

CURRICULUM VITAE

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Education

- Ph.D. Bioengineering, University of Pennsylvania, Philadelphia, PA
Thesis Advisor: Paul Ducheyne, May 1999
- M.S.E. Biomedical Engineering, Johns Hopkins University, Baltimore, MD
Thesis Advisor: W. Mark Saltzman, August 1994
- B.S. Mechanical Engineering, Rutgers University, New Brunswick, NJ, May 1992

Professional Experience

- Professor, Biomedical Engineering, Columbia University, New York, NY, 2022- present
- Distinguished Professor, Biomedical Engineering, New Jersey Institute of Technology, Newark, NJ, 2020-2022
- Professor, Biomedical Engineering, New Jersey Institute of Technology, Newark, NJ, 2011-2020
- Director of Diversity, Center for Engineering MechanoBiology, National Science Foundation – Science and Technology Center, 2019-present
- Director of the Graduate Program, Biomedical Engineering, New Jersey Institute of Technology, Newark, NJ, 2012-2016
- Associate Professor (with Tenure), Biomedical Engineering, New Jersey Institute of Technology, Newark, NJ 2006 –2011
- Interim Chairperson, Biomedical Engineering, New Jersey Institute of Technology, Newark, NJ, 2009 (one year)
- Consultant for various biomedical companies, 2006 - present
- Assistant Professor, Biomedical Engineering, New Jersey Institute of Technology, Newark, NJ, 2001 – 2006
- Associate Faculty Member of the New Jersey Center for Biomaterials, Piscataway and Newark, NJ, 2001-2006
- Consultant, Osiris Therapeutics, Inc., Baltimore, MD, 2001-2002
- Senior Development Engineer, Osiris Therapeutics, Inc., Baltimore, MD, 2000-2001
- Development Engineer II/Project Leader, Osiris Therapeutics, Inc., Baltimore, MD, 1999-2000
- Graduate Research Assistant, Bioengineering, University of Pennsylvania, Philadelphia, PA 1994-1999
- Teaching Assistant, Bioengineering, University of Pennsylvania, Philadelphia, PA 1994-1995
- Graduate Research Assistant, Bioengineering, Johns Hopkins University, Baltimore, MD 1992-1994
- Process Engineering, Merck & Company, Sterile Operations, West Point, PA Summer 1993
- Mechanical Engineer, Merck & Company, Sterile Operations, West Point, PA Summer 1992
- Summer Intern, Summer Undergraduate Program for Engineering Research at Berkeley (SUPERB), University of California at Berkeley, Berkeley, CA Summer 1991

- Mechanical Engineer, G. E. Astro Space, Freehold, NJ Summer 1990

Honors and Achievements

National Academy of Inventors (NAI) Fellow, 2021

2019 Coretta Scott King Award, National Society of Black Engineers, NJIT Chapter

2018 George Bugliarello Prize, Sigma Xi, The Scientific Research Honor Society

2018 Constance A. Murray Diversity Award, NJIT

Biomedical Engineering Society (BMES) Fellow, 2017

Thomas Edison Patent Award, 2017

2016 Technology Rising Star Award, 21st Women of Color STEM Conference

National Science Foundation (NSF) Workshop on Biomaterials, Invited Attendee, 2016.

12th Annual National Academies Keck Futures Initiative - Collective Behavior: From Cells to Societies. Invited Attendee, 2014

New Jersey Inventors Hall of Fame Award – 2013

New Jersey Institute of Technology Excellence in Research Prize and Medal - 2013

Global Grand Challenges Meeting (National Academy of Engineering) Invited Attendee, 2013

American Institute for Medical and Biological Engineering (AIMBE) Fellow, 2013

Black Engineer of the Year Award (BEYA) – Educational Leadership Award, 2013

Coulter Foundation Translational Award - Phase II, 2011

Coulter Foundation Translational Award - Phase I, 2010

The Griot's Top 100 (msnbc.com) - 2009

Connecticut Stem Cell Research Advisory Committee (nominated by the Governor of Connecticut), Member, 2008-2014

40 Under 40 to Watch in 2008, *Black Enterprise* magazine, 2007

National Academies Keck Futures Initiative Program Committee, 2006

National Academy of Engineering, 2005 U.S. Frontiers of Engineering Symposium, Invited Attendee

2005 Standout Scholar, *Black Issues in Higher Education*

People to Watch in 2005, *The Star Ledger* - 2005

Outstanding Scientist Award from the NJ Association for Biomedical Research - 2004

Presidential Early Career Award for Scientists and Engineers (PECASE) - 2003

National Science Foundation Early CAREER Development Award - 2003

Solomon R. Pollock Research Award, University of Pennsylvania – 1999

Professional Activities/Organizations

Peer-Reviewing Activity

1. Reviewer and Co-Chair, Special Emphasis Panels, National Institutes of Health (NIH), Nov. 2020, June 2021, July 2022.
2. National Science Foundation (NSF), Grant Reviewer, 2020
3. Chair of Musculoskeletal Tissue Engineering (MTE) Study Section, NIH, July 2016-2018.
4. Permanent Member, NIH, Musculoskeletal Tissue Engineering Study Section, 2013 - 2018
5. Department of Defense, Grant Reviewer, 2019
6. NSF, Grant Reviewer, 2019
7. Medical Research Council (MRC), United Kingdom – grant reviewer, Fall 2013.
8. NIH, Biomaterials and Bionterfaces Study Section (BMBI), Sep 2011 and 2012.
9. NIH, ZRG1 F10B, Fellowship Panel, March 2011 and 2012
10. National Science Foundation Review Panelist– Fall 2003, 2004, 2010
11. Musculoskeletal Transplant Foundation – Grant Proposal Reviewer, Fall 2005-present

12. Connecticut Stem Cell Research Advisory Committee – Nominated by the Governor, January 2008-2014.
13. NIH Biomaterials, Delivery Systems, and Nanotechnology IMST(13) Small Business Panel, July 2009.
14. Innovation and Technology Commission, Innovation and Technology Fund - Guangdong-Hong Kong Technology Cooperation Funding Scheme, Grant Reviewer, November 2008.
15. National Institutes of Health, ZRG1 F14-G (20)L, NIH F14 Fellowship Panel June 2008.
16. Pennsylvania Department of Health, Regenerative Medicine and Post-Natal Stem Cell Biology Merit Review Panel, January 2008.
17. National Institutes of Health (NIH-NIAMS), Musculoskeletal Tissue Engineering Study Section, July and October 2006
18. National Institutes of Health (NIH-NIBIB) Study Section, ZRG1 SBIB-N (50) R Bioengineering Research Partnerships, Dec 2005
19. National Institutes of Health (NIH-NINDS) Study Section, ZNS1 SRB-E Centers for Excellence in Translational Human Stem Cell Research, July 2005
20. Arthritis Research Campaign, Chesterfield, United Kingdom – Grant Proposal Reviewer, Fall 2005
21. Reviewer for *Science, Biomaterials, Journal of Biomedical Materials Research, Tissue Engineering, Acta Biomaterialia, Developmental Cell Biology, Stem Cells, Journal of Neural Engineering, Nanomedicine: Nanotechnology, Biology and Medicine.*
22. Abstract Reviewer for *Society for Biomaterials, Orthopaedic Research Society and Biomedical Engineering Society* – 2002 to present

