials (SFB) Annual Meeting. Baltimore, MD (2022).

273. S Yee[‡]*, JY Choi[‡], and JP Fisher. Investigation of Aberrant Cellular Changes with the Nanoplastics Exposure in Perfusion Cell Culture System. Society For Biomaterials (SFB) Annual Meeting. Baltimore, MD (2022).

274. ST McLoughlin[‡]* and JP Fisher. Enhancing Extrusion Bioprinting Resolution By Manipulation of Hydrogel Charge Interactions. Tissue Engineering and Regenerative Medicine International Society Americas (TERMIS-AM) Conference. Toronto, ON, Canada (2022).

275. C Johnson[‡]*, D Fischer[‡], H Aranda-Espinoza, and JP Fisher. Hyperglycemic Conditions Enhance Mechanosensitivity to Substrate Stiffness by Proinflammatory Macrophages. Tissue Engineering and Regenerative Medicine International Society Americas (TERMIS-AM) Conference. Toronto, ON, Canada (2022).

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277. E Jabari[‡]*, RH Choe[‡], and JP Fisher. Modulating MSC/OC Co-Culture Conditions to Investigate the Role of OCs in Bone Tissue Engineering. Tissue Engineering and Regenerative Medicine International Society Americas (TERMIS-AM) Conference. Toronto, ON, Canada (2022).

278. ST McLoughlin[‡]* and JP Fisher. Novel Post Processing Strategy of Printed GelMA Hydrogels for Ultra-Precise Extrusion Bioprinting. International Conference on Biofabrication. Montecatini, Italy (2022).

279. RH Choe[‡]*, EJ Devoy[‡], B Kuzemchak[‡], M Sherry[‡], E Jabari[‡], JD Packer, and JP Fisher. Computational Investigation of Shear Properties within 3D Printed Biphasic Osteochondral Interface Scaffolds. World Congress of Biomechanics. Taipei, Taiwan (2022).

280. C Johnson[‡]*, H Aranda-Espinoza, and JP Fisher. Hyperglycemia Alters FAK-Associated Protein Mechanosensitivity in Unstimulated Macrophages. Biomedical Engineering Society (BMES) Annual Meeting. San Antonio, TX (2022).

281. R Felix[‡]*, S Yang, P Hu, J Podell, YM Kuo, CY Lin, W Gu, JP Fisher, L Kaddis, J Cantu, and N Badjatia. Age Determination by Modeling the Autonomic Nervous System and Dicrotic Notch Signal from Continuous Photoplethysmography Monitoring. 39th Annual Symposium of the National Neurotrauma Society. Austin, Texas (2023).

282. S McLoughlin[‡]*, RH Choe[‡], and JP Fisher. Biofabrication Approaches to Engineer Biomimetic Bone Tissue Interfaces. Materials Research Society Conference. Boston, MA (2023).

283. ST McLoughlin[‡]*, RH Choe[‡], and JP Fisher. Biofabrication Strategies for the Generation of Bone Tissue Interfaces. Queenstown Research Week Molecular Biology Meeting. Queenstown, New Zealand (2023).

284. ST McLoughlin[‡]*, A McKenna[‡], and JP Fisher. Poly-L-lysine Molecular Weight Drives Material Properties and Cell Response in 4D Printed Hydrogels. Tissue Engineering and Regenerative Medicine Society-Americas (TERMIS-AM) Conference. Boston, MA (2023).

285. ST McLoughlin[‡]*, AR McKenna[‡], and JP Fisher. 4D Bioprinting for Generation of Thin

Membranous Tissues. Biomedical Engineering Society (BMES) Advanced Biomanufacturing SIG Meeting. College Park, MD (2023).

286. A Shabazz[‡]*, L Gomes[‡], J Fitlin[‡], and JP Fisher. Encouraging Vascular Network Formation in a 3D Printed Nipple-Areolar Complex for Post-Mastectomy Nipple Reconstruction. 12th World Biomaterials Congress (WBC). Daegu, South Korea (2024).

287. A Shabazz[‡]*, J Fitlin[‡], and JP Fisher. Promoting Architectural Integrity in a 3D Printed Nipple-Areolar Complex for Post-Mastectomy Nipple Reconstruction. 7th Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress. Seattle, Washington (2024).

288. A Shabazz[‡]* and JP Fisher. 3D-Printed Responsive Erectable Nipple Areolar Complex Stimulated by Muscle Contraction and Premature Vascular Network Formation. Biomedical Engineering Society (BMES) Annual Meeting. Baltimore, MD (2024).

289. LA Gomes[‡]*, A Shabazz[‡], and JP Fisher. Novel Dynamic Controlled-Release Media Shower Bioreactor Design for 3D Bioprinted Nipple-Areola Complexes (NACs). Biomedical Engineering Society (BMES) Annual Meeting. Baltimore, MD (2024).

290. RB Felix[‡]*, S Yang, J Podell, C Lin, C Liang, W Gu, JP Fisher, N Badjatia, and P Hu. Rapid Classification of Vascular Aging from Continuous Photoplethysmography Monitoring of Trauma Patients. Biomedical Engineering Society (BMES) Annual Meeting. Baltimore, MD (2024).

291. L Nho[‡]*, RB Felix[‡], and JP Fisher. Developing a Dataset of Printability Assessments Under Various Extrusion Bioprint Conditions. Biomedical Engineering Society (BMES) Annual Meeting. Baltimore, MD (2024).

292. AP Christensen[‡]* and JP Fisher. Conjugation of Proangiogenic Peptide to 3D Printed Gelatin Methacrylate Affects Physical Properties of the Bioink. Biomedical Engineering Society (BMES) Annual Meeting. Baltimore, MD (2024).

293. WP Holeman[‡]*, S Han[‡], S Hart[‡], K Bradish[‡], and JP Fisher. Development of a Sexually Dimorphic in vitro Placenta Barrier. Biomedical Engineering Society (BMES) Annual Meeting. Baltimore, MD (2024).

294. WP Holeman[‡], S Han[‡], K Bradish[‡], and JP Fisher. Development of a Gestational Diabetes Mellitus In Vitro Placenta Barrier Model. Northeast Bioengineering Conference. Brooklyn, NY (2025).

295. WP Holeman[‡], S Han[‡], K Bradish[‡], and JP Fisher. Development of a Gestational Diabetes Mellitus In Vitro Placenta Barrier Model. 8th International Conference on Tissue Engineering. Sisi, Greece (2025).

296. RB Felix[‡]*, M Uzoukwu[‡], L Nho[‡], D Jesner[‡], S Bala, T Adusumilli, Z Litman, PF Hu, and JP Fisher. PrintabilityAssist: An AI-Integrated Decision Support Tool for Extrusion Bioprinting. 8th International Conference on Tissue Engineering. Sisi, Greece (2025).

297. AP Christensen and JP Fisher. Investigating the Effect of a Proangiogenic Peptide on Properties of 3D Printable Hydrogel for Soft Tissue Implants. 8th International Conference on Tissue Engineering. Sisi, Greece (2025).

298. JP Fisher. 3D Printing to Engineer Complex Tissues. 8th International Conference on Tissue Engineering. Sisi, Greece (2025).

299. D Jesner, R Felix, WP Holeman, and JP Fisher. Mapping Decellularization Process Conditions to Proteomic Profile and Cellular Function: Towards a Tunable Placental dECM Bioink. American Society for Matrix Biology Annual Meeting. Baltimore, MD (2025).

d. Patents and Patent Applications.

37. WL O'Brien, DA Oester, JA Barnhorst, L Kupczyk-Subotkowska, and JP Fisher. Physiological Fluid Separation Vehicles Having Improved Resistance to Inward Migration of Therapeutic Agents. US Patent 6,072,022 (06/06/2000).

38. JF McBride, SH Gehrke, and JP Fisher. Temperature Controlled Solute Delivery System. US Patent 6,733,788 (05/23/2004).

39. JP Fisher and AG Mikos. Photocrosslinking of Diethyl Fumarate/Poly(Propylene Fumarate) Biomaterials. US Patent 6,753,358 (06/22/2004).

40. JF McBride, SH Gehrke, and JP Fisher. Temperature Controlled Solute Delivery System. US Patent 7,407,671 (08/05/2008).

41. JP Fisher, S Kaihara, JL Moreau, and P Modi. Cyclic Acetal Biomaterials. US Patent 8,715,708 (05/06/2014).

42. JP Fisher, AB Yeatts, and E Geibel. Tubular Bioreactor System for Use in Bone and Cartilage Tissue Engineering. US Patent 9,260,686 (02/16/2016).

43. HD Dean, JE Wallace, AG Mikos, M Wang, A Siblani, K Kim, and JP Fisher. Continuous Digital Light Processing Additive Manufacturing of Implants. US Patent 9,688,023 (06/27/2017) & [112013003863 granted Brazil, 2,808,535 granted Canada, 103379924 granted China, 2,605,805 granted Europe, 6027533 granted Japan, 1018794380000 granted South Korea, 366709 granted Mexico, 394542 granted India, 224736 granted Israel, 2,605,805 BE granted Belgium, 2,605,805 CH granted Switzerland, 2,605,805 DE granted Germany, 2,605,805 GB granted United Kingdom, 2,605,805 IE granted Ireland, 2,605,805 LU granted Luxembourg, 2,605,805 MC granted Monaco]

44. L Bracaglia, P Sharma, and JP Fisher. Polymer-Tissue Hybrid Biomaterials and Methods of Making and Using Same. US Patent 9,795,471 (10/24/2017).

45. JP Fisher, A Melchiorri, N Hibino, A Krieger, JP Costello, and C Cochenour. Compositions and Methods for Making Biodegradable Structures. US Patent 10,034,960 (07/31/2018).

46. HD Dean, A Siblani, EJ Mott, JP Fisher, MO Wang, and AG Mikos. Absorbant and Reflecting Biocompatible Dyes for Highly Accurate Medical Implants. US Patent 10,183,477 (01/22/2019) & [112015012344 granted Brazil, 2,892,893 granted Canada, 105263537 granted China,

13859090.6 granted Europe, 5225/DELNP/2015 pending India, 238857 granted Israel, 2015-545498 granted Japan, MX/a/2015/006861 granted Mexico, 1020157016780 KR granted South Korea 1020187033490 KR granted South Korea].

47. AI Son, K Hashimoto-Torii, M Torii, PD Morton, S Ishii, J Opfermann, J Liu, JP Fisher, M Santoro, and PCW Kim. Porous Implantable Devices. US Patent 11,543,283 (12/27/2022).

48. T Guo, JP Fisher, H Baker, MJ Lerman, and R Choe. Acellular Bioactive Scaffold Device and Methods of Fabrication and Treatment Relating Thereto. US Patent 11,701,232 (07/18/2023).

49. HD Dean, JE Wallace, AG Mikos, M Wang, A Siblani, K Kim, and JP Fisher. Continuous Digital Light Processing Additive Manufacturing of Implants. US Patent 11,865,785 (01/09/2024)

50. HD Dean, A Siblani, EJ Mott, JP Fisher, MO Wang, and AG Mikos. Continuous Digital Light Processing Additive Manufacturing of Implants. US Patent 12,220,870 (02/11/2025).

51. S Van Belleghem, P Kim, and JP Fisher. 3D Printed Scaffold Structures and Methods of Fabrication. *Pending.*

52. M Kimicata and JP Fisher. 3D Printed UV Crosslinking Masks. *Pending.*

53. ST McLoughlin and JP Fisher. 4D Printing for Membranous Tissue Fabrication. *US Provisional Patent Application. Pending.*

e. Contracts and Grants.

1. Development of a Strategy to Treat Bone Tissue Loss Resulting from Long Term Space Flights,
Minta Martin Fund Award, University of Maryland,
Principal Investigator: John P. Fisher,
05/01/2004 - 04/30/2006 ($50,000).

2. CAREER: Enhancing Cell Signaling in Heterogeneous Cell Populations (CBET 0448684),
National Science Foundation,
Principal Investigator: John P. Fisher,
06/01/2005 - 05/31/2010 ($399,440).

