

Nina Marie Tandon, PhD, MBA

CEO and co-founder, EpiBone Inc.

Curriculum Vitae Updated January 2026

Education

2001 - B.S., Electrical Engineering, The Cooper Union, New York, NY

2006 - M.S., Electrical Engineering, Massachusetts Institute of Technology, Cambridge, MA

2008 - M.S., Biomedical Engineering, Columbia University, New York, MA

2009 - Ph.D., Biomedical Engineering, Columbia University, New York, MA

2012 - M.B.A, Columbia University, New York, MA

Personal Statement

I am the CEO and Co-Founder of EpiBone Inc., a clinical-stage regenerative medicine company developing living bone and cartilage grafts. In my current role, I lead clinical development, regulatory strategy, and international expansion, with executive oversight of investigator-initiated and sponsor-led clinical studies, coordination with hospital systems and regulators, and governance of quality, manufacturing, and safety across U.S. and international programs.

After two decades in biomedical engineering research, I have led the company from inception to \$50M in capital raised and the successful completion of a historic Phase I/II clinical trial. Under my leadership, EpiBone has been featured in Bloomberg, CNBC, and CNN, recognized as a World Economic Forum Technology Pioneer, and named one of New York's 100 most exciting startups. With a background in business, engineering, and science, I am uniquely positioned to lead a pioneering biotechnology company and contribute my expertise to transformative projects.

I am currently leading EpiBone's globalization efforts in Abu Dhabi, UAE, with support from Mubadala and the Department of Health, expanding our footprint in the GCC region to drive regulatory approvals, clinical adoption, and investment partnerships.

My PhD and postdoctoral research focused on tissue engineering, particularly the development of bioreactors for cardiology, neurology, and dermatology. This work deepened my understanding of bioreactor design, electrical stimulation, microfluidics, and perfusion, principles that are central to EpiBone's osteochondral tissue engineering technology. To bridge science and business, I spent two years as an Associate at McKinsey & Company in Pharmaceuticals & Medical Devices before earning an Executive MBA from Columbia University, specializing in Healthcare and Entrepreneurship.

I am also a frequent guest lecturer at Columbia Business School and MIT Media Lab, sharing insights on biotech innovation, entrepreneurship, and the intersection of AI and regenerative medicine.

Since 2024, I have led EpiBone's clinical and regulatory engagement in Abu Dhabi in collaboration with Pure Health affiliated hospitals.

Positions and Honors

Positions and Employment.

2001-2003 Avaya Labs Research Engineer, Basking Ridge, NJ

2007-2014 Adjunct Professor, Department of Electrical Engineering, The Cooper Union, New York, NY

2009-2010 Associate, McKinsey and Company, Florham Park, NJ

2010-2014 Staff Associate Postdoctoral Researcher, Department of Pharmacology, Columbia University, Laboratory for Stem Cells and Tissue Engineering, New York, NY

2013- Chief Executive Officer and Co-Founder, EpiBone Inc., New York, NY

2015- Lecturer, How to Grow Almost Anything course, Massachusetts Institute of Technology, Cambridge, MA

2024- Executive leadership of international clinical collaborations, including UAE / Middle East programs

Other Experience and Professional Memberships

2003-2004 Fulbright Scholar, Rome, Italy

2006- Member, Institute of Electrical & Electronics Engineers Engineering in Medicine and Biology Society (EMBS)

2006- Member, Biomedical Engineering Society (BMES)

Selected Honors

1997-2001	National Merit Scholar, National Merit Scholarship Corporation, Evanston, IL
1997-2001	Undergraduate Scholarship (Full-Tuition), The Cooper Union, New York, NY
2001	Student Design Contest Winner, Institute of Electrical & Electronics Engineers, Piscataway, NJ
2003-2004	Fulbright Fellowship, Council for International Exchange of Scholars, Washington, DC
2004-2005	MIT Presidential Fellowship, Massachusetts Institute of Technology, Cambridge, MA
2006-2009	Presidential Fellowship, Columbia University, New York, NY
2011	Fellowship Recipient, TED, New York, NY
2012	Top Scientist, Women on Top Award, Marie Claire Magazine, New York, NY, Top 100 Most Creative Person in Business Award, Fast Company Magazine, New York, NY, Senior Fellowship Recipient, TED, New York, NY
2015	Technology Pioneer, World Economic Forum, Cologny, Switzerland
2016	Young Global Leader, World Economic Forum, Cologny, Switzerland, Most Important Women in The History of Science, CNN, Atlanta, GA
2017	100 Most Intriguing Entrepreneurs, Goldman Sachs, New York, NY, Entrepreneurial Winning Woman, Ernst & Young
2019	Notable Women in Healthcare, Crain's, New York, NY
2023	Columbia Engineering Class Day Speaker, New York, NY
2024	Columbia Engineering Board of Visitors, New York, NY
2025	Jean Fox O'Barr Distinguished Speaker Award, Duke University, Raleigh NC The Gano Dunn Award for professional achievement in engineering, Cooper Union, New York NY Alliance for Regenerative Medicine (ARM) — board / committee participation