Editorial Activity (Editorial Board Member - selected)

Journal of Biomedical Materials Research: Part A – 2021 to present
 Science Advances – 2020 to present (Associate Editor)
 Bioengineering – 2020 to present
 Journal of Biomaterials and Tissue Engineering – 2010 to present

Professional Societies and Activities

Co-Chair of the Biomedical Engineering Society (BMES) Annual Meeting, Oct. 12-15, 2022 (San Antonio, TX)
 Secretary of BMES, Nov. 2022-2024
 Member of the BMES Board of Directors, 2019-2021
 Member of the BMES-Coulter Steering Committee, 2016-2021 (co-chair of the Wallace H. Coulter Award for Healthcare Innovation Subcommittee)
 Member of the Awards Committee, BMES, 2016-2019
 Member of the Nominating Committee of Tissue Engineering and Regenerative Medicine International Society (TERMIS), 2016-2019.
 Track Chair in Stem Cell Engineering for BMES Annual Meeting, Phila., PA, October 2019.
 Co-Chair Session on “Fostering life-long learning using innovative platforms and pedagogy” at the BMES Education Summit, 2019.
 Chair and co-organizer of the Neural Engineering Session at BMES Annual Meeting, Tampa, FL, October 2015.
 Member of TERMIS, 2014-present
 Member - Orthopaedic Research Society, 2000 – present
 Member of the Awards and Recognition Committee, 2019-2021
 Abstract Reviewer, 2008-present
 Session co-chair at annual meeting - 2019

Chair and co-organizer of General Sessions and Symposia at the Society for Biomaterials National Meeting, 2010-2013.

American Chemical Society Regional Conference on Polymers in Tissue Engineering, Organizer and Co-Chair, October 2009.

Co-Organizer of Nerve Tissue Regeneration Workshop at the BMES Annual Meeting, Pittsburgh, PA, October 2009.

Chair of Stem Cell Biomaterials Interactions Session, IEEE-EMBS (Engineering in Medicine and Biology Society), 28th Annual International Meeting, August 2006.

American Chemical Society, Moderator for Session on Tissue Engineering, MARM 2005

Member – Biomedical Engineering Society, 2006-present

Member - Society for Biomaterials, 1996 - present

Co-organizer and speaker at Workshop at Annual Meeting 2022: Biomaterials Translation Timeline: From Inception to Manufacturing

Member of Tissue Engineering Special Interest Group, 2008 - present

Reviewer for Society for Biomaterials Annual Meeting, 2002 - present

Moderator for Session on Tissue Engineering, 2002

Mentor - American Chemical Society, Project SEEDs program (research for high school students), 2002-present

Reviewer and Session Chair for Tissue Engineering, 29th Annual Northeast Bioengineering Conference, New Jersey Institute of Technology, Newark, NJ, 2003.

Organizer, Nanotechnology in Biomedical Research, University of Medicine and Dentistry Graduate School of Biomedical Sciences, Newark, NJ, 2002.

Member - American Society of Mechanical Engineers, 1990 - present

Member - National Society of Black Engineers, 1990 – present

Invited Seminars/Presentations

1. Invited Keynote Address, University College London, BioMedEng22. Annual Meeting, London, England, Sept. 2022
2. Invited Talk on Commercialization and Entrepreneurship in Academia, Society for Biomaterials Annual Meeting, Baltimore, MD, April 2022
3. Seminar, Rowan University, Biomedical Engineering, Virtual, April 2022
4. Invited Talk, American Association for Anatomy 2022 Annual Meeting at Experimental Biology, Philadelphia, PA, April 2022
5. Seminar, Tulane University, Biomedical Engineering, Virtual, Nov 2021
6. Keynote Address, Thomas Jefferson University 15th Annual Postdoctoral Research Symposium, Virtual, Sept 2021
7. Panel speaker, Non-Dilutive Funding for Early Academic Startups, Empower 2021 Conference, Virtual, Sept. 2021
8. *Tissue Talks*, Columbia University, Virtual, June 2021
9. 2nd Biomedical Engineering & Instrumentation Summit (BEIS-2021), Virtual, April 2021
10. University of Florida, *Biomaterials Day*, Virtual, March 2021
11. *Temple University*, Biomedical Engineering Seminar, Virtual, February 2021
12. Imposter Syndrome Workshop, Orthopaedic Research Society Annual Meeting, Virtual, February 2021
13. *Regenerative Medicine San Antonio Symposium* (RegenMed SA), Virtual, February 2021
14. "*Women Faculty: Journey in Academia*" Panel Discussion, University of Illinois, Urbana-Champaign, Virtual, March 2021
15. *Columbia University*, Department of Biomedical Engineering, Virtual, Jan 2021

16. "Picture a Scientist" Panel Discussion, Virtual-NJIT, Dec 2020
17. *University of Texas Health – San Antonio (UTHSA)*, Department of Cell Systems and Anatomy, Virtual, Nov 2020
18. *Materials Day, Boston University*, Virtual - Boston, MA, October 2020
19. *University of Bridgeport*, Biology Seminar, Virtual - Bridgeport, CT, September 2020
20. "Diversity Initiatives at CEMB", *AIMBE Academic Council Fireside Chat on Successful Diversity Programs and Policies*, July 2020
21. *Electronic Materials and Applications (EMA) Annual Conference*, Orlando, FL, January 2020
22. *Society of Engineering Science*, Annual Meeting, WashU in St. Louis, MO, October 2019
23. *Bryn Mawr College*, Physics Seminar, Bryn Mawr, PA, October 2019
24. *Abbott Laboratories, Inc.*, Princeton, NJ, Lunch-N-Learn Seminar Series, June 2019
25. *Hackensack University*, Center for Discovery and Innovation Seminar, May 2019
26. *Rensselaer Polytechnic Institute*, Biomedical Engineering Seminar, April 2019
27. *University of Rochester*, *Biomedical Engineering*, November 2018
28. *7th Annual Musculoskeletal Symposium*, Albert Einstein College of Medicine, October 2018
29. Panel Discussion, 21st Century Medicine: What are the Breakthroughs and What Will They Mean?", Sponsored by World Affairs Council of Philadelphia, November 2018
30. *Johns Hopkins University*, Mechanical Engineering Seminar, October 2018.
31. *Gordon Research Conference*, Signal Transduction by Engineered Extracellular Matrices, Invited Discussion Leader, July 2018.
32. *Society for Biomaterials Annual Meeting – Symposium* Invited Speaker, Atlanta, Ga, April 2018..
33. *BioNJ Inspiring Women in Stem Conference*, December 2017.
34. *University of Nebraska Medical Center*, *Musculoskeletal Research Symposium*, September 2017.
35. *National Science Foundation Biomaterials Workshop: Tools and Foundry*, Arlington, VA, August 2016.
36. *BioNJ Manufacturing Breakfast Briefing*, Newark, NJ, May 2016.
37. *New York University*, *Chemical Engineering Seminar*, April 2016.
38. *University of Florida, Gainesville, FL*, *Materials Science and Engineering Seminar*, April 2016.
39. *CHI's Screening and Functional Analysis of 3D Models*, November 2015.
40. *Stevens Institute of Technology*, *Biomedical Engineering Seminar*, November 2015.
41. *University of New Hampshire*, *2nd Bioengineering Symposium*, October 2015.
42. *American Chemical Society Regional Meeting*, Baltimore, MD, April 2015.
43. *Biomedical Engineering Society Annual Meeting*, October 2014.
44. *Columbia University*, College of Dental Medicine, December 2013.
45. *University of California, Los Angeles*, Biomedical Engineering, November 2013.
46. *Activated Egg Symposium*, November 2013.
47. *New Jersey Institute of Technology*, *TedX*, September 2013.
48. *Rutgers University*, April 2013.
49. *Cancer Institute of New Jersey*, June 2012.
50. *Society for Biological Engineering*, Webinar, April 2012.
51. *Medical University of South Carolina*, March 2012.
52. *Chemical Engineering Symposium at the New York Academy of Sciences*, March 2012.
53. *Corning, Inc.*, January 2012.
54. *Cell Science and Stem Cell Research 2011*, Philadelphia, Dec 2011
55. *Annual Technical Conference of Society of Plastics Engineers (SPE)-ANTEC*, Boston, MA, May 2011.
56. *Rutgers-Merck Summer Bioethics Institute*, July 2010.