3. Research Experiences for Undergraduates Supplement (CBET 0540026),
National Science Foundation,
Principal Investigator: John P. Fisher,
07/01/2005 - 08/31/2005 ($3,000).

4. IGF-1 Signaling in Engineered Cartilage,
Arthritis Foundation,
Principal Investigator: John P. Fisher,
07/01/2006 - 06/30/2008 ($150,000).

5. Graduate Research Supplement (CBET 0632188),
National Science Foundation,
Principal Investigator: John P. Fisher,
09/01/2006 - 08/31/2007 ($37,177).

6. UMD-NIST Center for Nanomanufacturing and Metrology Seed Funding,
Center for Nanoparticle Risk, Impact and Assessment,
Principal Investigator: John P. Fisher,
10/01/2006 - 09/30/2007 ($50,000).

7. International Research and Education in Engineering Supplement (CBET 0637060),
National Science Foundation,
Principal Investigator: John P. Fisher,
01/01/2007 - 06/30/2007 ($18,849).

8. Molecular and Cellular Bioengineering Research Experiences for Undergraduates Site (EEC 0649052),
National Science Foundation,
Principal Investigator: John P. Fisher,
01/01/2007 - 12/31/2009 ($390,000).

9. Strength and Resorption of Biodegradable Skull Implants (R01 DE013740),
National Institutes of Health,
Principal Investigator: David Dean, Case Western Reserve University, (JPF is co-I)
04/01/2007 - 03/31/2013 ($393,309 to JPF).

10. Nanostructured Bone Engineering Scaffolds for Dental Applications,
State of Maryland, Department of Business and Economic Development,
Principal Investigator: John P. Fisher,
06/01/2007 - 05/31/2008 ($133,610).

11. Human Mesenchymal Stem Cells for Craniofacial Bone Regeneration,
State of Maryland, Maryland Stem Cell Research Fund,
Principal Investigator: John P. Fisher,
12/31/2007 - 12/31/2009 ($229,791).

12. IGF-1 Signaling in Engineered Cartilage (Renewal),
Arthritis Foundation,
Principal Investigator: John P. Fisher,
07/01/2008 - 06/30/2010 ($180,000).

13. National Institutes of Health Clinical Loan Repayment Program (OCRC9032),
National Institutes of Health,
Principal Investigator: John P. Fisher,
07/01/2008 - 06/30/2010 ($5,898).
Renewal: 07/01/2010 - 06/30/2011 ($3,182).

14. Injectable and Strong Nano-Apatite/Stem Cell Scaffolds for Bone Regeneration (R01 DE14190),
National Institutes of Health,
Principal Investigator: Hockin H. K. Xu, University of Maryland Dental School, (JPF is co-I)
04/01/2009 - 03/31/2014 ($37,500 to JPF).

15. Novel Vectors for Reprogramming Human Stromal Vascular Cells into Insulin-Producing Cells,

State of Maryland, Maryland Stem Cell Research Fund,
Principal Investigator: Dawei Gong, University of Maryland Medical School, (JPF is co-I)
07/01/2009 - 06/30/2011 ($32,200 to JPF).

16. Graduate Research Supplement (CBET 0943017),
National Science Foundation,
Principal Investigator: John P. Fisher,
02/01/2010 - 01/31/2011 ($49,774).

17. REU Site: Molecular & Cellular Bioengineering (EEC 1005123),
National Science Foundation,
Principal Investigator: John P. Fisher,
05/15/2010 - 05/14/2013 ($420,000).

18. Delivery of Growth Factors as a Therapy for Pediatric Epilepsy,
State of Maryland, UMCP & UMB Seed Fund,
Principal Investigator: Elizabeth M. Powell, University of Maryland Medical School, (JPF is co-I)
06/01/2010 - 05/31/2011 ($37,500 to JPF).

19. Recovery: Competitive Supplement to R01 DE14190,
National Institutes of Health,
Principal Investigator: Hockin H K Xu, University of Maryland Dental School, (JPF is co-I)
09/01/2010 - 08/31/2011 ($46,687 to JPF).

20. FDA Graduate Research Fellowship (Supporting Ms. K. Ferlin),
Oak Ridge Institute for Science and Education (ORISE),
Principal Investigator: John P. Fisher,
01/01/2011 - 07/31/2011 ($9,940),
Renewal: 08/01/2011 - 07/31/2012 ($21,096).

21. Tubular Perfusion System (TPS) Generated Prevascularized Bone Tissue (R01 AR061460-01A1),
National Institutes of Health,
Principal Investigator: John P. Fisher,
09/01/2011 - 08/31/2015 ($1,353,480).

22. UMCERSI: Development of Standards for the Evaluation of Conventional and Advanced Tissue Engineering Scaffolds,
U.S. Food & Drug Administration,
Principal Investigator: William E. Bentley, University of Maryland, (JPF is co-I)
09/15/2011 - 09/14/2012 ($50,000 to JPF),
Renewal: 9/15/2012 – 09/14/2013 ($44,176 to JPF),
Renewal: 9/15/2013 – 09/14/2014 ($54,124 to JPF).

23. NSF/FDA Scholar In Residence: Biomaterials for MSC Adhesion and Enrichment (CBET 1238398),
National Science Foundation,
Principal Investigator: John P. Fisher,
06/15/2012 - 06/14/2014 ($122,594).

24. A New Generation of Tissue Engineered Vascular Grafts Using 3D Printing Technology,

Children's National Medical Center's Sheikh Zayed Institute & University of Maryland's A. James Clark School of Engineering,
Principal Investigator: Axel Krieger, Children's National Medical Center, (JPF is co-I)
01/03/2013 - 01/02/2014 ($80,000 to JPF),
Renewal: 01/03/2014 – 01/02/2015 ($80,000 to JPF).

25. Shear Force Effects on Superficial Cartilage Regeneration (CBET 1264517),
National Science Foundation,
Principal Investigator: John P. Fisher,
05/15/2013 - 05/14/2016 ($309,771).

26. Development of Technologies that Address the Complex Architecture of the Face During the Treatment of Severe Facial Burn Injury,
Department of Defense (SBIR, Phase I),
Principal Investigator: Luke Burnett, KeraNetics, (JPF is co-I)
11/01/2013 - 04/30/2014 ($44,996 to JPF).

27. Pediatric Tissue Engineering and Regenerative Medicine Center,
Children's National Medical Center's Sheikh Zayed Institute
Principal Investigator: John P. Fisher,
06/15/2014 - 06/15/2018 ($368,400).

28. 2014 TERMIS-AM Conference in Washington, DC on December 13-16, 2014 (CBET 1439059)
National Science Foundation,
Principal Investigator: John P. Fisher,
09/01/2014 - 08/31/2015 ($33,500).

29. 2014 TERMIS-AM Conference in Washington, DC on December 13-16, 2014 (R13 EB019873)
National Institutes of Health,
Principal Investigator: Jennifer Elisseeff, The Johns Hopkins University, (JPF is co-I)
09/01/2014 - 08/31/2015 ($10,000).

30. NSF/FDA Scholar In Residence: 3D Printed Biomaterials for MSC Attachment and Targeted Differentiation (CBET1445700),
National Science Foundation,
Principal Investigator: John P. Fisher,
01/01/2015 - 12/31/2016 ($144,567).

31. Development of Technologies that Address the Complex Architecture of the Face During the Treatment of Severe Facial Burn Injury,
Department of Defense (SBIR, Phase II),
Principal Investigator: Luke Burnett, KeraNetics, (JPF is co-I)
02/01/2015 - 01/31/2017 ($400,000 to JPF).

32. Three-Dimensional Image-Guided Development and Optimization of Molecular Regulating Bone Regenerative Scaffolds (1R01EB014946 - 01A1),
National Institutes of Health,
Principal Investigator: Yu Chen, University of Maryland, (JPF is co-I)
04/01/2015 - 03/31/2019 ($486,000 to JPF).

33. Expansion of Hematopoietic Stem Cells In a 3D Printed Bioreactor System Containing Mesenchymal Stem Cells as a Hematopoietic Microenvironment,
State of Maryland, Maryland Stem Cell Research Fund,
Principal Investigator: John P. Fisher,
06/30/2015 - 06/29/2018 ($690,000).

34. Novel Cardiovascular Biomaterials for Regenerative Medicine,
Fulbright Scholar Program,
Principal Investigator: John P. Fisher,
07/01/2015 - 12/31/2015 (€26,000).

35. Novel Modular Nerve Lengthening Device for Peripheral Nerve Regeneration
Veterans Administration,
Principal Investigator: Sameer Shah, University of California, San Diego, (JPF is co-I)
07/01/2015 - 06/30/2019 ($44,000 to JPF).

36. 3D Printed Polystyrene for Stem Cell Expansion,
U.S. Department of Commerce, National Institute of Standards and Technology,
Principal Investigator: John P. Fisher,
08/01/2015 - 07/31/2019 ($307,816).

37. Altering The Physical Microenvironment And Enhancing Lipid Availability For In Vitro Follicle And Oocyte Development (R56 OD018304),
National Institutes of Health,
Principal Investigator: Nucharin Songsasen, Smithsonian Institution, (JPF is co-I)
08/01/2015 - 07/31/2016 ($69,207 to JPF).

38. Biohybrid Strategies for Decellularized Tissues (CBET 1604742),
National Science Foundation,
Principal Investigator: John P. Fisher,
06/01/2016 - 05/31/2019 ($307,371).

39. Development of a Bioreactor for Endothelial Cells,
MIPS-Maryland Industrial Partnerships Program,
Principal Investigator: John P. Fisher,
09/01/2016 - 08/31/2017 ($100,000).

40. Creating a Bioengineered Ovary for Restoring Follicle Functions and Development in Domestic Carnivore Models,
UMD - Smithsonian Seed Fund,
Principal Investigator: Nucharin Songsasen, Smithsonian Institution, (JPF is co-I)
08/01/2016 - 07/31/2017 ($22,500 to JPF).

41. NSF/FDA Scholar In Residence: 3D Cell Adhesion Assay for Cellularized Scaffold Characterization and Enhancement (CBET1641087),
National Science Foundation,
Principal Investigator: John P. Fisher,
01/01/2017 - 12/31/2018 ($161,144).

42. Center for Engineering Complex Tissues (P41 EB023833),
National Institutes of Health,
Principal Investigator: John P. Fisher,
04/15/2017 - 01/31/2022 ($6,269,343).

43. Pneumonix Medical
MIPS-Maryland Industrial Partnerships Program,
Principal Investigator: John P. Fisher,
02/01/2019 - 01/31/2020 ($100,000).

44. Collaborative Research: 4D Bioprinting of Near-Infrared Light Responsive Smart Constructs for Pluripotent Stem Cell Derived Cardiomyocyte Engineering (CBET1856350),
National Science Foundation,
Principal Investigator: Grace Zhang, George Washington University (JPF is co-PI)
09/01/2019 – 08/31/2022 ($550,000).

45. 3D Culture and Differentiation of Human iPSCs for Cardiac Tissue Engineering and Regeneration
State of Maryland, Maryland Stem Cell Research Fund,
Principal Investigator: Xiaoming He (JPF is co-PI)
06/01/2021 - 05/31/2023 ($345,000).

46. NSF/FDA Scholar In Residence: 3D Human Stem Cell Cardiac Model for Cardiac Electrophysiology Medical Device Safety Assessment (CBET 2129369),
National Science Foundation,
Principal Investigator: John P. Fisher,
01/01/2022 - 12/31/2022 ($100,000).

47. MPower Professorship,
University of Maryland,
Principal Investigator: John P. Fisher,
10/30/2022 - 10/30/2025 ($150,000).

48. 3D Printed Periosteal Mimic for Cleft Palate Reconstruction,
Osteo Science Foundation (23052316),
Principal Investigator: John P. Fisher,
01/01/2023 - 12/31/2024 ($50,000).

