VIKAS SRIVASTAVA

School of Engineering, Brown University, 184 Hope Street, Providence, RI 02912
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RESEARCH INTERESTS

We develop experimentally informed constitutive and computational models, including physics-informed AI, to predict material behavior in extreme environments and address challenges in fields ranging from solid mechanics to biomedical science.

EDUCATION

Ph.D. Mechanical Engineering, Massachusetts Institute of Technology 2005 – 2010
Minor in Finance, Sloan School of Management, M.I.T.

M.S. Mechanical Engineering and Applied Mechanics, University of Rhode Island 1998 – 1999

B. Tech. Mechanical Engineering, Indian Institute of Technology, Kanpur 1994 – 1998

PROFESSIONAL APPOINTMENTS

- Associate Professor of Engineering *(with tenure)* 2024 – present
School of Engineering, *Brown University,* Providence, RI
- Director of Graduate Program for Biomedical Engineering 2024 – present
Institute of Biology, Engineering, and Medicine, *Brown University,* Providence, RI
- Howard M. Reisman Assistant Professor of Engineering 2021 – 2024
School of Engineering, *Brown University,* Providence, RI
- Tenure Track Assistant Professor of Engineering 2018 – 2021
School of Engineering, *Brown University,* Providence, RI
- Mechanics Team Lead and Fitness for Service Research Area Lead 2017 – 2018
ExxonMobil Upstream Research, Spring, TX
- Senior Technical Professional Advisor – Mechanics of Materials 2017 – 2018
ExxonMobil Upstream Organizations (Exploration, Development and Production), Spring, TX
- Advisory Board Member, High-Pressure High-Temperature Subsea Systems 2017 – 2018
DeepStar Global Offshore Technology Development Consortium, Houston, TX
- Advanced Research Associate 2015 – 2016
ExxonMobil Corporate Strategic Research, Clinton, NJ
- Marine Team Lead 2013 – 2014
ExxonMobil Upstream Research, Houston, TX
- Worldwide Deepwater Drilling Engineering Coordinator 2012 – 2013
ExxonMobil Upstream Research, Houston, TX
- Senior Research Engineer – Subsea and Arctic 2010 – 2012
ExxonMobil Upstream Research, Houston, TX
- Engineering Group Leader – High-speed Turbomachinery 2003 – 2005
KMC, Inc., W. Greenwich, RI
- Project and R&D Engineer – High-speed Turbomachinery 2000 – 2002
KMC, Inc., W. Greenwich, RI

HONORS AND AWARDS

- Dean's Award in Bioengineering, Brown University 2024
- Dean's Award for Excellence in Teaching in Engineering, Brown University 2023
- Brown Biomedical Innovations to Impact Award 2022
- Howard M. Reisman '76, P'09 Inaugural Endowed Chair 2021
- Brown Office of the Vice President of Research Seed Award 2021
- Richard B. Salomon Faculty Research Award, Brown University 2020
- Advisor to Novel Idea Team, ExxonMobil Upstream Global Intellectual Property 2017
- Senior Technical Professional Advisor (one for all upstream companies), ExxonMobil 2017

PEER-REVIEWED JOURNAL PUBLICATIONS

***Corresponding author**

Qureshi, D.A., Shukla, K., and **Srivastava, V.***, Drug Release Modeling using Physics-Informed Neural Networks, *Journal of Drug Delivery Science and Technology*, in review, 2026. https://doi.org/10.48550/arXiv.2602.09963

Konale, A. and **Srivastava, V.***, A physics-informed neural network for modeling large deformation contact between elastomers and rigid bodies, *Journal of Applied Mechanics*, accepted, 2026.

Ma, K., Gupta, A., **Srivastava, V.**, Guduru, P., and Bazilevs, Y.*, Polymer-Based Architected Materials and Structures: Geometry, Experiments, Constitutive Modeling, and Advanced Simulations, *International Journal of Solids and Structures*, 331, 113911, 2026. https://doi.org/10.1016/j.ijsolstr.2026.113911

Konica, S., Sheldon, B., and **Srivastava, V.***, A continuum study of the role of coupled electrochemistry and stress on the morphological evolution of Li-anode, *International Journal of Plasticity*, 197, 104594, 2026. https://doi.org/10.1016/j.ijplas.2025.104594

Konale, A. and **Srivastava, V.***, A physics-informed neural network for modeling fracture without gradient damage: formulation, application, and assessment, *Journal of the Mechanics and Physics of Solids*, 206 Part A, 106395, 2026. https://doi.org/10.1016/j.jmps.2025.106395

Alkhoury, K., Chester, S.A., and **Srivastava, V.***, A finite element implementation of a large deformation gradient-damage theory for fracture with Abaqus user material subroutines, *Engineering Fracture Mechanics*, 331, 111677, 2026. https://doi.org/10.1016/j.engfracmech.2025.111677

Daanish, Q.A., Bellala, V., Niu, S., and **Srivastava, V.***, A machine learning method to measure the embedded crack length and position in high-density polyethylene using ultrasound time signal, *Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems*, 9(1), 011004, 2026. https://doi.org/10.1115/1.4070539

Konale, A., and **Srivastava, V.***, On modeling fracture of soft polymers, *Mechanics of Materials*, 206, 2025. *Editor-in-Chief invited paper*. https://doi.org/10.1016/j.mechmat.2025.105346

Hajirezaei, M., Ferreira, A., Campbell, M., Ghosh, D., Alkhoury, K., Lyakhovych, Z., Mathiowitz, E., **Srivastava, V**., and Poling-Skutvik, R.*, Environmental aging of polymers to evaluate their potential for remediating natural gas pipelines, *Industrial & Engineering Chemistry Research* 64 (36), 17724-17731, 2025. https://doi.org/10.1021/acs.iecr.5c02255