57. *Northeast Bioengineering Conference and Columbia University Society for Biomaterials Day Symposium*, March 2010.
58. *Polymeric Scaffolds for Stem Cell Tissue Engineering, Regional ACS and Society for Biomaterials Symposium on Polymers in Tissue Engineering*. October 2009.
59. *Stem Cells: Their Origins and Applications, Research Café, NJIT*, Sept. 2009
60. *Brazilian Orthopaedic Trauma Meeting*, November 2008.
61. *General Electric Global Research*, August 2008.
62. *City College of New York (CCNY), Department of Biomedical Engineering*, May 2008.
63. *Schering-Plough, Inc.* April 2008
64. *Campbell Soup Company and Campbell African American Network Black History Month Panel Discussion*. February 2008. *The State University of New York (SUNY) at Stony Brook*. February 2008.
66. *Third Annual New Jersey Stem Cell Symposium*. October 2007
67. *New Jersey/Quebec Collaborative Stem Cell Meeting. Montreal, Montreal Neurological Institute*, June 4-5, 2007.
68. *New Jersey Institute of Technology – Board of Trustees Retreat*, July 2007.
69. *New York University – Dental School*. March 2006.
70. *Celgene Cellular Therapeutics, Inc.* April 2006.
71. *The New Jersey Biomedical Engineering Showcase, 1st Annual Meeting*, March 2006.
72. *Osteotech, Inc.*, January 2006.
73. *4th Annual Life Sciences Industry Career Development Conference*, New York City, 2005.
74. *Annual Biomedical Research Conference for Minority Students (ABRCMS)*. Atlanta, Ga. 2005.
75. *Stem Cell Symposium, University of Medicine and Dentistry of New Jersey*, July 6, 2005.
76. *New Jersey Center for Biomaterials Symposium*, Fall 2004.
77. *Lifecell Technologies, Inc.* May 2003.
78. *Engineering Tissue Growth International Conference and Exposition*. Pittsburgh, PA March 19-21, 2002.
79. *New Jersey Center for Biomaterials Faculty Retreat*, December 4, 2001.
80. *30th International Sun Valley Hard Tissue Workshop*, August 14-18, 2000.

Peer-Reviewed Journal Articles

1. Khader, A., Arinzeh, T.L. 2022. Mesenchymal stem cells undergo osteo-chondrogenic differentiation on zinc oxide-containing piezoelectric scaffolds when subjected to physiological loading. (in preparation)
2. Menezes, R., Vincent, R., Osorno, L., Hu, P., Arinzeh, T.L. 2022. Biomaterials and tissue engineering approaches using glycosaminoglycans for tissue repair: lessons learned from the native extracellular matrix. *Acta Biomaterialia* (invited for special issue “The Mechanics of Cells and Fibers”, accepted Oct. 2022)
3. Menezes, R. Sherman, L., Rameshwar, P., Arinzeh, T.L. 2022. Scaffolds containing GAG-mimetics derived from cellulose promote TGF- β interaction and MSC chondrogenesis over native GAGs. *Journal of Biomedical Materials Research: Part A* (in revision July 2022)
4. Billiar, K., Gaver, D.P., Barbee, K., Barbee, K., Singh, A., DesJardins, J.D., Pruitt, B., Tranquillo, J., Gaudette, G., Winkelstein, B., Makowski, L., Amos, J.R., Saterbak, A., LeDoux, J., Helmke, B., Grimm, M., Benkeser, P., Segan, L.D., Pfister, B., Meaney, D., Arinzeh, T., Margulies, S. 2022. Learning Environments and Evidence-Based Practices in Bioengineering and Biomedical Engineering. *Biomed Eng Education*.
5. Calcutt, R., Vincent, R., Dean, D.*, Arinzeh, T.L.*, Dixit, R.* 2021. Plant cell adhesion and growth on artificial fibrous scaffolds as an in vitro model for plant development. *Science Advances*. 7(43):eabj1469, epub.*corresponding authors.