49. 3D Bioprinted Nipple-Areolar Complex Implants for Breast Cancer Patients,
Royal Society of New Zealand Catalyst Fund,
Principal Investigator: Jaydee Caral (JPF is co-I)
01/01/2023 - 12/31/2024 (NCE in 2025) ($11,000 to JPF).

50. Multiscale Hydrogel Biomaterials-Enabled 3D Modeling of Cancer Drug Resistance (R01 CA279815),
National Institutes of Health,
Principal Investigator: Xiaoming He (JPF is co-I)
04/01/2023 - 03/31/2028 ($106,420 to JPF).

51. 3D Bioprinted Nipple-Areolar Complex Implants (R01 HD112031),
National Institutes of Health,
Principal Investigator: John P. Fisher,
04/01/2023 - 03/31/2028 ($2,930,670).

52. Induced Pluripotent Stem Cell-Derived Extracellular Vesicles for Wound Healing (MSCRFD-6126),
State of Maryland, Maryland Stem Cell Research Fund,
Principal Investigator: Steven Jay (JPF is co-PI)
06/01/2023 - 05/31/2025 ($345,000).

53. Innovation in Nipple-Areola Complex Reconstruction,
State of Maryland, Maryland Innovation Initiative
Principal Investigator: John P. Fisher,
04/01/2025 - 12/31/2025 ($130,000).

54. Biomanufacturing of Personalized Implantable Kidney Tissue Blocks for the Treatment of Kidney Disease,
Advanced Research Projects Agency for Health,
Principal Investigator: Anthony Atala, Wake Forest University (JPF is co-I),
09/26/2025 – 09/25/2028, renewable ($1,164,857 to JPF)

f. Awards.

1. National Merit Scholarship, The Johns Hopkins University (1991 - 1995).

2. CAREER Award, National Science Foundation (2005).

3. Arthritis Investigator Award, Arthritis Foundation (2006).

4. Life Science Invention of the Year for 2005, “Novel Degradable Biomaterials”, University of Maryland (2006).

5. Travel Award, Arthritis Research Conference (2007).

6. Outstanding Graduate Alumnus Award, Department of Bioengineering, Rice University (2007).

7. Engalitcheff Award, Arthritis Foundation (2008).

8. First Place, Bioscience Venture Fair Competition, University of Maryland (2009).

9. Teaching Excellence, Fischell Department of Bioengineering, University of Maryland (2011).

10. Fellow, American Institute for Medical and Biological Engineering (2012).

11. First Place, Bioscience Venture Fair Competition, University of Maryland (2013).

12. Life Science Invention of the Year for 2013, “Polymer Based Material Resin for 3D Printing of Medical Implants and Devices”, University of Maryland (2014).

13. Fulbright Award to Ireland, Fulbright Scholar Program (2015).

14. Next Power Professorship, Tsing Hua University, Taiwan (2015).

15. Graduate Faculty Mentor of the Year Award, University of Maryland (2015).

16. Outstanding Director of Graduate Studies Award, University of Maryland (2015).

17. Fellow, Biomedical Engineering Society (2016).

18. Senior Scientist Award, Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (2017).

19. Clemson Award for Contributions to Literature, Society For Biomaterials (2020).

20. Fellow, International Academy of Medical and Biological Engineering (2020).

21. Distinguished Scholar-Teacher, University of Maryland (2021).

22. MPower Professor, University of Maryland (2022).

23. Distinguished University Professor, University of Maryland (2024).

g. Editorial Positions.

1. Co-Editor, Cellular and Molecular Biology Techniques for Biomaterials Evaluation, special issue of the journal Biomaterials (2007).

2. Reviews Editor, journal Tissue Engineering (2007 - 2008).

3. Co-Editor-in-Chief, journal Tissue Engineering Part B, Reviews (2008 - 2018).

4. Co-Editor-in-Chief, journal Tissue Engineering (2018 - Present).

5. Editorial Board, Journal of Biomedical Materials Research, Part A (2014 - Present).

6. Editorial Board, Bioprinting (2016 - Present).

7. Editorial Board, Biofabrication (2021 - Present).

8. Editorial Board, Journal of Tissue Engineering & Regenerative Medicine (2022 - Present).

h. Reviewer Activities for Journals.

1. Acta Biomaterialia (2009, 2010, 2011, 2012, 2013, 2014, 2015, 2018, 2019, 2020).

2. Advanced Drug Delivery Reviews (2014).

3. Advanced Materials (2011, 2019).

4. Advanced Functional Materials (2019).

5. Advances in Experimental Medicine and Biology (2006).
6. AIChE Journal (2002).
7. ACS Biomaterials Science and Engineering (2016, 2017, 2021).
8. Annals of Biomedical Engineering (2004, 2005, 2007, 2009, 2010, 2011, 2013, 2014, 2016, 2019).
9. Arthritis Research & Therapy (2013).
10. Biochimica et Biophysica Acta: General Subjects (2014).
11. Biofabrication (2013, 2014, 2017, 2019, 2021, 2022).
12. Biomacromolecules (2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018).
13. Biomaterials (2001, 2002, 2004, 2006, 2010, 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022).
14. Biomedical Materials (2012).
15. Biophysical Journal (2008).
16. Bioprinting (2018).
17. Biotechnology & Bioengineering (2010, 2011, 2012, 2014, 2015).
18. Biotechnology Journal (2012).
19. Biotechnology Progress (2012).
20. Bone (2007, 2008).
21. Cell Transplantation (2011).
22. Cells, Tissues, Organs (2014).
23. Cellular and Molecular Bioengineering (2014).
24. Chemistry of Materials (2006).
25. European Journal of Pharmaceutics and Biopharmaceutics (2007, 2008, 2009, 2010, 2012).
26. Integrative Biology (2011, 2013).
27. Journal of Applied Polymer Science (2006, 2007, 2009).
28. Journal of Biomaterials Science, Polymer Edition (2006, 2007, 2009, 2010, 2011).

29. Journal of Biomedical Science (2022).

30. Journal of Biomedical Materials Research, Parts A & B (2001, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2020, 2021, 2022).

31. Journal of Controlled Release (2009, 2012).

32. Journal of Dental Research (2008).

33. Journal of Drug Targeting (2006).

34. Journal of Orthopaedic Research (2005, 2009).

35. Journal of Pharmaceutical Sciences (2011).

36. Journal of Tissue Engineering and Regenerative Medicine (2008, 2009, 2010, 2011, 2012, 2015, 2018, 2022).

37. Journal of Visualized Experiments (2012).

38. The Lancet (2010, 2012).

39. Macromolecular Bioscience (2008, 2009, 2011, 2013).

40. Macromolecules (2002, 2010).

41. Journal of Materials Chemistry, B (2014).

42. Matrix Biology (2011, 2013).

43. Medical Engineering and Physics (2011).

44. Nano Today (2011).

45. Nanomedicine (2010).

46. PLoS One (2014, 2017).

47. Polymer (2001, 2012).

48. Pharmaceutical Research (2008).

49. Proceedings of the National Academy of Sciences (2016, 2018).

50. Science Advances (2018, 2019. 2020).

51. Stem Cells (2012).

52. Stem Cells Translational Medicine (2015).

53. Tissue Engineering, Parts A, B, & C (2001, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2018, 2019, 2020, 2021, 2022).

54. Yonsei Medical Journal (2009).

i. Public Media Citations.

1. The New York Times. Maryland: Stem Cell Grants. May 19, 2007.

2. The Baltimore Sun. 24 Scientists Get State's First Stem Cell Research Grants. May 18, 2007.

3. Baltimore Business Journal. Stem Cell Awards Favors Academic Research. May 17, 2007.

4. Discovery Channel. Tech: Engineering Tissues (Online Video Interview). August 21, 2009.

5. Science, Science Careers, Materials Researchers find Opportunity in Biomedicine (Online Magazine). November 16, 2012.

6. Associate Press. Studies Shine Light on Mysterious Placenta, How It Goes Awry. August 11, 2016. (Published by over 30 news organizations.)

3. Teaching, Mentoring and Advising.

a. Courses Taught.

1. Chemical Engineering Laboratory.
   - i. ENCH437 0101, 4 credits, ≈30 students: Fall 2003, Fall 2004, Fall 2005, Fall 2006.
   - ii. ENCH437 0102, 4 credits, ≈30 students: Fall 2003, Fall 2004, Fall 2005, Fall 2006.

2. Tissue Engineering and Advanced Tissue Engineering.
   - i. ENCH468T 0101, 3 credits, ≈15 students: (CHBE487) Spring 2005, Spring 2006, Spring 2007, Spring 2008, Spring 2009, Spring 2010, Spring 2011, Spring 2013, Spring, 2014, Spring 2016, Spring 2017.
   - ii. ENCH648T 0101, 3 credits, ≈5 students: Spring 2005, Spring 2006, Spring 2007, Spring 2008, Spring 2009, Spring 2010, Spring 2011.
   - iii. BIOE411 0101, 3 credits, ≈25 students: Spring 2009, Spring 2010, Spring 2011, Spring 2013, Spring 2014, Spring 2016, Spring 2017, Spring 2019, Spring 2021.
   - iv. BIOE611 0101, 3 credits, ≈20 students: Spring 2009, Spring 2010, Spring, 2011, Spring 2013, Spring 2014, Spring, 2015, Spring 2018.

3. Bioengineering Seminar.
   - i. BIOE608 0101, 3 credits, ≈10 students: Fall 2006, Spring 2007.

4. Modeling Physiological Systems and Laboratory.
   - i. BIOE340 0101, 4 credits, ≈70 students: Fall 2007, Fall 2008, Fall 2009, Fall 2010,

Fall 2011, Fall 2012, Fall 2013, Fall 2014,
Fall 2017, Fall 2018, Fall 2019, Fall 2020,
Fall 2021, Fall 2022, Fall 2023, Fall 2024.

5. Gemstone.
   - i. GEMS296 0204, 2 credits, ≈12 students: Fall 2008, Fall 2011, Fall 2012.
   - ii. GEMS297 0204, 2 credits, ≈12 students: Spring 2009, Spring 2012, Spring 2013.
   - iii. GEMS396 0204, 2 credits, ≈12 students: Fall 2009, Fall 2012, Fall 2013.
   - iv. GEMS397 0204, 2 credits, ≈12 students: Spring 2010, Spring 2013, Spring 2014.
   - v. GEMS496 0204, 2 credits, ≈12 students: Fall 2010, Fall 2013, Fall 2014.
   - vi. GEMS497 0204, 2 credits, ≈12 students: Spring 2011, Spring 2014, Spring 2015.

6. Bioengineering Capstone II.
   - i. BIOE486 2015, 3 credits, ≈5 students: Spring 2013, Spring 2014, Spring 2015.

7. Graduate Laboratory Rotations I.
   - i. BIOE605 0101, 1 credit, ≈15 students: Fall 2012, Fall 2013, Fall 2014.

8. Graduate Laboratory Rotations II.
   - i. BIOE606 0101, 1 credit, ≈15 students: Spring 2013, Spring 2014, Spring 2015.

9. Clinical Experiences in Biomedical Engineering.
   - i. BIOE489O 0101, 3 credits, ≈15 students: Winter 2020, Winter 2021.

10. Bioprinting in Regenerative Medicine.
    - i. BIOE489M 0101, 3 credits, ≈24 students: Spring 2023.
    - ii. BIOE689M 0101, 3 credits, ≈8 students: Spring 2023.

b. Course or Curriculum Development.

1. Developed the course “Tissue Engineering” and taught it for the first time on the University of Maryland, College Park campus.

2. Assisted in the development of the undergraduate curriculum for the Fischell Department of Bioengineering as part of the Undergraduate Program Committee.

3. Led the development of a combined MD / MS in bioengineering program between the University of Maryland Medical School and the Fischell Department of Bioengineering.

4. Developed the course “Modeling Physiological Systems and Laboratory” and taught it for the first time on the University of Maryland, College Park campus.

5. Led the development of a combined MD / PhD in bioengineering program between the University of Maryland Medical School and the Fischell Department of Bioengineering.