Contributions to Science

1. My early work focused on the creation of bioreactors for use in cardiac tissue engineering. Heart disease is one of the foremost causes of morbidity and mortality worldwide, and scientific advances are needed to combat the growing numbers of those suffering with heart disease. To this end, my work highlighted the need and challenges associated with developing bioengineered cardiac tissue that could be used to test experimental drugs and devices, as well as developing viable methods for cardiac regeneration. This work also resulted in the award of two patents (Invention Report No. 011827-80299 and Invention Report No. T4356-17551US01).
 - a. **Tandon, N.**, Cannizzaro C, Chao PH, Maidhof R, Marsano A, Au HT, Radisic M, Vunjak-Novakovic G. Electrical stimulation systems for cardiac tissue engineering. *Nat Protoc.* 2009 4(2):155-73.
 - b. Vunjak-Novakovic G., **Tandon, N.**, Godier A., Maidhof R., Marsano A., Martens T.P., and Radisic M. Challenges in Cardiac Tissue Engineering. *Tissue Eng Part B Rev.* 2010 16(2):169-87.
 - c. Serena E, Figallo E, **Tandon, N.**, Cannizzaro C, Gerecht S, Elvassore N, and Vunjak-Novakovic G. Electrical stimulation of human embryonic stem cells: Cardiac differentiation and the generation of reactive oxygen species. *Exp Cell Res.* 2009 315(20):3611-9.
 - d. Vunjak-Novakovic, G, Lui, KO, **Tandon, N.**, and Chien, K. Bioengineering Heart Parts: A Paradigm for Regenerative Medicine. *Annual Review of Biomedical Engineering*, 2011.
2. In addition to my scientific work in tissue engineering, I have also devoted myself to raising awareness of the field. Drawing attention to the exciting prospects tissue engineering may hold will not only increase the public profile of these works, but will also serve to inspire future generations of scientist, as well as engender support from the greater business community. In this way, we can drive the infrastructure necessary to create clinically significant innovations, and bring them to the marketplace.
 - a. **Tandon, N.** (2011, March) *Nina Tandon: Caring for engineered tissue* [Video file]. Retrieved from https://www.ted.com/talks/nina_tandon_caring_for_cells
 - b. **Tandon, N.** (2012, June) *Nina Tandon: Could tissue engineering mean personalized medicine?* [Video File]. Retrieved from https://www.ted.com/talks/nina_tandon_could_tissue_engineering_mean_personalized_medicine

- c. **Tandon, N.,** & Joachim, M. (2014) *Super Cells: Building with Biology*. New York, NY: TED Conference, LLC.
 - d. **Tandon, N.** (2022, March) *Nina Tandon: The Future of Repairing the Human Body* [Video File]. Retrieved from https://www.ted.com/talks/nina_tandon_the_future_of_repairing_the_human_body
 - e. Netflix/PBS (2021) – Human: The World Within – Featured in this documentary series, which explores the cutting-edge science of the human body, highlighting the potential of tissue engineering and regenerative medicine in shaping the future of healthcare. [Video File]. Retrieved from <https://www.netflix.com/title/81139212>
3. My deep desire to realize a world where we can heal ourselves through the promise of tissue engineering has driven me to pursue opportunities to bring this vision to life. Most significantly, this led to the formation of EpiBone, Inc., a company dedicated to developing living, anatomically precise bone and cartilage grafts to transform skeletal reconstruction. Through EpiBone, I have worked to bridge the gap between scientific discovery and clinical application, leveraging cutting-edge stem cell technology, AI-driven digital modeling, and bioreactor-based tissue engineering to create personalized skeletal grafts. Our approach not only reduces surgical complications and improves patient outcomes but also offers a scalable, regenerative alternative to traditional bone and cartilage transplants.

The company's pioneering work has led to:

- The first FDA-approved autologous bone tissue-engineered product to enter clinical trials, demonstrating feasibility for patient-specific skeletal reconstruction.
- Expansion into cartilage tissue engineering, including an approved IND for our engineered, living osteochondral graft, as well as an injectable off-the-shelf cell-based cartilage filler for treating joint injuries and preventing post-traumatic osteoarthritis.
- Collaborations with the U.S. Department of Defense, AFWERX, and global regulatory agencies, advancing regenerative medicine for both civilian and military applications.
- Recognition by the World Economic Forum as a Technology Pioneer, as well as features in Bloomberg, CNBC, and PBS for groundbreaking innovations in regenerative medicine.