6. Wang, S., Hashemi, S., Stratton, S., Arinzeh, T.L. 2021. The Effect of Physical Cues of Biomaterial Scaffolds on Stem Cell Behavior. *Advanced Healthcare Materials*. e2001244.
7. Menezes R, Arinzeh TL. 2020. Comparative Study of Electrospun Scaffolds Containing Native GAGs and a GAG Mimetic for Human Mesenchymal Stem Cell Chondrogenesis. *Ann Biomed Eng*. 48(7):2040-2052.
8. Turner, J., Collins, G., Blaber, E., Almeida, E., Arinzeh, T.L. 2020. Evaluating the Cytocompatibility and Differentiation of Bone Progenitors on Electrospun Zein Scaffolds. *Journal of Tissue Engineering and Regenerative Medicine*. 14(1):173-185.
9. Khader, A., Arinzeh, T.L. 2019. Biodegradable Zinc Oxide Composite Scaffolds Promote Osteochondral Differentiation of Mesenchymal Stem Cells. *Biotechnology and Bioengineering*. 117(1):194-209.
10. Menezes R, Hashemi S, Vincent R, Collins G, Meyer J, Foston M, Arinzeh TL. 2019. Investigation of glycosaminoglycan mimetic scaffolds for neurite growth. *Acta Biomater*. 90:169-178.
11. Wu S, Chen MS, Maurel P, Lee YS, Bunge MB, Arinzeh TL. 2018. Aligned fibrous PVDF-TrFE scaffolds with Schwann cells support neurite extension and myelination in vitro. *J Neural Eng*. 2018. 15(5):056010.
12. Huang, G.P., Molina, A., Tran, N., Collins, G., and Arinzeh, T.L. 2018. "Investigating Cellulose Derived Glycosaminoglycan Mimetic Scaffolds for Cartilage Tissue Engineering Applications," *Journal of Tissue Engineering and Regenerative Medicine*. 12(1):e592-e603.
13. Lee YS, Wu S, Arinzeh TL, Bunge MB. 2017. Transplantation of Schwann Cells Inside PVDF-TrFE Conduits to Bridge Transected Rat Spinal Cord Stumps to Promote Axon Regeneration Across the Gap. *Journal of Visualized Experiments (JOVE)*. 129.
14. Damaraju, S., Shen, Y., Elele, E., Khusid, B., Eshghinejad, A., Li, J., Jaffe, M., Livingston Arinzeh, T. 2017. Three-dimensional piezoelectric fibrous scaffolds selectively promote mesenchymal stem cell differentiation. *Biomaterials*. 149: 59-62. (featured in news articles in *Materials Today* "Piezoelectric scaffold squeezes cells into action" Nov. 23, 2017, and in *Nature Technology* Feature, "Matrix mimics shape cell studies", February 26, 2019)
15. Arinzeh, T.L., Stem Cell Tissue Engineering, *American Scientist*, (The Magazine of Sigma Xi), 2017.
16. Schussler SD, Uske K, Marwah P, Kemp FW, Bogden JD, Lin SS, Livingston Arinzeh T. 2017. Controlled Release of Vanadium from a Composite Scaffold Stimulates Mesenchymal Stem Cell Osteochondrogenesis. *AAPS Journal*. 19(4):1017-1028.
17. Huang GP, Menezes R, Vincent R, Hammond W, Rizio L, Collins G, Arinzeh TL. 2017. Gelatin Scaffolds Containing Partially Sulfated Cellulose Promote Mesenchymal Stem Cell Chondrogenesis. *Tissue Eng Part A*. 23(17-18):1011-1021.
18. Lee YS, Wu S, Livingston Arinzeh T, Bartlett Bunge M. 2017. Enhanced noradrenergic axon regeneration into Schwann cell-filled PVDF-TrFE conduits after complete spinal cord transection. *Biotechnology and Bioengineering*. 114(2):444-456.
19. Cottrell, J., Turner, J.C., Arinzeh, T.L., O'Connor, J.P. 2016. "The Biology of Bone and Ligament Healing," *Foot and Ankle Clinics of North America*, 21(4): 739-761.
20. Khader A, Sherman L, Rameshwar P, Arinzeh TL. 2016. Sodium Tungstate for Promoting Mesenchymal Stem Cell Chondrogenesis. *Stem Cells and Development*. 25(24):1909-1918.
21. Hitscherich, P., Wu, S., Gordan, R., Xie, L-H., Arinzeh, T., Lee, E.J. 2016. The effect of PVDF-TrFE scaffolds on stem cell derived cardiovascular cells. *Biotechnology and Bioengineering*. 113(7):1577-85.
22. Guiro, K., Arinzeh, T.L. 2016. Bioengineering models for breast cancer research. *Breast Cancer: Basic and Clinical Research*. 9(Suppl 2):57-70.

23. Rajabi, A.H., Jaffe, M., Arinzeh, T.L. 2015. Piezoelectric materials for tissue regeneration: A review. *Acta Biomaterialia*. 24:12-23.
24. Guiro, K., Patel, S.A., Greco, S.J., Rameswhar, P., Arinzeh, T.L. 2015. Investigating breast cancer cell behavior using tissue engineering scaffolds. *PLoS One*. 10(3):e0118724.
25. Briggs, T., Matos, J., Collins, G., Arinzeh, T.L. 2015. Evaluating protein incorporation and release in electrospun composite scaffolds for bone tissue engineering applications. *Journal of Biomedical Materials Research, Part A*. 103(10):3117-27.
26. Lobo, S.E., Glickman, R., da Silva, W.N., Arinzeh, T.L., Kerkis, I. 2015. Response of stem cells from different origins to biphasic calcium phosphate bioceramics. *Cell and Tissue Research*. 361(2):477-95.
27. Huang, G.P., Shanmugasundaram, S., Masih, P., Pandya, D., Amara, S., Collins, G., Arinzeh, T.L. 2015. An investigation of common cross-linking agents on the stability of electrospun collagen scaffolds. *Journal of Biomedical Materials Research: Part A*. 103(2):762-771.
28. Patlolla, A., Livingston Arinzeh, T. 2014. Evaluating the bioactivity and osteogenic activity of electrospun composites for bone tissue engineering. *Biotechnology and Bioengineering*. 111(5):1000-17.
29. Bakhtina, A., Tohfafarosh, M., Lichtler, A., Livingston Arinzeh, T. 2014. Characterization and Differentiation Potential of Rabbit Mesenchymal Stem Cells for Translational Regenerative Medicine. *In Vitro Cellular & Developmental Biology – Animal*. 50(3):251-60.
30. Briggs, T., Livingston Arinzeh, T. 2014. Examining the formulation of emulsion electrospinning for improving the release of bioactive proteins from electrospun fibers. *Journal of Biomedical Materials Research: Part A*. 102(3):674-84.
31. Damaraju, S., Wu, S., Jaffe, M., Livingston Arinzeh, T. 2013. Structural changes in PVDF due to electrospinning and its effect on biological function. *Biomedical Materials* 8, 045007.
32. Portocarrero, G., Collins, G., Livingston Arinzeh, T. 2013. Challenges in Cartilage Tissue Engineering. *Journal of Tissue Science and Engineering*. 4:e120 (invited)
33. Nugehalli, R.M. and Livingston Arinzeh, T. 2012. Biomaterials and Biosensors (editorial). *Bioinspired Biomimetics and Nanobiomaterials*, 1(4): 200-201. (invited)
34. Wang, S., Banerjee, A., Martolo, B., Livingston Arinzeh, T., Ophir, Z., Jaffe, M., Collins, G. 2012. Structure and Morphology of Electrospun Collagen Blends, *Bioinspired Biomimetics and Nanobiomaterials*, 1(4): 202-213. (invited)
35. Lee, Y-S., Livingston Arinzeh, T. 2012. The Influence of Piezoelectric Scaffold on Neural Differentiation of Human Neural Stem/Progenitor Cells. *Tissue Engineering: Part A*. 18(19-20): 2063-2072.
36. Briggs, T. and Livingston Arinzeh, T. 2011. Growth Factor Delivery from Electrospun Materials, *Journal of Biomaterials and Tissue Engineering*, 1(2), 129-138.
37. Lee, Y-S., Collins, G., Livingston Arinzeh, T. 2011. Neurite Extension of Primary Neurons on Electrospun Piezoelectric Scaffolds, *Acta Biomaterialia*, 7, 3877-3886.
38. Lee, Y-S., Livingston Arinzeh, T. 2011. Electrospun Nanofiber Scaffolds for Neural Tissue Engineering Applications, *Polymers*, 3(1), 413-426.
39. Shanmugasundaram, S., Chaudhry, H., Livingston Arinzeh, T. 2011. Microscale Versus Nanoscale Scaffold Architectures for Mesenchymal Stem Cell Chondrogenesis. *Tissue Engineering: Part A*, 17(5-6): 831-840.
40. Lobo, S., Livingston Arinzeh, T. 2010. Biphasic Calcium Phosphate Ceramics for Bone Regeneration and Tissue Engineering Applications, *Materials*, 3(2), 815-826.
41. Weber, N., Lee, Y.S., Shanmugasundaram, S., Jaffe, M., Livingston Arinzeh, T. 2010. Characterization and In Vitro Cytocompatibility of Piezoelectric Electrospun Scaffolds. *Acta Biomaterialia*, 6(9): 3550-3556.