6. Developed the course “Bioprinting in Regenerative Medicine” and taught it for the first time on the University of Maryland, College Park campus.

c. Other Contributions to Teaching.

1. Director, National Science Foundation funded Molecular and Cellular Bioengineering

Research Experiences for Undergraduates (REU) Site, (2007 - 2009 and 2010 - 2012).

2. Guest Lecturer
   i. Introduction to Biomaterials (ENMA425), University of Maryland (Fall 2005),
   ii. Polymeric Drug Delivery (PHAR620) University of Maryland Pharmacy School (Spring 2006),
   iii. Introduction to Biomaterials (ENMA425), University of Maryland (Fall 2006),
   iv. College Park Scholars Colloquium I: Life Sciences (CPSP118L), University of Maryland (Fall 2007),
   v. Inventis Program: Professional Concepts in Engineering (ENES170), University of Maryland (Spring 2008),
   vi. Engineering the Future (ENES182), University of Maryland (Spring 2009),
   vii. Biomaterials (BIOE453), University of Maryland (Spring 2009),
   viii. The Student in the University (UNIV100), University of Maryland (Fall 2009),
   ix. Biology for Engineers Laboratory (BIOE121), University of Maryland (Fall 2009),
   x. Engineering the Future (ENES182), University of Maryland (Spring 2010),
   xi. Biology for Engineers Laboratory (BIOE121), University of Maryland (Fall 2010),
   xii. Biology for Engineers Laboratory (BIOE121), University of Maryland (Fall 2011),
   xiii. Biology for Engineers Laboratory (BIOE121), University of Maryland (Spring 2012),
   xiv. Tissue Engineering (BIOE411), University of Maryland (Spring 2012).
   xv. Dialogue with the Dean (ENES181), University of Maryland (Fall 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024).
   xvi. Research, Instruction, and Service in Engineering, University of Maryland (Fall 2021, Spring 2022).
   xvii. Clinical Experiences in Biomedical Engineering (BIOE447) University of Maryland (Winter 2022).

d. Academic Advising.

1. Academic Advisor to approximately 20 undergraduates per year in the Department of Chemical and Biomolecular Engineering (2003 - 2006).

2. Academic Advisor to approximately 25 undergraduates per year in the Fischell Department of Bioengineering (2006 - Present).

3. Faculty Advisor, Gemstone Team ORGAN STORAGE (2008 - 2011).

4. Faculty Advisor, Engineering World Health Student Chapter (2011 –-2014).

5. Faculty Advisor, Gemstone Team ELECTRODE (2011 - 2014).

6. Faculty Advisor, Gemstone Team EPIDEMICS (2012 - 2015).

7. Faculty Advisor, BIOE Capstone Teams (2016 - Present).

e. Research Advising.

i. Undergraduate.

1. Theresa A. Holland, Rice University (2000 - 2001).

2. Carla M. Bossano, Rice University (2002).

3. Lisa Tozzi, University of Maryland (2004).
4. Vikash Gupta, University of Maryland (2004 - 2006).
5. Emily L. Levi (NSF REU student), Colorado State University (2004).
6. Noelia A. Pacheco (NSF REU student), University of Pennsylvania (2004).
7. Parth Modi, University of Maryland (2004 - 2006).
8. Andrew Thompson, University of Maryland (2004 - 2007).
9. Jullet Han, University of Maryland (2005 - 2006).
10. Aubrey Francisco (NSF REU student), Syracuse University (2005).
11. Bryan Pape (NSF REU student), Rose-Hulman Institute of Technology (2005).
12. Nam Pho, University of Maryland (2005).
13. Eve Rubinstein, University of Maryland (2005 - 2006).
14. Dafna Kesselman, University of Maryland (2005 - 2006).
15. Joshua Bunch (NSF REU student), University of Missouri, Rolla (2006).
16. Melissa Tsai, University of Maryland (2006 - 2007).
17. Sasha Knowlton, University of Maryland (2006 - 2007).
18. Maykong Leepalao (NSF REU student), University of Minnesota (2007).
19. John Lin, University of Maryland (2007 - 2008).
20. William Richbourg, University of Maryland (2007 - 2008).
21. Hojin Kim, University of Maryland (2008 - 2009).
22. Erik Li, University of Maryland (2008 - 2009).
23. Kristen Zimmerman (NSF REU Student), Virginia Polytechnic Institute (2008).
24. Sarah Tostanoski, University of Maryland (2008 - 2009).
25. Hector Neira, University of Maryland (2008 - 2009).
26. Elyse Geibel, University of Maryland (2008 - 2009, 2010 - 2011).

27. Anqi Lu, University of Maryland (2008 - 2009).
28. Kimberly Ferlin (NSF REU Student), University of Rochester (2009).
29. Rob Breithaupt, University of Maryland (2009 - 2010).
30. Carly Gordon, University of Maryland (2009 - 2010).
31. Mads Matthiesen, University of Copenhagen (2009 - 2010).
32. Mark Peters, University of Maryland (2009 - 2010).
33. Cori Riggin, University of Maryland (2009 - 2011).
34. Joshua Thompson, University of Maryland (2010 - 2013).
35. Charlotte Vorwald, University of Maryland (2011 - 2013).
36. Fayola Fears (NSF REU Student), Harvard University (2011).
37. Daniel Choquette, University of Maryland (2011 - 2012).
38. Sarah Engel, University of Maryland (2011 - 2012).
39. Zach Rom, University of Maryland (2011 - 2012).
40. Zack Brandes, University of Maryland (2012 - 2013).
41. Julie Etheridge, University of Maryland (2012 - 2015).
42. Maggie Prendergast, University of Maryland (2012 - 2015).
43. Henry Ko, University of Maryland (2012 - 2015).
44. Chelsea Kraynak, University of Maryland (2013 - 2015).
45. Makenzie Miller, University of Maryland (2013 - 2015).
46. Vanessa Niba, University of Maryland (2013 - 2015).
47. Lucas Kimerer, University of Maryland (2013 - 2016).
48. Darren D'Souza, University of Maryland (2014 - 2015).
49. Michael Messina, University of Maryland (2014 - 2016).
50. Sampada Koshatwar, University of Maryland (2014 - 2016).
51. Greg Laslo, University of Maryland (2014 - 2016).

52. Rebecca Moriarty, University of Maryland (2014 - 2016).
53. Kelly Rhodes, University of Maryland (2014 - 2016).
54. Casey Lim, University of Maryland (2014 - 2017).
55. Tim Holtzberg, University of Maryland (2014 - 2017).
56. Casey Vantucci, University of Maryland (2015 - 2016).
57. Rachel Bade, University of Maryland (2015 - 2016).
58. Maddie Golding, University of Maryland (2015 - 2017).
59. Leila Ettehadieh, University of Maryland (2015 - 2017).
60. Tim Kamalitdinov, University of Maryland (2015 - 2018)
61. Nidhi Gandhi, University of Maryland (2015 - 2018).
62. Sarah Asfari, University of Maryland (2016).
63. Zachary Goddard, University of Maryland (2016 - 2017).
64. Shira Winston, University of Maryland (2016 - 2017).
65. Elizabeth Arentz, University of Maryland (2016 - 2017).
66. Manuel Mastromanolis, University of Maryland (2016 - 2017).
67. Maria Pascale, University of Maryland (2016 - 2017).
68. Evan Botterman, University of Maryland (2016 - 2017).
69. Amy Garcia-Viva, University of Maryland (2016 - 2018).
70. Mariya Shevchuk, University of Maryland (2016 - 2018).
71. Julia Ringle, University of Maryland (2016 - 2018).
72. Alana Gudelsky, University of Maryland (2016 - 2018).
73. Zoe Mote, University of Maryland (2017 - 2018).
74. Maeesha Noshin, University of Maryland (2017 - 2018).
75. Sanyukta Deshmukh, University of Maryland (2017 - 2018).

76. Stephen Frocke, University of Maryland (2018).

77. Rylie Frayman, Wake Forest University (2018).

78. Ekta Patel, Arizona State University (2018).

79. Tal Kalai, Montgomery College (2018).

80. David Suk Chul Yoon, State University of New York Binghamton University (2018).

81. Jay Swayambunathan, University of Maryland (2016 - 2018).

82. Anthony Chiu, University of Maryland (2016 - 2019).

83. Amelia Hurley-Novatny, University of Maryland (2016 - 2019).

84. Morgan Janes, University of Maryland (2016 - 2019).

85. Rachel Luthcke, University of Maryland (2017 - 2018).

86. Tolulope Awosika, University of Maryland (2017 - 2019).

87. Athenia Jones, University of Maryland (2017 - 2019).

88. Jenny Katsnelson, University of Maryland (2017 - 2019).

89. Daniel Najafali, University of Maryland (2017 - 2019).

90. Alexis Robinson, University of Maryland (2017 - 2019).

91. Katherine Jones, University of Maryland (2017 - 2019).

92. James Fookes, University of Maryland (2018).

93. Daniel Rivkin, University of Maryland (2018 - 2019).

94. Arley Wolfand, University of Maryland (2018 - 2019).

95. Anushka Gerald, University of Maryland (2017 - 2020).

96. Jules Allbritton-King, University of Maryland (2017 - 2020).

97. Miriam Janssen, University of Maryland (2018 - 2020).

98. Zachery Keepers, University of Maryland (2019 - 2020).

99. Marguerite Walk, Wake Forest University (2019).

100. Carol Mercado Santana, University of Puerto Rico (2019).

101. Prateek Swamykumar, University of Maryland (2018 - 2021).

102. Marisa Patsy, University of Maryland (2019 - 2021).

103. Natasha Kodgi, University of Maryland (2019 - 2021).

104. Trevor Mollot, University of Maryland (2019 - 2021).

105. Julia Pinsky, University of Maryland (2019 - 2020).

106. Tzvetelina (Lina) Tchangalova, University of Maryland (2019 - 2021).

107. Erfan Jabari, University of Maryland (2019 - Present).

108. Samantha Yee, University of Maryland (2019 - 2021).

109. Abby McKenna, University of Maryland (2020 - Present).

110. Pranav Varrey, University of Maryland (2020 - 2021).

111. Ali Aslam, University of Maryland (2020 - 2021).

112. Ryan Margolis, University of Maryland (2020 - 2022).

113. Eoin Devoy, University of Maryland (2020 - 2021).

114. Mary Sherry, University of Maryland (2021 - 2023).

115. Noah Eby, University of Maryland (2021 - 2022).

116. Blake Kuzemchak, University of Maryland (2021 - 2023).

117. Mia Williams, Wake Forest University, (2021).

118. Dina Eloseily, University of Maryland (2021 - 2022).

119. Phuc (Danny) Nguyen, Rice University (2021).

120. John Osborne, University of Maryland (2021).

121. Grace Powers, University of Maryland (2021 - 2022).

122. Alejandro Venable-Croft, University of Maryland (2022 - 2023).

123. George Kotsanos, University of Maryland (2022 - 2023).

124. Lauren Gomes, University of Maryland (2023 - 2024).

125. Matthew Wyble, University of Maryland (2023 – 2024)

126. Kristen Bradish, University of Maryland (2022 - Present)

127. Paige Wilcox, University of Maryland (2022 - Present)

128. Sarang Han, University of Maryland (2022 - Present)

129. Julia Fitlin, University of Maryland (2023 - Present)

130. Laena Nho, University of Maryland (2023 - Present)

131. Mark "Zach" Litman, University of Maryland (2023 - Present)

132. Marylyn Uzoukwu, University of Maryland (2023 - Present)

133. Niva Mangalampalli, University of Maryland (2024 - Present)

134. Tara Adusumilli, University of Maryland (2024 - Present)

135. Srikar Bala, University of Maryland (2024 - Present)

136. Jessica Sim, University of Maryland (2024 - Present)

137. Kellie Boehlert, University of Maryland (2024 - Present)

138. Ambika Anand, University of Maryland (2024 - Present)

139. Henry Orozco-Contreras, University of Maryland (2024 - Present)

ii. Master.