Complete List of Published Work:

1. Björquist, P., Nowinski Collens, C., Lancaster, J., Lebkowski, J., Lowery, T., McNeil, B., Roos, E., Ross, J., **Tandon, N.,** & Fekete, N. (2024). *Tissue Therapeutics: The Curative Potential of Combining Cells & Biomaterials*. Alliance for Regenerative Medicine. Retrieved from <https://alliancerm.org/tissue-therapeutics-report/>
 2. Pecora A., Brillstein L., **Tandon N.** et.al. Bringing Value to Health Care. J Clin Pathways. 2024;10(3):48-53. doi:10.25270/jcp.2024.05.02
 3. **Tandon, N.,** Bhumiratana, S. The Translational Mindset Is Essential for Taking Tissue-Engineered Therapeutics from Lab to Clinic. ACS Biomater. Sci. Eng. 2022, 8, 11, 4629–4633
 4. **Tandon, N.,** Bhumiratana, S. Future Directions and Challenges. Bone Tissue Engineering. 2022, 293-307
 5. Reilein, A., Cimetta, E., **Tandon, N., et al.** Live imaging of stem cells in the germarium of the *Drosophila* ovary using a reusable gas-permeable imaging chamber. *Nat Protocols*, 2018.
 6. Reilein, A., Melamed, D., Park, K.S., Berg, A., **Tandon, N.,** Vunjak-Novakovic, G, Finkelstein, S., Kalderon, D. Alternative direct stem cell derivatives defined by stem cell location and graded Wnt signalling. *Nature Cell Biology*, 2017
 7. Cimetta, E., Lamprecht, M., Bhumiratana, S., Yakubova, N., and **Tandon, N.** Chapter 18: Personalized Medicine in Regenerative Medicine Technology: On-a-Chip Applications for Disease Modeling, Drug Discovery and Personalized Medicine. CRC Press, 2017
 8. **Tandon, N., et al.** Galvanic microparticles increase migration of human dermal fibroblasts in a wound-healing model via reactive oxygen species pathway. *Experimental Cell Research*, 2014.
 9. **Tandon, N., et al.** Portable bioreactor for perfusion and electrical stimulation of engineered cardiac tissue. *Conf Proc IEEE Eng Med Biol Soc*. 2013
 10. **Tandon, N., et al.** Biomimetic electrical stimulation platform for neural differentiation of retinal progenitor cells. *Conf Proc IEEE Eng Med Biol Soc*. 2013 (In Press).
 11. Saigal, R., Cimetta E., **Tandon, N., et al.** Electrical Stimulation via a Biocompatible Conductive Polymer
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- #### D. Additional Information: Research Support and/or Scholastic Performance

09/15/14-06/30/2016

Cellularized bone grafts for point-of-care complex craniofacial reconstructions

The goal is to develop a unique class of anatomically precise living bone grafts, a cellularized bone graft that can be prepared within ≤ 7 days to address the needs in trauma patients requiring complex CMF repair. Role: Co-Investigator

08/01/15-07/31/2017

Engineered living bone grafts for complex craniomaxillofacial reconstructions

The goal is to conduct *in vivo* safety (host response) and efficacy (functional integration and bone remodeling) of tissue engineered anatomical bone graft using adipose-derived mesenchymal stem cells. Role: Co-Investigator

05/15/2017-11/14/2017

Production and maintenance of tissue-engineered human osteochondral grafts

The goal is to develop a tissue-engineered living osteochondral graft for articular cartilage repair from adipose-derived mesenchymal stem cells from various human donors and compare with rabbit adipose-derived stem cells for future pre-clinical testing.

Role: Corporate Official

08/15/17-08/14/2018

Injectable Off-the-Shelf Cell-Based Therapy Cartilage Filler: Phase I

The goal is to develop an off-the-shelf injectable cartilage filler derived from allogeneic adipose-derived mesenchymal stem cells, optimized for anti-immunogenic properties and pre-chondrogenic potential, with the goal of repairing cartilage defects, integrating with native tissue, and preventing post-traumatic osteoarthritis, ultimately advancing toward preclinical testing and IND submission for clinical studies. Role: Co- Investigator

08/27/18-01/26/2021

Injectable Off-the-Shelf Cell-Based Therapy Cartilage Filler: Phase II

The goal is to develop a unique class of anatomically precise living bone grafts, a cellularized bone graft that can be prepared within ≤ 7 days to address the needs in trauma patients requiring complex CMF repair. Role: Co-Investigator