42. Breitbart, E. Meade, S., Azad, V., Lee, Y-S., Yeh, S., Al-Zube, L., Arinzeh, T.L., Lin, S.S. 2010. Mesenchymal Stem Cell Augmentation Upon Allograft Incorporation In Diabetic Rodents. *Journal of Orthopaedic Research*. 28(7): 942-949.
43. Patlolla, A., Collins, G., Livingston Arinzeh, T. 2010. Solvent Dependent Dimensional and Structural Changes in Electrospun Ceramic Fibrous Composites for Bone Tissue Engineering. *Acta Biomaterialia*. 6(1): 90-101.
44. Doddi, S., Jaffe, M., Livingston Arinzeh, T.L. 2009. The effect of processing history on physical behavior and cellular response for tyrosine-derived polyarylates. *Biomed Mater*. 4(6):065006. epub.
45. Briggs, T., Trieser, M., Holmes, P., Kohn, J., Moghe, P.V. Livingston Arinzeh, T.L. 2008. Osteogenic Differentiation of Human Mesenchymal Stem Cells on Poly(ethylene glycol)-variant Biomaterials. *Journal of Biomedical Materials Research: Part A*. 91A(4):975-984.
46. Livingston Arinzeh, T.L. 2005. Mesenchymal Stem Cells for Bone Repair: Preclinical Studies and Potential Clinical Applications. *Foot and Ankle Clinics*. 10(4), pp. 651-665.
47. Livingston Arinzeh, T.L., Tran, T., McAlary, J., Dalcusi, G. 2005. Comparative osteogenic activity of various calcium phosphate ceramic compositions *in vitro and in vivo*. *Biomaterials*. 26(17), pp. 3631-3638.
48. Livingston Arinzeh, T., Peter, S. Archambault, M., McIntosh, K., van den Bos, C., Gordon, S., Young, R., Kraus, K., Smith, A., Kadiyala, S. 2003. Allogeneic mesenchymal stem cells regenerate bone in a critically-sized canine segmental gap. *Journal of Bone and Joint Surgery*. 85-A(10), pp. 1927-1935.
49. Livingston, T.L., Gordon, S., Archambault, M., McIntosh, K., Kadiyala, S., Smith, A., Peter, S. 2003. Mesenchymal stem cells and biphasic calcium phosphate ceramics. *Journal of Materials Science – Materials in Medicine*. 14(3), pp. 211-218.
50. Livingston, T., Ducheyne, P., Garino, J. 2002. An *in vivo* evaluation of a bioactive ceramic scaffold for bone tissue engineering. *Journal of Biomedical Materials Research*. 62, pp. 1-13.
51. Livingston, T.L., Garino, J., Ducheyne, P. 1999. A mechanical and histological evaluation of a tissue engineered bioactive scaffold *in vivo*. *Bioceramics*, 12, H. Ohgushi, G.W. Hastings, T. Yoshikawa, eds., World Scientific Publishing Co, Singapore, p. 245-248.
52. Saltzman, W.M., Livingston, T., Parkhurst, M.R. 1999. Antibodies to CD18 influence the migration of neutrophils through extracellular matrix. *Journal of Leukocyte Biology*, 65(3), pp. 356-363.
53. Ducheyne, P., Livingston, T., Shapiro, I., Ayyaswamy, P., Gao, H., Radin, S. 1997. Surface modified bioactive glass particles as microcarriers in a microgravity environment. *Tissue Engineering*, 3(3), pp. 219-229.

Books

1. Characterization of Biomaterials, Woodhead Publishing. Editors: M. Jaffe, T. Arinzeh, W. Hammond, P. Tolia, Woodhead Publishing, ISBN-13: 978184569810, 2012.

Book Chapters (Peer-Reviewed)

1. Moy, J. Limaye, A., Arinzeh, T.L. Nanofiber matrices for bone tissue engineering, *Artificial Protein and Peptide Nanofibers*. Chapter 15, 351-382, Elsevier, 2020.
2. Guiro, K., Sinha, G., Sandiford, O., Arinzeh, T.L., Rameshwar, P. Cancer Stem Cells: Issues with In Vitro Expansion and Model Systems. *Working with Stem Cells*. Springer International Publishing, 2016.
3. Dukleska, S., Guiro, K., Livingston Arinzeh, T. In vitro and in vivo evaluation of composite scaffolds for bone tissue engineering. *Handbook of Bioceramics and Biocomposites*. Ed. Iulian Vasile Antoniac, Springer International Publishing, 2016.

4. Guiro, K., Damaraju, S.M., Livingston Arinze, T. New Bone Graft Technologies Using Stem Cells. *Bone Graft Substitutes, 2nd edition*, Ed. Cato T. Laurencin, Tao Jing. ASTM International, 2013.
5. Lee, Y-S. and Livingston Arinze, T. Electrospun Nanofibers for Neural Applications. *Nanotechnology in Tissue Engineering and Regenerative Medicine*. Ed. Ketul C Popat. CRC Press/Taylor and Francis, 2010.
6. King, C., Patel, S., Livingston Arinze, T., Rameshwar, P. Dual roles of mesenchymal stem cells in spinal cord injury: Cell replacement therapy and as a model system to understand axonal repair. *Stem cells: From tools for studying mechanism of neuronal differentiation towards therapy*. Springer-Verlag, 2010.
7. Shanmugasundaram, S., Imura, Y., Jaffe, M., Livingston Arinze, T. The Contribution of Electrospinning to Tissue Engineering and Related Fields. *Tissue Engineering: Roles, Materials and Applications*. Nova Science Publishers, Inc., 2008.
8. Liu, X., Shanmugasundaram, S., Livingston Arinze, T. Polymeric Biomaterials. *Encyclopedia of Medical Devices and Instrumentation*. John Wiley & Sons, Inc, 2005.
9. Livingston Arinze, T. Preclinical, clinical and regulatory issues in cell-based therapies. *Bone Graft Substitutes: A Multidisciplinary Perspective*. Chapter 9, ASTM International, 2003.