1. Jennifer L. Moreau, Master of Science, University of Maryland (2006).

2. Erin E. Falco, Master of Science, University of Maryland (2007).

3. Sathyanarayanan Janardhanan, Master of Science, University of Maryland (2011).

4. Owen Ball, Master of Science, University of Maryland (2015).

5. Juliana Cano-Mejia, Master of Science, University of Maryland (2015).

6. Tara Talaie, Master of Science, University of Maryland (2016).

7. Dylan Jesner, Master of Science Candidate, University of Maryland (2025 - Present).

8. Laena Nho, Master of Science Candidate, University of Maryland (2025 - Present).

9. Juan Dalo, Master of Science Candidate, University of Maryland (2025 - Present).

iii. Doctoral (JPF As Advisor).

1. Diana M. Yoon, Doctor of Philosophy, University of Maryland (2003 - 2008).
   Currently: Senior Manager in Regulatory Affairs, Abbott Laboratories

2. Erin E. Falco, Doctor of Philosophy, University of Maryland (2004 - 2009).
   Currently: Researcher, KeraNetics

3. Martha W. Betz, Doctor of Philosophy, University of Maryland (2004 - 2009).
   Currently: Biomedical Engineer, U.S. Food & Drug Administration

4. Kyobum Kim, Doctor of Philosophy, University of Maryland (2005 - 2010).
   Currently: Associate Professor, Department of Chemical and Biochemical Engineering, Dongguk University, South Korea

5. Andrew B. Yeatts, Doctor of Philosophy, University of Maryland (2007 - 2012).
   Currently: Biomedical Engineer, U.S. Food & Drug Administration

6. Emily E. Coates, Doctor of Philosophy, University of Maryland (2007 - 2012).
   Currently: Biomedical Engineer, National Institutes of Health

7. Martha O. Wang, Doctor of Philosophy, University of Maryland (2009 - 2014).
   Currently: Senior Faculty Specialist & Assistant Director, University of Maryland

8. Kimberly M. Ferlin, Doctor of Philosophy, University of Maryland (2010 - 2015).
   Currently: Biomedical Engineer, U.S. Food & Drug Administration

9. Anthony J. Melchiorri, Doctor of Philosophy, University of Maryland (2010 - 2015).
   Currently: Author and Owner of Firehawk Press

10. Bao-Ngoc B. Nguyen, Doctor of Philosophy, University of Maryland (2011 - 2016).
    Currently: Biomedical Engineer, U.S. Food & Drug Administration

11. Laura Bracaglia, Doctor of Philosophy, University of Maryland (2012 - 2017).
    Currently: Assistant Professor, Department of Chemical and Biological Engineering, Villanova University

12. Che-Ying (Vincent) Kuo, Doctor of Philosophy, University of Maryland (2012 - 2017).
    Currently: Senior Scientist for Organ Manufacturing, United Therapeutics

13. Ting Guo, Doctor of Philosophy, University of Maryland (2013 - 2018).
    Currently: Senior Scientist, 2seventy bio

14. Max Lerman, Doctor of Philosophy, University of Maryland (2014 - 2019).
    Currently: Principal Consultant, Suttons Creek

15. Navein Arumugasaamy, Doctor of Philosophy, University of Maryland (2014 - 2019).
    Currently: Biomedical Engineer, GlaxoSmithKline

16. Charlotte Piard, Doctor of Philosophy, University of Maryland (2014 - 2019).

Currently: Senior Scientist, Codiak Biosciences

17. Javier Navarro Rueda, Doctor of Philosophy, University of Maryland (2014 - 2019).
Currently: Assistant Professor, Department of Surgery, University of Minnesota

18. Sarah Van Belleghem, Doctor of Philosophy, University of Maryland (2015 - 2020).
Currently: Senior Scientist, Allergan Aesthetics

19. Megan Kimicata, Doctor of Philosophy, University of Maryland (2016 - 2021).
Currently: Scientist, AstraZeneca

20. Justine Yu, Doctor of Philosophy, University of Maryland (2017 - 2021).
Currently: MD Resident, University of Maryland School of Medicine, Baltimore, MD

21. Robert Choe, Doctor of Philosophy, University of Maryland (2018 - 2023).
Currently: Clinical / Research Dentistry

22. Shannon McLoughlin, Doctor of Philosophy, University of Maryland (2019 - 2025).
Currently: Scientist, Merck

23. William Pieper Holeman, Doctor of Philosophy Candidate, University of Maryland (2021 – Present).

24. Ryan Felix, Doctor of Philosophy Candidate, University of Maryland (2022 – Present).

25. Amal Shabazz, Doctor of Philosophy Candidate, University of Maryland (2022 – Present).

26. Alexandra Christensen, Doctor of Philosophy Candidate, University of Maryland (2023 – Present).

27. Juan Martin Carrasco Carvajal, Doctor of Philosophy Candidate, University of Maryland (2024 – Present).

iv. Doctoral (JPF As Co-Advisor).

1. Genevieve Hill, Doctor of Philosophy, University of Maryland (2017).

2. Juliana Cano-Mejia, Doctor of Philosophy, University of Maryland (2019).

3. Katherine Rodgers, Doctor of Philosophy, University of Maryland (2018 – 2023).

4. Courtney Johnson, Doctor of Philosophy, University of Maryland (2018 – 2023).

5. Lamiya Tithy, Doctor of Philosophy Candidate, University of Maryland (2025 - Present).

v. Postdoctoral and Assistant Research Professor.

1. Minal Patel, Postdoctoral Fellow, University of Maryland (2007 - 2009).

2. Erin E. Falco, Postdoctoral Fellow, University of Maryland (2009).

3. Martha W. Betz, Postdoctoral Fellow, University of Maryland (2009).

4. Jesse Placone, Postdoctoral Fellow, University of Maryland (2013 - 2016).

5. Hannah Baker, Postdoctoral Fellow, University of Maryland (2015 - 2018).

6. Josephine Lembong, Postdoctoral Fellow, University of Maryland (2016 – 2018).

7. Marco Santoro, Postdoctoral Fellow, University of Maryland (2016 - 2019).

8. Laura Bracaglia, Postdoctoral Fellow, University of Maryland (2017).

9. Guang Yang, Assistant Research Professor, University of Maryland (2018 - 2020).

10. Julie Choi, Postdoctoral Fellow, University of Maryland (2019 - 2021).

11. Sahar Vakili, Postdoctoral Fellow, University of Maryland (2025 - Present).

vi. Staff.

1. Thomas Dunn, Faculty Research Assistant, University of Maryland (2009 – 2010).

2. Bhushan Mahadik, Assistant Director, Center for Engineering Complex Tissues, University of Maryland (2017 - 2021).

vii. Visiting Researchers.

1. Sachiko Kaihara, Doctor of Philosophy (2008), Keio University, Japan (2004 - 2008).

2. Paola Pisanti, Doctor of Philosophy Candidate, University of Salerno, Italy (2010 - 2011).

3. Giovanna Della Porta, Project Researcher, University of Salerno, Italy (2012, 2013).

4. Charlotte Piard, Student Intern, Nancy Medical School, France (2013, 2014).

5. Yu Li, Visiting Orthopedic Surgeon, Wuhan University School of Medicine, China (2013 - 2014).

6. Jong Young Kim, Visiting Scholar, Andong University, South Korea (2015 - 2016).

viii. Student Awards.

1. Best Poster Award (Yoon), University of Maryland Biosciences Day (2004).

2. Student Travel Award (Yoon), Biomedical Engineering Society (2004).

3. ASPIRE Award (Modi), University of Maryland (Spring, 2005).

4. ASPIRE Award (Modi), University of Maryland (Summer, 2005).

5. ASPIRE Award (Kesselman), University of Maryland (Fall, 2005).

6. Honors Research Grant (Gupta), University of Maryland (Fall, 2005).

7. 3rd Place, AIChE National Student Paper Competition (Levi), American Institute of Chemical Engineers (Fall, 2005).

8. Best Poster Award (Yoon), University of Maryland Biosciences Day (2005).

9. Howard Hughes Medical Institute Undergraduate Research Fellowship (Gupta), University of Maryland (Fall, 2005).

10. Life Science Invention of the Year of 2005 (Kaihara, Moreau, Modi), University of Maryland (2006).

11. ASPIRE Award (Kesselman), University of Maryland (Spring, 2006).

12. ASPIRE Award (Rubenstein), University of Maryland (Spring, 2006).

13. ASPIRE Award (Modi), University of Maryland (Summer, 2006).

14. Fischell Fellowship (Yoon), University of Maryland (2006).

15. Howard Hughes Medical Institute Undergraduate Research Fellowship (Knowlton), University of Maryland (Spring, 2007).

16. ASPIRE Award (Tsai), University of Maryland (Spring, 2007).

17. Undergraduate Student Researcher of the Year (Thompson), University of Maryland (Spring, 2007).

18. ASPIRE Award (Lin), University of Maryland (Fall, 2007).

19. ASPIRE Award (Lin), University of Maryland (Spring, 2008).

20. ASPIRE Award (Richbourg), University of Maryland (Spring, 2008).

21. ASPIRE Award (Richbourg), University of Maryland (Summer, 2008).

22. 1st Place, National Golden Key Engineering and Technology Scholarship (Lin), University of Maryland (Winter, 2008).

23. ASPIRE Award (Li), University of Maryland (Spring, 2009).

24. ASPIRE Award (Lu), University of Maryland (Summer, 2009).

25. ASPIRE Award (Li), University of Maryland (Summer, 2009).

26. Young Investigator Award: Outstanding Speaker (Kim), Annual Bioscience and Engineering Symposium, National Institutes of Health (Fall, 2009).

27. 2nd Place in Best Research Presentation Category (Choi), 12th Annual Magnetic Resonance Imaging Division Research Retreat, Johns Hopkins University School of Medicine (Fall, 2009).

28. ASPIRE Award (Breithaupt), University of Maryland (Spring, 2010).

29. ASPIRE Award (Thompson), University of Maryland (Summer, 2010).

30. Howard Hughes Medical Institute Undergraduate Research Fellowship (Geibel), University of Maryland (Fall, 2010).

31. ASPIRE Award (Thompson), University of Maryland (Fall, 2010).

32. Outstanding Speaker Award (Kim), Korean-American Bio-Medical Scientists Symposium, Houston, TX (2010).

33. Cover Image (Yeatts), Tissue Engineering Part C, Methods. 17: 337-348 (2011).

34. Travel Award (Coates), Northeast Bioengineering Conference, Troy, NY (2011).

35. Howard Hughes Medical Institute Undergraduate Research Fellowship (Thompson), University of Maryland (Spring, 2011).

36. Outstanding ASPIRE Student Research Award (Thompson), University of Maryland (Spring, 2011).

37. ASPIRE Award (Vorwald), University of Maryland (Summer, 2011).

38. Undergraduate Student Researcher of the Year (Geibel), University of Maryland (Spring, 2011).

39. Outstanding Graduate Researcher (Yeatts), Fischell Department of Bioengineering, University of Maryland (2011).

40. Outstanding Gemstone Team Scholar (Lee, Team ORGAN STORAGE), University of Maryland (2011).

41. Outstanding Gemstone Team Leader (Pampori, Team ORGAN STORAGE), University of Maryland (2011).

42. 2nd Place, Dean's Doctoral Research Award Competition (Yeatts), A. James Clark School of Engineering, University of Maryland (2012).

