LEAH T. GAETA

[redacted] ◇ ltgaeta@bu.edu ◇ leahgaeta.github.io ◇ linkedin.com/in/leah-gaeta/

EDUCATION

Boston University September 2021 – May 2025
Ph.D. Mechanical Engineering *Boston, MA*
M.S. Mechanical Engineering
· Dissertation: *Stiffness Localization in Soft and Wearable Robotics*
· Advisor: Professor Tommaso Ranzani

Boston University Summer 2019 – Spring 2021
Late-Entry Accelerated Program in Mechanical Engineering *Boston, MA*
· College of Engineering Scholarship (maximum award) for being in top 1% of class

University of Southern California Fall 2008 – Spring 2013
B.S. Human Biology (emphasis in Applied Physiology) *Los Angeles, CA*
· Undergraduate researcher in the USC Biomechanics Lab
· NCAA DI Cross Country and Track & Field Student-Athlete, 2008 – 2012

PEER-REVIEWED JOURNAL PUBLICATIONS

4. **L.T. Gaeta**, V.T. Vo, S.-Y. Lee, S. Raste, M. Venkatesam, J. Rogatinsky, M.D. Albayrak, T. Ranzani. "Jamming Metal Sheets Using Electropermanent Magnets for Stiffness Modulation," *IEEE Robotics & Automation Letters*, to appear, 2025.

3. L. Kinnicutt, **L.T. Gaeta**, J. Rogatinsky, J. Lee, A. Cameron, A.J. Naik, D.T. Hess, and T. Ranzani. "A soft robotic, modular laparoscopic grasper for atraumatic retraction of the small intestine," *Device*, Vol. 2, Issue 10, 100560, 2024.

2. **L.T. Gaeta**, M.D. Albayrak, L. Kinnicutt, S. Aufrichtig, P. Sultania, H. Schlegel, T.D. Ellis, and T. Ranzani. "A magnetically controlled soft robotic glove for hand rehabilitation," *Device*, Vol. 2, Issue 9, 100512, 2024.

1. **L.T. Gaeta**, K.J. McDonald, L. Kinnicutt, M. Le, S. Wilkinson-Flicker, Y. Jiang, T. Atakuru, E. Samur, and T. Ranzani. "Magnetically induced stiffening for soft robotics," *Soft Matter*, vol. 19, no. 14, pp. 2623–2636, 2023.

CONFERENCE PROCEEDINGS & PRESENTATIONS

2. **L.T. Gaeta**, T. Ranzani. "Magnetically Induced Stiffening for Soft Robotics," *Material Research Society (MRS) Fall meeting*, 2023, Boston, MA, USA.

1. L. Kinnicutt, J. Lee, J. Oden, **L.T. Gaeta**, S.K. Carroll, A. Rathi, Z.H. Lim, M. Lee, C. Orakwue, K.J. McDonald, D.T. Hess, T. Ranzani. "A Soft Laparoscopic Grasper for Retraction of the Small Intestine," *The Hamlyn Symposium on Medical Robotics*, 2023, London, UK.

AWARDS & HONORS

Research Supplement to Promote Diversity in Health-Related Research, National Institutes of Health (NIH), National Institute of Biomedical Imaging and Bioengineering (NIBIB)	2022 – 2024
Distinguished Mechanical Engineering Fellowship, Boston University	2021 – 2022
College of Engineering Scholarship (Max. Award), Boston University	2020 – 2021
All-Academic Track & Field Team, PAC-10 Conference	2009 – 2011
Heritage Association Coaches' Award, University of Southern California	2010
Dean's List College of Arts & Sciences, University of Southern California	2010
All-Academic Cross Country Team, PAC-10 Conference	2008 – 2010
Alpha Lambda Delta Honor Society, University of Southern California	2008
Dean's List College of Arts & Sciences, University of Southern California	2008

TEACHING POSITIONS

Co-Instructor, Boston University EK 125 FA2022

EK 125: Introduction to Programming for Engineers. Students learn to program in MATLAB and C, applying coding concepts to solve engineering problems. As Co-Instructor, I led seven lecture sessions weekly, supervised lab and discussion sections, and proctored exams. I also held office hours, wrote homework assignments, and helped construct and grade exams. Received mean teaching evaluation score of 4.9/5.0 from surveyed students.

Teaching Assistant, Boston University EK 125 SP2020 – SU2021

EK 125: Introduction to Programming for Engineers. Students learn to program in MATLAB and C, applying coding concepts to solve engineering problems. My duties consisted of assisting with learning during lecture and lab sections, leading two weekly discussion sections, holding weekly office hours, writing homework assignments, and grading. I TA'd for five semesters.