Abstracts, Conference Proceedings and Presentations (Peer-Reviewed, Over 165)

Patents

1. U.S. Patent 10,772,909: System and method for insulin-mimetic of cartilage, bone, or osteochondral repair and piezoelectric composite scaffold. Inventors: T. Arinze and A. Khader. 2020.
2. U.S. Patent 10,420,856. Scaffold for tissue growth and repair. Inventors: T. Arinze, G. Collins, Y-S. Lee, 2019.
3. U.S. Patent 10,197,563: 3-D in vitro model for breast cancer dormancy. Inventors: T. Arinze, P. Rameshwar. 2019.
4. U.S. Patent 10,081,794: System and method for electrospun biodegradable scaffold for bone repair. Inventors: T. Arinze, T. Briggs, 2018.
5. U.S. Patent 10,052,412. Electrospun electroactive polymers for regenerative medicine applications, Inventors: T. Arinze, N. Weber, M. Jaffe, 2018.
6. U.S. Patent 9,771,557: Piezoelectric scaffold for nerve growth and repair. Inventors: T. Arinze, G. Collins, Y-S. Lee, 2017.
7. JP Patent # 6189827, System and method for electrospun biodegradable scaffold for bone repair. Inventors: T. Arinze, 2017.
8. Europe EP 2 696 806 B1. System and method for electrospun biodegradable scaffold for bone repair. Inventors: T. Arinze, 2017.
9. U.S. Patent 9,643,157: Hydrogel composition, Inventors, T. Arinze, G. Collins, B. Joshi, 2017.
10. U.S. Patent 9,504,987: System and method for superabsorbent material, Inventors: T. Arinze, G. Collins, B. Joshi, 2016.
11. U.S. Patent 9,476,026: Method of tissue repair using a piezoelectric scaffold, Inventors: T. Arinze, G. Collins and Y-S. Lee, 2016.
12. US Patent 9,334,476: Method for nerve growth and repair using a piezoelectric scaffold. Inventors: T. Arinze, G. Collins and Y-S. Lee. 2016.
13. U.S. Patent 9,192,655: System and method for a hydrogel and hydrogel composite for cartilage repair applications, Inventors: T. Arinze, G. Collins, B. Mantilla. 2015.
14. U.S. Patent 9,180,166: Cartilage repair systems and applications using a glycosaminoglycan mimetic, Inventors: T. Arinze, G. Collins, P. Modak, and L. Tseng. 2015.

15. U.S. Patent 9,181,636: Electrospun ceramic-polymer composite as a scaffold for tissue repair, Inventor: T. Arinzeh. 2015.

Grant Activity – Total: approx. \$13 M

Principal Investigator – approx. \$12.2 M

1. National Science Foundation (NSF), ADVANCE Program, Award: 2121941, Advance Partnership: New Jersey Equity in Commercialization Collective (NJECC), PI: T. Livingston Arinzeh, Co-PIs: Nancy Steffen-Fluhr (NJIT), Judith Sheft (NJ Commission on Science, Innovation and Technology), Forough Ghahraniami (NJ Edge), Jeffrey Robinson (Rutgers), Period: 9/1/21-8/31/24, Amount: \$1.25M
2. National Institutes of Health (NIH) R01AR077056, A Novel Glycosaminoglycan Mimetic Scaffold for Cartilage Repair, PI: T. Livingston Arinzeh, co-Is: Thomas Schaer (University of Pennsylvania) and Louis Rizio (Sports Medicine and Orthopaedic Center, NJ), Period: 3/16/21-2/28/26, Amount: \$1,719,528.
3. NIH R01AR077056, A Novel Glycosaminoglycan Mimetic Scaffold for Cartilage Repair – Diversity Supplement (support for postdoc trainee), PI: T. Livingston Arinzeh, Period: 09/01/21-02/28/24, Amount: \$229,050.
4. NIH R21AR078399, A Metabolic Strategy Utilizing a Zein Scaffold for Bone Repair. PI: T. Arinzeh, Co-I: C. Karner (UT San Antonio), Period: 5/01/21-4/30/23, Amount: \$439,920.
5. NJ Commission on Spinal Cord Research, Exploratory Research Grant PI: T. Livingston Arinzeh, co-I: Martin Oudega (Northwestern and Shirley Ryan AbilityLab), Period: 05/01/19-04/30/22, Amount: \$200,000. (one year, no-cost extension)
6. NSF Science and Technology Center (STC): Multi-investigator Center on Engineering MechanoBiology, NSF-CMMI-1548571, PI: V. Shenoy, University of Pennsylvania with co-investigators at Washington University at St. Louis (WUSTL), Boston University, Bryn Mawr, NJIT and UCLA. Total: \$24M, 09/01/16-8/31/21. Co-PI: T. Arinzeh, Amount: \$1.06M (renewed for 09/01/21-8/31/26, \$629,160).
7. NSF, Division of Materials Research (DMR) Research Grant – 1610125, PI: T. Livingston Arinzeh, Period: 09/01/16-08/31/20. one-year no cost extension, Amount: \$390,000.
8. NSF, PFI-AIR-TT Translational Grant, PI. T. Livingston Arinzeh, Period: 7/17/17-12/31/19. Amount: \$200,000
9. Lisa Dean Moseley Foundation, PI: T. Arinzeh, 09/01/20-08/31/22 (one-year no cost extension), \$50,000
10. Lisa Dean Moseley Foundation, PI: T. Arinzeh, 09/01/19-08/31/20, \$24,781
11. Christopher P. Moseley Foundation, PI: T. Arinzeh, 09/01/17-08/31/18, \$50,000
12. Christopher P. Moseley Foundation, PI: T. Arinzeh, 09/01/16-08/31/17, \$25,000.
13. NJ Commission on Spinal Cord Research, Exploratory Research Grant PI: T. Livingston Arinzeh, co-I: Mary Bartlett Bunge at the University of Miami- Miami Project, Period: 07/01/16-06/30/19, Amount: \$200,000.
14. Department of Defense (DOD), W81XWH-14-1-0482, PI: T. Livingston Arinzeh, Co-PI: Mary Bartlett Bunge at the University of Miami – Miami Project (Spinal Cord Repair), Co-investigator: Mesut Sahin, Period: 9/31/14-9/30/18, Amount: \$622,243.
15. DOD DURIP Award – Office of Naval Research, N00014-17-1-2325, Equipment Grant, Period: 6/1/17-5/30/18, Amount: \$150,000.
16. Integra Life Sciences, Inc. PI: T. Arinzeh, 01/01/18-12/30/19, \$210,536.
17. QED Proof of Concept Program, Science Center, Period: 1/1/18-6/30/19, Amount: \$200,000.
18. National Aeronautics and Space Administration (NASA), NNX13AL56H, PI: T. Livingston Arinzeh, Period: 9/1/13-8/31/17, Amount: \$272,000.