43. ASPIRE Award (Brandes), University of Maryland (Summer, 2012).

44. Distinguished Teaching Assistant Award (Wang), University of Maryland (2012).

45. Merrill Presidential Scholar (Thompson), University of Maryland (2012).

46. ASPIRE Award (Etheridge), University of Maryland (Fall, 2012).

47. Warren Citrin Graduate Fellowship (Melchiorri), University of Maryland (2012).

48. Fischell Graduate Fellowship (Melchiorri), University of Maryland (2012).

49. Writing Fellows Fellowship (Melchiorri), University of Maryland (2012).

50. Ann G. Wylie Dissertation Fellowship (Wang), University of Maryland (2013).

51. All-Star Graduate Fellowship (Wang), University of Maryland (2013).

52. NSF Graduate Fellowship (Nguyen), University of Maryland (2013).

53. Graduate School Writing Fellow (Melchiorri), University of Maryland (2013).

54. Distinguished Teaching Assistant Award (Ferlin), University of Maryland (2013).

55. ASPIRE Award (Ko), University of Maryland (Spring, 2013).

56. Undergraduate Student Researcher of the Year (Thompson), University of Maryland (Spring, 2013).

57. First Place, Bioscience Venture Fair Competition (Melchiorri), University of Maryland (2013).

58. Jacob K. Goldhaber Travel Grant (Bracaglia), University of Maryland (2013).

59. ASPIRE Award (Ko), University of Maryland (Summer, 2014).

60. Portz Outstanding Honors Student Award, Honors College (Ko), University of Maryland (2014).

61. Center for Teaching Excellence's Distinguished Teaching Assistant Award (Bracaglia), University of Maryland (2014)

62. STAR Honorable Mention (Melchiorri), Society For Biomaterials (2014).

63. Life Science Invention of the Year of 2013 (Melchiorri), University of Maryland (2014).

64. Graduate Fellowship (Melchiorri), American Heart Association (2014).

65. Graduate Fellowship (Bracaglia), American Heart Association (2014).

66. Graduate Dean’s Dissertation Fellowship (Ferlin), University of Maryland (2014).

67. Outstanding Gemstone Team Scholar (Jawahery, Team ELECTRODE), University of Maryland (2014).

68. Outstanding Gemstone Team Thesis (Team ELECTRODE), University of Maryland (2014).

69. International Conference Student Support Award (Nguyen), University of Maryland (2014).

70. Travel Award (Nguyen), TERMIS Conference (2014).

71. Jacob K. Goldhaber Travel Grant (Nguyen), University of Maryland (2014).

72. The Mary Ann Liebert, Inc. Outstanding Student Award (Bracaglia), Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (2014).

73. Travel Award (Nguyen), Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (2014).

74. SEEDS Research Fellowship (Laslo), University of Maryland (2014).

75. First Prize, Poster Presentation III, 37th Annual Medical Student Research Day (Lee), University of Maryland School of Medicine (2014).

76. J. William Fulbright Foreign Scholarship (Rueda), Colciencias-Fulbright (2014).

77. All-Star Graduate Fellowship (Bracaglia), University of Maryland (2015).

78. Outstanding Graduate Researcher (Nguyen), Fischell Department of Bioengineering, University of Maryland (2015).

79. ASPIRE Award (Golding), University of Maryland (Fall, 2015).

80. International Conference Student Support Award (Bracaglia), University of Maryland (2015).

81. SEEDS Research Fellowship (Messina), University of Maryland (2015).

82. SEEDS Research Fellowship (Laslo), University of Maryland (2015).

83. Nathan Schnaper Summer Intern Program (Koshatwar), University of Maryland School of Medicine (2015).

84. Jacob K. Goldhaber Travel Grant (Guo), University of Maryland (2015).

85. NSF Graduate Fellowship (Kraynak), University of Maryland (2015).

86. SEEDS Research Fellowship (Laslo), University of Maryland (2016).

87. SEEDS Research Fellowship (Messina), University of Maryland (2016).

88. NSF Graduate Fellowship (Vantucci), University of Maryland (2016).

89. Chair-Elect, SYIS TERMIS AM (Bracaglia), University of Maryland (2016).

90. SEEDS Research Fellowship (Janes), University of Maryland (2016).

91. SEEDS Research Fellowship (Golding), University of Maryland (2016).

92. Graduate School Summer Research Fellowship (Guo), University of Maryland (2016).

93. Jacob K. Goldhaber Travel Grant (Guo), University of Maryland (2016).

94. International Conference Student Support Award (Guo), University of Maryland (2016).

95. ASPIRE Award (Ettenhadieh), University of Maryland (2016).

96. SEEDS Research Fellowship (Lim), University of Maryland (2016).

97. SEEDS Research Fellowship (Holzberg), University of Maryland (2016).

98. SEEDS Undergraduate Research Fellowship (Janes), University of Maryland (2016).

99. ASPIRE Award (Ettehadieh), University of Maryland (2016).

100. NIH Ruth Kirschstein T32 Predoctoral Trainee (Yu), University of Maryland School of Medicine MSTP (2016 – 2017).

101. ASPIRE Award (Ringel), University of Maryland (2017).

102. ASPIRE Award (Ettehadieh), University of Maryland (2017).

103. TERMIS-AM Student Scientist Award (Navarro), Tissue Engineering and Regenerative Medicine International Society (TERMIS-AM) Annual Meeting Charlotte, NC, USA (2017).

104. IBE Bioethics Essay Content National Finalist, 2nd Place (Janes), Institute of Biological Engineering (2017).

105. C. Norman Eckert Memorial Scholarship (Janes), University of Maryland (2017).

106. Dale Family Foundation Scholarship (Janes), University of Maryland (2017).

107. ASPIRE Award (Gudelsky), University of Maryland (2017).

108. ASPIRE Award (Gudelsky), University of Maryland (2018).

109. Jacob K. Goldhaber Travel Grant (Lerman), University of Maryland (2018).

110. International Conference Student Support Award (Lerman), University of Maryland (2018).

111. Outstanding Graduate Assistant Award (Lerman), University of Maryland (2018).

112. Fischell Graduate Fellowship (Navarro), University of Maryland (2018).

113. Sloan Foundation Program for Exceptional Mentoring Travel Grant (Navarro), Sloan Foundation and the A. James Clark School of Engineering, University of Maryland (2018).

114. Seymour and Faye Wolf Endowed Scholarship in Bioengineering (Janes), University of Maryland (2018).

115. Rodney A. Harrill Endowed Scholarship in Engineering (Janes), University of Maryland (2018).

116. MicroTas Student Travel Grant (Janes), University of Maryland (2018).

117. Jacob K. Goldhaber Travel Grant (Arumugasaamy), University of Maryland (2018).

118. International Conference Student Support Award (Arumugasaamy), University of Maryland (2018).

119. Integrated Life Sciences Research Award (Hurley-Novatny), University of Maryland (2018).

120. 3rd Place, Student Presentation Competition (Arumugasaamy) TERMIS World Congress, Kyoto, Japan (2018)

121. 1st Place, Student Presentation Competition (Allbritton-King), SFB Mid-Atlantic Biomaterials Day (2019).

122. Outstanding Abstract Award (Mahadik), Orthopaedic Special Interest Group of the Society For Biomaterials, Annual Meeting, Seattle WA (2019).

123. Fischell Department of Bioengineering Outstanding Undergraduate Research Award (Hurley-Novatny), University of Maryland (2019).

124. Undergraduate Student Researcher of the Year (Hurley-Novatny), University of Maryland (2019).

125. MPower Graduate Fellowship (Choe), University of Maryland (2020).

126. Ann G. Wylie Dissertation Fellowship (Yu), Graduate School, University of Maryland (2020).

127. Honors Research Grant (Jabari), University of Maryland (2021)

128. First Place, Dean's Doctoral Thesis Research Award (Yu), A. James Clark School of Engineering, University of Maryland (2021).

129. ASPIRE Award (Jabari), University of Maryland (2021).

130. ASPIRE Award (Osborn), University of Maryland (2021).

131. Maryland Summer Scholars Award (Jabari), University of Maryland (2022).

132. Maryland Summer Scholars Award (Kuzemchak), University of Maryland(2022).

133. College Park Scholars Co-Curricular Scholarship (Jabari), University of Maryland (2022).

134. Outstanding ASPIRE Project Award (Jabari), University of Maryland (2022).

135. Undergraduate Student Researcher of the Year (Jabari), University of Maryland (2022).

136. Honors College's Winston Family Outstanding Thesis Award (Jabari), University of Maryland (2022).

137. Berlin Legacy Fund Scholarship (Jabari), University of Maryland (2022).

138. Mike Shinn Distinguished Member (Johnson), National Society of Black Engineers (2022).

139. The Mary Ann Liebert, Inc. Outstanding Student Award (Johnson), Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (2022).

140. Marshall Scholarship (Mupparapu), Marshall Aid Commemoration Commission (2022).

141. A. James Clark School of Engineering Mickey Dale Family Foundation Scholarship (Jabari), University of Maryland (2023).

142. Graduate Research Fellowship (Jabari), National Science Foundation (2023).

143. C. William Hall Scholarship (Jabari), Society For Biomaterials (2023).

144. Undergraduate Student Researcher of the Year (Kuzemchak), University of Maryland (2023).

145. Student Award for Outstanding Research (Kuzemchak), Society For Biomaterials (2023).

146. Fischell Doctoral Fellowship (McLoughlin), Fischell Department of Bioengineering (2023).

147. Graduate Research Fellowship (Shabazz), National Science Foundation (2023).

148. Outstanding Citizenship Award, (Han), College Park Scholars, University of Maryland (2023)

149. Jacob K. Goldhaber Travel Award (Shabazz), University of Maryland (2024).

150. International Conference Student Support Award (Shabazz), University of Maryland (2024).

151. Represent Excel and Support Equity in Tech Scholarship (Uzoukwu), Iribe Initiative for

Inclusion and Diversity in Computing, University of Maryland (2024)

152. Break Through Tech Artificial Intelligence/ Machine Learning Fellow (Uzoukwu), Cornell University (2024)

153. Aegean Conference Trainee Award. (Christensen), 8th International Conference on Tissue Engineering, Sissi, Crete, Greece (2025).

154. Aegean Conference Trainee Award. (Felix), 8th International Conference on Tissue Engineering, Sissi, Crete, Greece (2025).

155. Aegean Conference Trainee Award. (Holeman), 8th International Conference on Tissue Engineering, Sissi, Crete, Greece (2025).

ix. Undergraduate Bioengineering Honors Thesis

1. Joshua Thompson, University of Maryland (2013).
2. Charlotte Vorwald, University of Maryland (2013).
3. Chelsea Kraynak, University of Maryland (2015).
4. Henry Ko, University of Maryland (2015).
5. Margaret Prendergast, University of Maryland (2015).
6. Julie Etheridge, University of Maryland (2015).
7. Sampada Koshatwar, University of Maryland (2016).
8. Kelly Rhodes, University of Maryland (2016).
9. Lucas Kimerer, University of Maryland (2016).
10. Casey Lim, University of Maryland (2017).
11. Tim Holzberg, University of Maryland (2017).
12. Amelia Hurley-Novatny, University of Maryland (2019).
13. Tolulope Awosika, University of Maryland (2019).
14. Jules Allbritton-King, University of Maryland (2020).
15. Prateek Swamykumar, University of Maryland (2021).
16. Erfan Jabari, University of Maryland (2022).

17. Service.

a. Professional.

i. Offices and Committee Memberships.

1. Session Co-Chair, Repair of Connective Tissues by Tissue Engineering, Society For Biomaterials World Congress, Sydney, Australia (2004).

2. Session Co-Chair, Tissue Engineering I, II, and III Annual National AIChE Meeting, Austin, TX (2004).

3. Session Co-Chair, Tissue Engineering Strategies II, 2nd International Conference on Tissue Engineering, Crete, Greece (2005).

4. Session Co-Moderator, Targeted Delivery of Anticancer Agents, 3rd International Symposium on Nanomedicine and Drug Delivery, Baltimore, MD (2005).

5. Session Co-Chair, Advances in Biomaterial Design and Properties, Annual National AIChE Meeting, Cincinnati, OH (2005).