RESEARCH POSITIONS

Boston University, Morphable Biorobotics Lab September 2021 – May 2025
Doctoral Researcher *Boston, MA*
Advisor: Prof. Tommaso Ranzani

University of Southern California, USC Biomechanics Lab August 2012 – May 2013
Undergraduate Researcher *Los Angeles, CA*
Advisor: Prof. Jill McNitt-Gray

Gilead Sciences, Inc. Summer 2010 & Summer 2011
Medicinal Chemistry Intern *Foster City, CA*
Advisor: Dr. Paul Roethle

ACADEMIC ACTIVITIES

Peer Reviewer For:

· Soft Robotics
· Science Advances
· IEEE International Conference on Intelligent Robots and Systems (IROS)
· IEEE-RAS International Conference on Soft Robotics (RoboSoft)
· IEEE Transactions on Robotics (T-RO)
· International Journal of Robotics Research (IJRR)

Leadership Positions:

· Mentoring Chair, Graduate Women in Science and Engineering (GWISE), 2022 – 2024
· Board Member, GWISE, 2022 – 2024
· Mentoring Representative, GWISE, 2021 – 2022
· Late-Entry Accelerated Program (LEAP) Ambassador 2020 – 2021

RESEARCH MENTORSHIP

Undergraduate Mentorship:

1. Mark Lucas – Current student
2. Hanna Schlegel – BS, Mechanical Engineering, 2024
   - Publications: Gaeta et al. (2024)
   - Post-graduation: PhD Student at UC Berkeley
3. Megan Le – BS, Biomedical & Mechanical Engineering, 2023
   - Publications: Gaeta et al. (2023)
   - Post-graduation: Graduate Student, Imperial College London
4. Anushka Rathi – BS, Mechanical Engineering (2023)
   - Post-graduation: PhD Student at University of Michigan
5. Bryson Garriques – BS, Mechanical Engineering, 2023
6. Howell Xia, Former student

Graduate Mentorship:

1. Megha Venkatesam – Current student
   - Publications: Gaeta et al. (2025)
2. Srushti Raste – MS, Robotics & Autonomous Systems, 2025
   - Publications: Gaeta et al. (2025)
   - Currently: Research Associate at Wesleyan University
3. M. Deniz Albayrak – MS, Mechanical Engineering, 2024
   - Publications: Gaeta et al. (2024), Gaeta et al. (2025)
   - Post-graduation: PhD Student at ETH Zurich

4. Yuyuan Zhang – MS, Mechanical Engineering (2024)
   - Post-graduation: PhD Student at UMass Amherst
5. Yixiao Jiang – MS, Mechanical Engineering, 2022
   - Publications: Gaeta et al. (2023)
   - Post-graduation: PhD Student at Columbia University
6. Piyaporn (View) Chivatanaporn – MS, Mechanical Engineering

Other Mentorship:

1. Susanna Aufrichtig
   - BU RISE High School Intern, Summer 2023
   - Publications: Gaeta et al. (2024)
   - Currently: Undergraduate Student at Cornell University
2. Sidney Wilkinson-Flicker
   - NSF RET Fellow, Summer 2022
   - Publications: Gaeta et al. (2023)
   - Currently: A.C. Whelan Elementary School Teacher

PROFESSIONAL EXPERIENCE

Automatic Data Processing, Inc. January 2019 – May 2019
User Experience Research Coordinator *Pasadena, CA*

· Supported the design, analysis, writing, and reporting of quantitative and qualitative research
· Analyzed results from all types of qualitative and quantitative research to recommend product development

Studio Metamorphosis February 2015 – May 2019
Senior Trainer *Pasadena, Eagle Rock, & Los Feliz, CA*

· Instructed over 5,000 strength training, indoor cycling, and running classes at the three studios
· Trained players of the MLB Los Angeles Dodgers during 2017 and 2018 off-seasons
· Composed private training regimens for clients with post-surgery needs, paraplegia, and muscular dystrophies
· Co-developed fitness programs at new studio locations and trained junior instructors
· Work was featured in The New York Times, CNN, People, and more

Pilates Platinum & Pilates Plus June 2013 – March 2016
Freelance Fitness Instructor *Greater Los Angeles Area*

· Led Lagree Fitness, indoor cycling, and private training sessions for various studios across Los Angeles

Varsity Tutors, LLC April 2013 – May 2014
Academic Tutor *Greater Los Angeles Area*

· Provided in-home tutoring for high school and undergraduate students in math and science
· All five clients went from failing grades to A's and B's at the completion of their courses

Gilead Sciences, Inc. Summer 2010 & Summer 2011
Medicinal Chemistry Intern *Foster City, CA*

· Synthesized, isolated, and identified compounds designed to inhibit a novel HIV target
· Used mass-spectrometers, NMRs, and other instruments to isolate and identify products

VOLUNTEER EXPERIENCE

Advance, Recruit, Retain, and Organize Women in STEM
Mentoring Circles Program 2019 – 2025

· Provided monthly mentoring to 3 - 5 undergraduate women in STEM each academic year

Kids Enjoy Exercise Now 2017 – 2019

· Worked with children with physical and mental disabilities in Los Angeles
· Encouraged athletes to play and emphasized the importance of physical activity

Joint Educational Project 2012 – 2013

· Planned coursework and taught basic human biology to 4^{th} graders at St. Raphael's school in South Central Los Angeles
· Formulated curriculum with varied lesson plans, adapting based on student and teacher feedback

TECHNICAL SKILLS

Languages	MATLAB, Python (Jupyter Notebook, Numpy, Pandas, Scikit-Learn, TensorFlow), C, LaTeX
Software	Creo, Onshape, Arduino, Inspire, nTopology, Cura, Adobe Creative Cloud Suite, Excel, Git, Salesforce, Eloqua, Qualtrics
Tools	Instron, FDM & SLA 3D Printing, CO_2 Laser Cutter, UV Laser Cutter, Soft Materials Processing Equipment, Universal Robot Arm, Heat Press, Soldering

INTERESTS

Running (6x Marathoner, 6x Boston Marathon Qualifier) · Strength Training · Baseball · Sabermetric Books, Blogs, & Newsletters