19. Musculoskeletal Transplant Foundation (MTF), Established Investigator Research Grant, PI: T. Livingston Arinzeh, Co-Is: G. Collins and L. Rizio, Period: 02/01/13-1/31/17, Amount: \$300,000.
20. Integra Life Sciences, Inc. PI: T. Arinzeh, 01/01/16-06/30/17, \$122,647.
21. Christopher P. Moseley Foundation, PI: T. Arinzeh, 09/01/15-08/31/16, \$25,000.
22. NSF, DMR Research Grant, 1207173, T. Livingston Arinzeh (PI), G. Collins, W. Hammond (co-PIs), Period: 08/01/12-08/31/17, Amount: \$330,000.
23. NSF DMR Research Grant, 1006510, Livingston Arinzeh (PI), Jaffe (co-PI), Khusid (co-PI), Period: 08/01/10 – 2/28/15, Amount: \$400,000.
24. Coulter Foundation Translational Grant- Phase I and II, Arinzeh (PI), Lin (co-PI), Period: 09/01/10-8/31/15, Amount: \$515,000.
25. National Science Foundation (NSF) Innovation-Corps (I-Corps) Program, IIP-1355718, PI: T. Livingston Arinzeh, Period: 10/01/13-04/30/14, Amount: \$50,000.
26. Pipeline Orthopaedics, Inc., PI: Arinzeh, Period: 8/11-6/12, Amount: \$10,000.
27. Integra Life Sciences, Inc., PI: Arinzeh, Period: 1/11-3/12, Amount: \$26,000.
28. Kinetics Concept Inc., PI: Treena L. Arinzeh, Period: 9/08-12/10, Amount: \$385,000.
29. Einco Biomaterials, Inc., PI: Treena L. Arinzeh, Period: 9/08-6/10, Amount: \$105,000.
30. NJ Commission on Spinal Cord Research, PI: Treena L. Arinzeh, Period: 12/15/05-12/31/10, Amount: \$686,461.
31. NJ Commission on Spinal Cord Research - PI: Treena L. Arinzeh, Period: 1/2008-12/31/10, Amount: \$60,000.
32. NJ Commission on Science and Technology – Stem Cell Grant Program, PI: Treena L. Arinzeh, Period: 12/15/05-3/31/09, Amount: \$300,000.
33. Osteotech, Inc. PI: Treena L. Arinzeh, Period: 6/2007-6/2008, Amount: \$25,000.
34. NSF PECASE – BES-0238787, PI: Treena Livingston Arinzeh, Period: 3/15/03-2/29/09, Amount: \$400,000.
35. NJ Commission on Science and Technology – University Intellectual Property Grant Program, PI: Treena L. Arinzeh, Co-PI: M. Jaffe, 1/2007-12/2007, Amount: \$66,144
36. Musculoskeletal Transplant Foundation (MTF), PI: Treena L. Arinzeh, Co-PI: Sheldon Lin, Period: 1/01/05-6/01/06, Amount: \$100,000.
37. NJ Center for Biomaterials – Faculty Award, PI: Treena Livingston Arinzeh, Period: 4/01/03, Amount: \$7,500.
38. New Jersey Institute of Technology – SBR, PI: Treena Livingston Arinzeh, Period: 9/01/01 – 6/01/03, Amount: \$50,000.

Co-Principal Investigator - approx. \$650K

39. National Institutes of Health (NIH) - NIH-NIBIB BBSI Biomems Summer Institute at NJIT, PI: W. Hunter, Co-PIs: T. Arinzeh, B. Mantilla, D. Ivanov, Period: 9/2005- 8/2009, Amount \$449,000.
40. National Academies Keck Futures Initiative (NAKFI): PI: Jeff Schwartz, Co-PIs: Treena L. Arinzeh, Boyd Evans, Jennifer Elisseeff, Joerg Lahann, Judy Stein, Roger Narayan, Sarah Heilshorn., Period: 3/01/2007-2/01/09, Amount: \$75,000.
41. UMDNJ Foundation, PI: Louis Rizio, Co-PIs: T. Arinzeh, M. Jaffe, Period: 11/01/04-11/01/05, Amount: \$25,000.
42. NSF-CCLI – Studio-Based Learning for Undergraduates: PI: R. Foulds, Co-PIs: T. Arinzeh, B. Mantilla, Period: 3/2002-2/2004, Amount: \$100,963.

Major Teaching Experience

Instructor and Developed Course

- Biotransport, Undergraduate level course, BME 427, 3 credits (Spring 2011-Spring 2015, Fall 2020-present)
- Principles of Tissue Engineering, Graduate level course, BME-651, 3 credits (Fall 2002-present)
- Fundamentals of Tissue Engineering, Undergraduate Level Course, BME-430, 3 credits (Fall 2005 – 2018)
- Introduction to Biomedical Engineering: Biomaterials and Tissue Interaction, Undergraduate level course, BME 304, 3 credits (Spring 2011) – co-developed course
- Biomaterials and Biocompatibility, Undergraduate level course, BME-420, 3 credits (Spring 2002- Fall 2005)

Lecturer in the following courses:

- Stem Cell Biology, Graduate Level. Lecture on Adult Stem Cells and Tissue Engineering Applications, University of Medicine and Dentistry of New Jersey, Fall 2004 – present
- Biomaterials, Graduate Level, Lecture on Stem Cell Tissue Engineering, New York University – School of Dentistry, Fall and Spring, 2006 – 2014
- Biomaterials, Graduate Level. Lecture on Tissue Engineering (Fall 2001-2003)
- Mechanical Foundations of Biomedical Engineering, Undergraduate Level. Lectures on Biomaterials and Tissue Engineering (Fall 2001- 2002)
- Foundations in Biomedical Engineering, Graduate Level. Lecture on Conducting Preclinical/Animal Studies (Fall 2005)

Trainees (as Primary Research Advisor)

Post-Doctoral Fellows and Research Associates

1. Venkatesan Perumal, (Research Associate, 2021-2022)
2. Laura Osorno, (Postdoc, 2021-present)
3. Shuo Wang, (Postdoc, 2018-2020), Chinese Academy of Sciences
4. Gloria P. Huang (Postdoc, 2015-2018), Avon, Inc.
5. Shobana Shanmugasundaram (Postdoc, 2012-2015), Johnson and Johnson, Inc.
6. Asya Bakhtina (Postdoc, 2009-2012), Project Manager, Mondelez, Inc.
7. Norbert Weber (Postdoc, 2006-2008), Project Engineer, Musculoskeletal Transplant Foundation

PhD Students

1. Sumayia Jaima, (PhD, BME 2021-present)
2. Yasaman Aghli (PhD, BME 2020-present)
3. Scott Stratton (PhD, BME 2018-present)
4. Philip Hu (PhD, BME 2018-present)
5. Apurva Limaye (PhD, BME, 2017-present)
6. Richard Vincent (PhD, BME, 2016-2022), CytoSorbents Corporation.
7. Jennifer Moy (PhD, BME, 2014-2022)
8. Jessica Cardenas (PhD, BME, 2013-2021)
9. Sharareh Hashemi (PhD, BME, 2016- 2020), Cellularity, Inc.
10. Ateka Khader (PhD, BME, 2013-2018), faculty at Yarmouk University, Irbid, Jordan
11. Roseline Menezes (PhD, BME, 2012 – 2018), SingCell, Inc.
12. Siliang Wu (PhD, Materials Science and Engineering, 2012-2017), Postdoc – University of Texas, Austin, currently at 3-D BioTek, Inc.
13. Svetlana Dukleska (PhD, Chemical Engineering, 2010-2015), Regeneron, Inc.
14. Amir Zamani (PhD, Materials Science and Engineering, 2011-2016), Mondelez, Inc.