6. Session Co-Chair, Bioinspired / Biomimetic Materials, Annual National AIChE Meeting, Cincinnati, OH (2005).

7. Session Co-Chair, Injectable Biomaterials I, Annual National AIChE Meeting, San Francisco, CA (2006).

8. Session Co-Chair, Biomaterials I, Annual National AIChE Meeting, San Francisco, CA (2006).

9. Secretary / Treasurer, Tissue Engineering Special Interest Group (SIG), Society For Biomaterials (2007 – 2009).

10. Session Co-Chair, Tissue Engineering I, Annual National AIChE Meeting, Salt Lake City, UT (2007).

11. Session Co-Chair, Design and Engineering of Novel Therapeutic Strategies, Annual National AIChE Meeting, Salt Lake City, UT (2007).

12. Session Co-Chair, Orthopedic and Rehabilitation Engineering: Musculo-Skeletal Tissue Engineering, Annual BMES Meeting, Los Angeles, CA (2007).

13. Symposium Organizer, Cellular and Molecular Biology Techniques in the Development of Novel Biomaterials, 8th World Biomaterials Congress, Amsterdam, The Netherlands (2008).

14. Session Co-Chair, Growth Factors and Soluble Mediators 1, 3rd International Conference on Tissue Engineering, Rhodes, Greece (2008).

15. Finance Committee, Society For Biomaterials (2009 - 2011).

16. Track Co-Chair, Orthopedic and Rehabilitation Engineering, Annual BMES Meeting, Austin, TX (2010).

17. Continental Council, Tissue Engineering and Regenerative Medicine International Society - North American Chapter (TERMIS-NA), (2010 - 2012).

18. Session Co-Moderator, Nanobiomaterials, Northeast Bioengineering Conference / Biomaterials Day, Columbia University, New York, NY (2010).

19. Awards and Nominations Committee, Society For Biomaterials (2010 - 2011).

20. Chair, Membership Committee, Tissue Engineering and Regenerative Medicine International Society - North American Chapter (TERMIS-NA), (2010 - 2012).

21. Session Co-Chair, Approaches to Regeneration of Complex and Composite Tissues, 4th International Conference on Tissue Engineering, Chania, Crete, Greece (2011).

22. International Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress, Vienna, Austria (2012).

23. Symposium Organizer, Clinical Aspects of Tissue Engineering, Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress, Vienna, Austria (2012).

24. Organizing Committee, Workshop on Improved Characterization of Mesenchymal Stem Cells for Clinical Trials, Baltimore, MD (2013).

25. Organizing Committee, New Directions for Tissue Engineering and Regenerative Medicine - Emergence of Stem Cell Engineering, Sonoma, CA (2013).

26. International Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society – Asia Pacific Chapter (TERMIS-AP) Annual Meeting, Wuzhen, China (2013).

27. Session Chair, Tissue Engineering and Regenerative Medicine International Society – Asia Pacific Chapter (TERMIS-AP) Annual Meeting, Wuzhen, China (2013).

28. Scientific Advisory Committee, 2013 Tissue Engineering and Regenerative Medicine – Americas Chapter Annual Meeting, Atlanta, GA (2013).

29. Session Chair, 2013 Tissue Engineering and Regenerative Medicine – Americas Chapter Annual Meeting, Atlanta, GA (2013).

30. Conference Co-Chair and Host, 2014 Tissue Engineering and Regenerative Medicine – Americas Chapter Annual Meeting, Washington, DC (2014).

31. Poster Session Co-Chair, Skeletomuscular Tissue Engineering, Annual BMES Meeting, San Antonio, TX (2014).

32. Chair-Elect, Tissue Engineering and Regenerative Medicine International Society - Americas Chapter (TERMIS-AM), (2015 - 2017).

33. Member, Global Council, Tissue Engineering and Regenerative Medicine International Society (2014 - 2020).

34. International Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress, Boston, MA (2015).

35. International Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society – Asia Pacific Chapter (TERMIS-AP), Taipei, Taiwan (2016).

36. Session Chair, Tissue Engineering and Regenerative Medicine International Society – Asia Pacific Chapter (TERMIS-AP), Taipei, Taiwan (2016).

37. Scientific Advisory Board, International Conference on Biofabrication 2016 (ICBF 2016), Winston-Salem, NC (2016).

38. Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (TERMIS-AM) Annual Meeting, San Diego, CA (2016).

39. Session Chair, Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (TERMIS-AM) Annual Meeting, San Diego, CA (2016).

40. Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (TERMIS-AM) Annual Meeting, San Diego, CA (2016).

41. Scientific Advisory Board, International Conference on Biofabrication 2017 (ICBF 2017), Beijing, China (2017).

42. Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (TERMIS-AM) Annual Meeting, Charlotte, NC (2017).

43. Board Member, International Society for Biofabrication (2017 - 2021).

44. Chair, Tissue Engineering and Regenerative Medicine International Society - Americas Chapter (TERMIS-AM), (2018 - 2020).

45. International Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress, Kyoto, Japan (2018).

46. Conference Co-Chair, 2018 Biomedical Engineering Society Annual Meeting, Atlanta, GA (2018).

47. Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society – Americas Chapter (TERMIS-AM) Annual Meeting, Orlando, FL (2019).

48. International Scientific Advisory Board, International Conference on Bioengineering & Regenerative Medicine, Goa, India (2019).

49. Meetings Committee Co-Chair, Biomedical Engineering Society Annual Meeting, Atlanta, GA (2018 - Present).

50. Past-Chair, Tissue Engineering and Regenerative Medicine International Society - Americas Chapter (TERMIS-AM), (2021 - Present).

51. International Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress, Maastricht, The Netherlands (2021).

52. International Scientific Advisory Board, Tissue Engineering and Regenerative Medicine International Society – Asia Pacific Chapter (TERMIS-AP), Jeju, Korea (2022).

53. Scientific Committee, International Conference on Biofabrication, Pisa, Italy (2022).

54. Scientific Committee, BMES Advanced Biomanufacturing Meeting, College Park, MD (2023).

ii. Reviewing Activities for Agencies.

1. American Chemical Society.
   - i. Petroleum Research Fund — 2006.

2. Department of Veterans Administration.
   - i. Center of Excellence / REAP Program — 2009.
   - ii. Rehab Research and Development Service Program — 2006, 2007, 2007, 2008, 2008, 2009, 2010, 2010, 2011, 2011, 2012, 2012.
   - iii. SPiRE Program — 2013.

3. National Academies of Science.
   - i. Ohio's Third Frontier Biomedical Research Program — 2009.

4. National Institutes of Health.
   - i. Special Emphasis Panel Study Section — 2005, 2017.
   - ii. Challenge Grant (RC1) Program Review Panel — 2009.
   - iii. Bioeng, Techn, & Surgical Sciences Study Section — 2009, 2012, 2012, 2012, 2013, 2013, 2013, 2014.
   - iv. Biomaterials & Biointerfaces Study Section — 2014.
   - v. NIBIB Career Development & Conf Grant Study Section — 2012.
   - vi. NIBIB P41 Review Panel — 2012, 2019.
   - vii. NIBIB T32 Review Panel — 2018.
   - viii. NIDCR U24 Review Panel — 2016.
   - ix. Cellular & Molecular Tech Study Section — 2018.
   - x. NIH Fellowships Study Section — 2018.
   - xi. Cellular & Molecular Tech Study Section (member) — 2019, 2020, 2021, 2022,

2023.

5. National Science Foundation.
   - i. Bioengineering & Environmental Systems Program 2006, 2006, 2007.
   - ii. Biomaterials Program 2008.
   - iii. CAREER Award Program 2005, 2007, 2008, 2009, 2010, 2011, 2012, 2016.
   - iv. Chem, Bioeng, Environ, and Trans Sys Program 2008, 2008, 2009, 2010, 2011, 2015.
   - v. Dynamic Data Driven Applications Sys Program 2005.
   - vi. Engineering Research Center (Site Visit) 2014.
   - vii. EPSCoR Proposal (Internal, University of South Carolina) 2013.
   - viii. Multi-Scale Model in Biomed, Bio, and Behav Sys Prg 2005.
   - ix. Nanosystems Engineering Research Center 2011.
   - x. Partnerships for Innovation: BIC 2017.
   - xi. REU Site Program 2008, 2010.

6. The Royal Society (London, United Kingdom).
   - i. International Joint Project 2005.

7. U.S. Army Medical Research and Material Command, TATRC.
   - i. Ctr for Military Biomater Res Review and Site Visit 2010.
   - ii. Product Line Review for Biomater and Nanomedicine 2010.

iii. Reviewing Activities for Universities / Institutions

1. Department of Biomedical Engineering Graduate Program Review, University of Texas, Austin, TX (2016).

2. Department of Biomedical Engineering Review, Stevens Institute of Technology, Hoboken, NJ (2019).

3. Member, External Advisory Board, Department of Materials Science and Engineering, Johns Hopkins University, Baltimore, MD (2019 - 2020).

4. Department of Biomedical Engineering Review, University of Texas San Antonio, San Antonio, TX (2020).

5. Tissue Engineering Resource Center (TERC) Review, Columbia University, New York, NY (2020, 2021, 2022, 2023, 2024).

6. Department of Biomedical Engineering Review, University of Texas San Antonio, San Antonio, TX (2021).

7. Department of Biomedical Engineering Review, University of Oklahoma, Norman, OK (2023).

8. Member, External Advisory Board, Department of Biomedical Engineering, George Washington University, Washington, DC (2024 - Present).

b. Campus.

i. Departmental.

1. ABET Accreditation Committee, Department of Chemical and Biomolecular Engineering, University of Maryland (2003 - 2005).

2. Chair Search Committee, Department of Chemical and Biomolecular Engineering, University of Maryland (2005 - 2006).

3. Faculty Assembly Committee, Department of Chemical and Biomolecular Engineering, University of Maryland (2005 - 2006).

4. Graduate Program Steering Committee, Fischell Department of Bioengineering, University of Maryland (2005 - 2016).

5. Undergraduate Program Committee, Fischell Department of Bioengineering, University of Maryland (2005).

6. Faculty Search Committee, School of Pharmacy (UMB) and Fischell Department of Bioengineering, University of Maryland (2006).

7. Undergraduate Administrator Search Committee, Fischell Department of Bioengineering, University of Maryland (2006).

8. Undergraduate Studies Committee, Fischell Department of Bioengineering, University of Maryland (2006 - 2008).

9. Faculty Search Committee, Fischell Department of Bioengineering, University of Maryland (2007).

10. Academic Coordinator Search Committee, Fischell Department of Bioengineering, University of Maryland (2007).

11. Merit Pay Committee, Fischell Department of Bioengineering, University of Maryland (2007).

12. Faculty Search Committee, Center for Biosystems Research and Fischell Department of Bioengineering, University of Maryland (2008).

13. Associate Director of Finance Search Committee, Fischell Department of Bioengineering, University of Maryland (2008).

14. Fischell Institute for Biomedical Devices Steering Committee, Fischell Department of Bioengineering, University of Maryland (2008 - 2016).

15. Undergraduate Studies Committee (Chair), Fischell Department of Bioengineering, University of Maryland (2009 - 2012).

16. Appointment, Promotion, and Tenure Committee, Fischell Department of Bioengineering, University of Maryland (2010).

17. ABET Accreditation Committee (Chair), Fischell Department of Bioengineering, University of Maryland (2010 - 2012).

18. Faculty Search Committee, Fischell Department of Bioengineering, University of Maryland (2011 - 2012).

19. Faculty Representative, Engineering World Health Student Chapter, Fischell Department of Bioengineering, University of Maryland (2011 - 2015).

20. Strategic Directions Committee, Fischell Department of Bioengineering, University of Maryland (2012 - 2015).

21. Graduate Studies Committee (Chair), Fischell Department of Bioengineering, University of Maryland (2012 - 2015).

ii. School.

1. Kim Building Bioengineering Laboratory, University of Maryland (2003).

2. Kim Building Polymer Characterization Laboratory, University of Maryland (2003).

3. Dean's Strategic Planning Committee on Research (2007 - 2009).

4. Associate Dean of Research Advisory Committee (2010 - 2011).

5. Assessment and Accreditation Committee (2010 - 2012).

6. Appointment, Promotion, and Tenure Committee (2012 - 2015).

7. Graduate Advisory Committee (2012 – 2015).

8. Appointment, Promotion, and Tenure Committee (Vice-Chair) (2013 - 2014).

9. Appointment, Promotion, and Tenure Committee (Chair) (2014 - 2015).

10. Charles A. Irish Sr. Eminent Professorship in Civil Engineering, University of Maryland (2016).

11. A. James Clark School of Engineering History Committee (Chair) (2016 – 2020).

12. Ben Dyer Centennial Professorship in Civil Engineering Selection Committee (Chair), University of Maryland (2021).

13. Director of Development Search Committee (2021).

14. Assistant Dean of Development Search Committee (2021).

15. Mission, Vision, and Values Committee of the 2024 Strategic Plan (Chair) (2023 - 2024).

16. Clark School Awards Committee (2024).

iii. University.

1. Vivarium Planning, University of Maryland (2004).

2. Graduate Outcomes Assessment Committee, University of Maryland (2012).

3. Goldwater Selection Committee (2012, 2013).

4. UMD/UMB Seed Grant Program (UMD Chair), University of Maryland (2012, 2013, 2014, 2015).

5. Flagship Fellowship Selection Committee, University of Maryland (2016).

6. Laboratory Operations and Safety Committee, University of Maryland (2017 – 2020).

7. Faculty Animal Planning and Advisory Committee, University of Maryland (2021).

8. Brain and Behavior Institute Advisory Committee, University of Maryland (2021 - 2023).

9. University of Maryland Baltimore School of Medicine Dean Search Committee, University of Maryland (2021).

10. Associate Provost Search Committee, University of Maryland (2023).

11. BS / MD Program Proposal Committee (Chair), University of Maryland (2023).

12. Dean of Libraries Search Committee, University of Maryland (2024).

13. University of Maryland Baltimore School of Medicine, Review Committee, Center for Biomedical Engineering and Technology (2024 - 2025).

14. Kirwan Undergraduate Education Award Committee (Chair), University of Maryland (2024 - Present).

iv. Thesis Committees.

1. Jun Li, Ph.D. proposal (Chair: Dr. Bentley), University of Maryland (2004).

2. Nicole Bleckwenn, Ph.D. defense (Chair: Dr. Bentley), University of Maryland (2004).

3. Angela Lewandowski, M.S. defense (Chair: Dr. Bentley), University of Maryland (2004).

4. Jae-Ho Lee, Ph.D. proposal (Chair: Dr. Raghavan), University of Maryland (2004).

5. Jeremy Matthews, Ph.D. defense (Chair: Dr. Greer), University of Maryland (2005).

6. Angela Lewandowski, Ph.D. proposal (Chair: Dr. Bentley), University of Maryland (2005).

7. Juchen Guo, Ph.D. proposal (Chair: Dr. Barbari), University of Maryland (2005).

8. David Small, Ph.D. proposal (Chair: Dr. Bentley), University of Maryland (2005).

9. Rohan Fernandes, Ph.D. proposal (Chair: Dr. Bentley), University of Maryland (2005).

10. Patricia Gonzales, Ph.D. proposal (Chair: Dr. Wang), University of Maryland (2005).

11. Isaac Koh, Ph.D. defense (Chair: Dr. Ehrman), University of Maryland (2005).

12. Linden Bolisay, Ph.D. proposal (Chair: Dr. Kofinas), University of Maryland (2005).

13. Jae-Ho Lee, Ph.D. defense (Chair: Dr. Raghavan), University of Maryland (2006).

14. Chen-Yu Tsao, Ph.D. proposal (Chair: Dr. Bentley), University of Maryland (2006).

15. Jun Li, Ph.D. defense (Chair: Dr. Bentley), University of Maryland (2006).

16. David Small, Ph.D. defense (Chair: Dr. Bentley), University of Maryland (2007).

17. Angela Lewandowski, Ph.D. defense (Chair: Dr. Bentley), University of Maryland (2007).

18. Rebecca Lennen, M.S. defense (Chair: Dr. Bentley), University of Maryland (2007).

19. Brendan Casey, Ph.D. proposal (Chair: Dr. Kofinas), University of Maryland (2007).

20. Jennifer Hong, Ph.D. proposal (Chair: Dr. Raghavan), University of Maryland (2007).

21. Matthew Dowling, Ph.D. proposal (Chair: Dr. Raghavan), University of Maryland (2007).

22. Marina Chumakov, Ph.D. proposal (Chair: Dr. Al-Sheikly), University of Maryland (2008).

23. Joyce Berger, Ph.D. proposal (Chair: Dr. Wang), University of Maryland (2008).

24. Jonghoon Choi, Ph.D. defense (Chair: Dr. Wang), University of Maryland (2008).

25. Michael Kasser, Ph.D. proposal (Chair: Dr. Al-Sheikly), University of Maryland (2008).

26. Rohan Fernandes, Ph.D. defense (Chair: Dr. Bentley), University of Maryland (2008).

27. Soumyadip Ghosh, Ph.D. defense (Chair: Dr. Issacs), University of Maryland (2009).

28. Kimberly Murley, Ph.D. proposal (Chair: Dr. Aranda), University of Maryland (2009).

29. David Ramos, M.S. defense (Chair: Dr. Wang), University of Maryland (2009).

30. Josh Silverstein, Ph.D. proposal (Chair: Dr. Kofinas), University of Maryland (2009).

31. Kelly Dagget, Ph.D. defense (Chair: Dr. Cropp), University of Maryland (2009).

32. Jennifer Hong, Ph.D. defense (Chair: Dr. Raghavan), University of Maryland (2009).

33. Marina Chumakov, Ph.D. defense (Chair: Dr. Al-Sheikly), University of Maryland (2010).

34. Matthew Dowling, Ph.D. defense (Chair: Dr. Raghavan), University of Maryland (2010).

35. Brendan Casey, Ph.D. defense (Chair: Dr. Kofinas), University of Maryland (2010).

36. Daniel Serrano, M.S. defense (Chair: Dr. Muro), University of Maryland (2010).

37. Daniel Serrano, Ph.D. proposal (Chair: Dr. Muro), University of Maryland (2010).

38. Jason Papademetriou, Ph.D. proposal (Chair: Dr. Muro), University of Maryland (2010).

39. Joyce Berger, Ph.D. defense (Chair: Dr. Wang), University of Maryland (2011).

40. Gunja Dave, Ph.D. proposal (Chair: Dr. Shah), University of Maryland (2011).

41. James Matt Love, Ph.D. proposal (Chair: Dr. Shah), University of Maryland (2011).

42. Kimberly Murley, Ph.D. defense (Chair: Dr. Aranda), University of Maryland (2011).

43. Shelby Wilson, Ph.D. defense (Chair: Dr. Levy), University of Maryland (2012).

44. Paul Lambert, M.S. defense (Chair: Dr. Ankem), University of Maryland (2012).

45. Adam Behrens, Ph.D. proposal (Chair: Dr. Kofinas), University of Maryland (2012).

46. Josh Silverstein, Ph.D. defense (Chair: Dr. Kofinas), University of Maryland (2012).

47. Chao-Wei Chen, Ph.D. defense (Chair: Dr. Chen), University of Maryland (2012).

48. Amin Zargar, Ph.D. proposal (Chair: Dr. Bentley), University of Maryland (2013).

49. Leann Stocker, Ph.D. defense (Chair: Dr. DeShong), University of Maryland (2013).

50. David Rahmanian, Ph.D. proposal (Chair: Dr. DeVoe), University of Maryland (2013).

51. Gunja Dave, Ph.D. defense (Chair: Dr. Shah), University of Maryland (2014).

52. Carlos Lopez, Ph.D. defense (Chair: Dr. Aranda), University of Maryland (2014).
53. Julianne Twomey, Ph.D. defense (Chair: Dr. Hsieh), University of Maryland (2014).
54. Janet Hsu, Ph.D. defense (Chair: Dr. Muro), University of Maryland (2014).
55. Edward Sisco, Ph.D. defense (Chair: Dr. Mignerey), University of Maryland (2014).
56. Julia Choi, Ph.D. proposal (Chair: Dr. Cao), University of Maryland (2015).
57. Divya Patel, Ph.D. proposal (Chair: Dr. Jay), University of Maryland (2017).
58. Anjana Jeyaram, Ph.D. proposal (Chair: Dr. Jay), University of Maryland (2017).
59. Kelsey Gray, Ph.D. proposal (Chair: Dr. Stroka), University of Maryland (2017).
60. Poonam Sharma, Ph.D. defense (Chair: Dr. Hsieh), University of Maryland (2017).
61. Genevieve Hill, Ph.D. defense (Chair: Dr. Dreher), University of Maryland (2017).
62. Mary Doolin, Ph.D. proposal (Chair: Dr. Stroka), University of Maryland (2017).
63. Louis Born, Ph.D. proposal (Chair: Jay), University of Maryland (2019).
64. Julia Choi, Ph.D. defense (Chair: Dr. Cao), University of Maryland (2019).
65. Divya Patel, Ph.D. defense (Chair: Dr. Jay), University of Maryland (2019).
66. Kelsey Gray, Ph.D. defense (Chair: Dr. Stroka), University of Maryland (2019).
67. Anjana Jeyaram, Ph.D. defense (Chair: Dr. Jay), University of Maryland (2019).
68. Katherine Rodgers, Ph.D. proposal (Chair: Delehanty), University of Maryland (2019).
69. Mary Doolin, Ph.D. defense (Chair: Dr. Stroka), University of Maryland (2020).
70. Leah Borden, Ph.D. proposal (Chair: Raghavan), University of Maryland (2020).
71. Louis Born, Ph.D. defense (Chair: Jay), University of Maryland (2020).
72. Samantha Stewart, Ph.D. proposal (Chair: He), University of Maryland (2021).
73. Yantenew Gete, Ph.D. defense (Chair: Cao), University of Maryland (2021).
74. Xiaojing Mao, Ph.D. defense (Chair: Cao), University of Maryland (2022).
75. Stephanie Kronstadt, Ph.D. defense (Chair: Jay), University of Maryland (2022).

76. Leah Borden, Ph.D. defense (Chair: Raghavan), University of Maryland (2022).

77. Sahar Vakili, Ph.D. proposal (Chair: Cao), University of Maryland (2022).

78. Katherine Rodgers, Ph.D. defense (Chair: Delehanty), University of Maryland (2023).

79. Catherine Harvey, Ph.D. proposal (Chair: Cao), University of Maryland (2023).

80. Hyeyeon Gong, Ph.D. proposal (Chair: Cao), University of Maryland (2023).

81. Eman Mirdamadi, Ph.D. proposal (Chair: Lowe), University of Maryland (2023).

82. Samantha Stewart, Ph.D. defense (Chair: He), University of Maryland (2023).

83. Arijit Dutta, M.S. defense (Chair: Dr. Losert), University of Maryland (2024).

84. Emily Powsner, Ph.D. proposal (Chair: Jay), University of Maryland (2024).

85. Sangyoon Kim, Ph.D. defense (Chair: Lowe), University of Maryland (2024).

86. Gatha Adhikari, Ph.D. proposal (Chair: Mueller), University of Maryland (2024).

87. Rachel Warren, Ph.D. proposal (Chair: White), University of Maryland (2025).

88. Eman Mirdamadi, Ph.D. defense (Chair: Lowe), University of Maryland (2025).

c. Community.

1. Director, Scholars Of Applied Research, A biomedical engineering education cooperative program between the University of Maryland and Woodrow Wilson High School, Washington, DC (2005).

2. Panel Speaker, Career Night, Johns Hopkins University's Society of Engineering Alumni, Baltimore, MD (2005).

3. Participant, Career Night, Johns Hopkins University's Society of Engineering Alumni, Baltimore, MD (2007).

4. Society of Engineering Alumni Council, Johns Hopkins University, Baltimore, MD (2007 - 2010).

5. Chair, Advisory Board, Holy Redeemer Catholic School, Kensington, MD (2018 – 2020).