15. Khady Guiro (PhD, BME, 2010-2015), Postdoc- Rutgers University – NJ Medical School, currently at Rejenevie Therapeutics.
16. Sita Damaraju (PhD, BME, 2009-2015), Integra, Inc., currently at
17. Gloria Portocarrero (PhD, BME, 2009-2014), Postdoc- Brown University, Postdoc – NJIT, currently at Avon, Inc.
18. Tonye Briggs (PhD, BME, 2006-2011), Bristol Myers Squibb, Inc.
19. Ajitha Patlolla (PhD, BME, 2005-2010), Ethicon, Inc.
20. Yee-Shuan Lee (PhD, BME, 2005-2010), Post-doc at University of Miami, currently Research Scientist at the University of Miami.
21. Sonja Lobo (Visiting PhD, University of Sao Paulo, Brazil, 2008-2010), Einco Biomaterials, Inc.
22. Shobana Shanmugasundaram (PhD, BME, 2004-2009), Post-doc, University of MD, currently at Johnson & Johnson, Inc.

Master's Students (Master's Thesis)

Will Suero Amparo (2021-present), Blanca Teran (MS, 2019-2020), Apurva Modak (MS, 2012-2013), Jessica Cardenas (MS, 2011-2012), Tim Buirkle (MS, 2011-2012), Rahul Mavinkurve (MS, 2011), Siliang Wu (MS, 2011), Saranya Elavazhagan (MS, 2011), Pankaj Marwah (MS, 2010-2011), Nikhil Joshi (MS, 2009-2010), Carla Reformina (MS, 2008-2009), John Manoccio (MS, 2007-2008), Pallavi Masih (MS, 2007-2008), Saras Doddi (MS, 2003-2005), Satomi Suzuki (MS, 2004-2006), Manish Godbole (MS, 2003-2004), Jayne McAlary (MS, 2002-2003), Tuan Tran (MS, 2002-2003), Bhavpreet Dham (MS, 2002-2003).

Undergraduate Students (Research Projects)

Amal Shabazz B.S. (2021-present), Lucia Martinez (BS, 2020-2021), Juliana Yang (BS, 2019-2020), James Nanchanatt (BS, 2017-present), Joshua Coronel (BS, 2016-2018), Richard Vincent (BS, 2014-2016), Edward He (BS, 2013- 2014), Kathleen Uske (BS, 2012-2015), Nicole Tran (BS, 2012-2013), Raj Darji (BS, 2011-2012), Saariga Uma (BS, 2010), Peter Michael (BS, 2010-2011), Marieme Dubele (BS, 2010-2011), Aaron Wey (BS, 2009-2010), Mariya Tohfaforosh (BS, 2009-2010), Juan Mantilla (BS, 2006-2008), Luz Mahecha (BS, 2006-2008), Devyani Kaushik (BS, 2007), Anna-Sofia Kivelio (BS, 2006-2007), Theresa Benony (BS, 2005-2006), Khadidiatou Guiro (BS, 2006), Maliha Muneer (BS, 2006), Joel Pereira (BS, 2004-2005), Prasheel Pereira (BS, 2004-2005), Sreelatha Akkapeddi (BS, 2003-2004), Celena Daniels (BS, 2002-2004), Arthur Ura (BS, 2002-2004), Felicia Johnson (BS, 2002-2003).

Major Service Activities (University, Department and Community)

1. Member, Distinguished Professor Promotion Committee, 2020-2021
2. Member, Faculty Senate, 2016-2019
3. Intellectual Property Committee, 2016-2022
4. Member, University Promotion and Tenure Committee, 2017-2020
5. Chair of University Promotion and Tenure Committee, 2019-2020
6. Chair of Faculty Search Committee (Biomedical Engineering) – 2020-2021, 2021-2022
7. Member, Faculty Search Committees (Biomedical Engineering and Materials Engineering) – 2017-2019
8. Member, Senior V.P. of Human Resources Search Committee, 2017-2018
9. Member of the University 2020 Vision Strategic Planning Committee, Global Community: Diverse Leadership, 2014-2015.
10. Biomedical Engineering Graduate Program Director, 2012 – 2016
11. Chair of Biomedical Engineering Chair Search Committee, 2011-2012
12. Chair of the Faculty Search Committee in Biomedical Engineering, 2011-2012, 2015-2016

13. Presidential Search Committee, 2011-2012
14. Interim Chairperson of Biomedical Engineering, January 2009-December 2009 (one year appointment)
 - Developed and implemented Teaching Assignment Criteria (TAC) – teaching load document for all tenured and tenure/track faculty in BME
 - Developed Strategic Plan – vision, goals and direction of BME over the next 5-10 years.
 - Managed annualized department budget and allocation of resources for 10 tenured/tenure track faculty, four university lecturers, five research faculty, 10 adjunct professors, three administrative staff members and six teaching assistants.
 - Chair search- 2009 and faculty search 2009-2010
 - Organized Fall and Spring Course Scheduling
 - Development of information literacy plan and assessment (for Middle States Accreditation)
 - Development and implementation of incorporating more Matlab into the BME curriculum
 - Assessment and recommendation for promotion and tenure of two assistant professors and 3rd year review of one assistant professor.
15. Member, University Middle States Accreditation Self Study Committee– Group 1, Fall 2009 –2012
16. Member, Newark College of Engineering Strategic Plan Committee – Subcommittee on Space and Infrastructure, Spring 2010 – 2012.
17. Chair of the Academic Progress Committee for the Joint UMDNJ-NJIT Biomedical Engineering PhD Program, Fall 2008 – 2012
 - Establishes guidelines, policies, and curriculum requirements in conjunction with the co-directors of the program.
 - Formulates the content and pass/fail criteria for the PhD qualifying examination.
 - Tracks students progress toward the successful completion of the PhD degree (via annual reports, GPA, PhD Proposal Defense)
18. Undergraduate academic advisor, Biomedical Engineering Department – Biomaterials and Tissue Engineering Track, Spring 2003 – 2012.
19. Member, Biomedical Engineering Department Graduate Group Committee, Fall 2001 – present.
20. Member and Biomaterials Track Leader, Undergraduate Biomedical Engineering Curriculum Committee, 2002-2012, Member (2013-present)
 - Drafted concentration curriculum in Biomaterials and Tissue Engineering, Spring 2002-Fall 2002
 - Assesses and modifies track curriculum (ABET Accreditation), 2002-2012, 2016-present
21. Member, Biomedical Engineering Chair Search Committee, 2001-2002, 2009
22. Co-Chair of Biomedical Engineering Faculty Search Committee, 2006-2007, 2008
23. Member, Biomedical Engineering Faculty Search Committee, 2009-2010
24. Presenter, Chemical Industry for Minorities in Engineering Program (CHIME), Summers 2002, 2003, 2005 – present
25. Provost Search Committee, Spring 2004-Fall 2004.

STEM (Science, Technology, Engineering, Mathematics) Mentoring Programs

26. Presenter, NJIT- CHIME Workshop Program, underrepresented minority high school students are introduced to biomedical engineering, 2002-present
27. Mentor, American Chemical Society Project SEEDS Program – underrepresented minority high school student STEM mentoring program, 2003-present

28. Presenter/Participant, NJIT FEMME8 Program, 8th grade female underrepresented minority students – provide hands-on experience, demonstrations and tours of my research laboratory to 30 students each summer, 2003- present.
29. Mentor, McNair Program – first generation/underrepresented minority undergraduate student STEM mentoring program, 2002-present.
30. Mentor, Reach and Reached Mentoring Program, Jack and Jill of America, Inc., introducing African American female high school students to biomedical engineering, 2021-present