Kottila, V.V., Parambil, N.K., and **Srivastava, V.***, Hygroscopic damage of fiber-matrix interface in unidirectional composites: A computational approach, *International Journal of Mechanics Sciences,* 279, 109460, 2024. https://doi.org/10.1016/j.ijmecsci.2024.109460

Ahmed, Z., LoGiudice, K., May, G. Schorr, A., Rowey, R., Yang, H., Trivedi, S., and **Srivastava, V.*,** Increasing Chemotherapeutic Efficacy Using pH-Modulating and Doxorubicin-Releasing Injectable Chitosan-Poly(ethylene glycol) Hydrogels, *ACS Applied Materials & Interfaces,* 15, 45626-45639, 2023. https://doi.org/10.1021/acsami.3c09733 *Brown University News:* https://www.brown.edu/news/2023-09-20/hydrogel

Konale, A., Ahmed, Z., Wanchoo, P. and **Srivastava, V.***, A large deformation model for quasi-static to high strain rate response of a rate-stiffening soft polymer, *International Journal of Plasticity*, 168, 103701, 2023. https://doi.org/10.1016/j.ijplas.2023.103701

Niu, S., Zhang, E., Bazilevs, Y., and **Srivastava, V.*,** Modeling finite-strain plasticity using physics-informed neural network and assessment of the network performance, *Journal of the Mechanics and Physics of Solids*, 172, 105117, 2023. https://doi.org/10.1016/j.jmps.2022.105177

Machnicki, C. E., DuBois, E.M., Fay, M., Hruska, A.M., Ahmed, Z., Shrestha, S., Saleeba, Z.S., **Srivastava, V.**, Chen, P.Y., and Wang, I.*, Graphene oxide nanosheets augment silk fibroin aerogels for enhanced water stability and oil adsorption, *Nanoscale Advances*, 2023. https://doi.org/10.1039/d3na00350g

LaJoie, Z., Usherwood, T., Sampath, S., and **Srivastava, V.***, A COVID-19 model incorporating variants, vaccination, waning immunity, and population behavior, *Scientific Reports*, 12(1), 20377:1-11, 2022. https://www.nature.com/articles/s41598-022-24967-z

Niu, S., and **Srivastava, V.***, Simulation trained CNN for accurate embedded crack length, location, and orientation prediction from ultrasound measurements, *International Journal of Solids and Structures*, 242, 111521, 2022. https://doi.org/10.1016/j.ijsolstr.2022.111521

Brown School of Engineering News: https://engineering.brown.edu/news/2022-12-08/vikas-convolutional-neural

Niu, S., and **Srivastava, V.***, Ultrasound classification of interacting flaws using finite element simulations and convolutional neural networks, *Engineering with Computers*, 38(5), 4653-4662, 2022. https://doi.org/10.1007/s00366-022-01681-y

Sampath, S.G., Telfeian, A.E., Sullivan, R., Lu, A., and **Srivastava, V.***, Shape Memory Nitinol Based Minimally Invasive Spinal Cord Stimulation Device Concept for Improved Pain Management, *Pain Physician*, 25:E375-E383, 2022. https://www.painphysicianjournal.com/linkout?issn=&vol=25&page=E375

Klinge, P. M.*, **Srivastava, V.**, McElroy, A., Leary, O., Ahmed, Z., Donahue, J.E., Brinker, T., DeVloo, P., and Gokaslan, Z.L., Diseased filum terminale as a cause of tethered cord syndrome in Ehlers Danlos syndrome: histopathology, biomechanics, clinical presentation, and outcome of filum excision, *World Neurosurgery*, 2022. https://doi.org/10.1016/j.wneu.2022.03.038

Malhotra, P.*, Niu, S., **Srivastava, V.**, and Guduru, P.R., A Technique for High-Speed Microscopic Imaging of Dynamic Failure Events and Its Application to Shear Band Initiation in Polycarbonate, *Journal of Applied Mechanics*, 89(4), 041001: 1-18, 2022. https://doi.org/10.1115/1.4053080

Zhong, J. and **Srivastava, V.***, A higher-order morphoelastic beam model for tubes and filaments subjected to biological growth, *International Journal of Solids and Structures*, 233, 111235: 1-11, 2021. https://doi.org/10.1016/j.ijsolstr.2021.111235

Usherwood, T., LaJoie, Z., and **Srivastava, V.***, A model and predictions for COVID-19 considering population behavior and vaccination, *Scientific Reports*, 11(1), 12051: 1-11, 2021. https://www.nature.com/articles/s41598-021-91514-7 *Brown University News:* https://www.brown.edu/news/2021-06-10/model

Bai, Y., Kaiser, N.J., Coulombe, K.L.K., and **Srivastava, V.***, A continuum model and simulations for large deformation of anisotropic fiber-matrix composites for cardiac tissue engineering, *Journal of the Mechanical Behavior of Biomedical Materials*, 121, 104627: 1-12, 2021. https://doi.org/10.1016/j.jmbbm.2021.104627

Shukla, S., Favata, J., **Srivastava, V.**, Shahbazmohamadi, S., Tripathi, A., and Shukla, A.*, Effect of polymer and ion concentration on mechanical and drug release behavior of gellan hydrogels using factorial design, *Journal of Polymer Science*, 58(10), 1365-1379, 2020. https://doi.org/10.1002/pol.20190205

Kothari, M., Niu, S., and **Srivastava, V.***, A thermo-mechanically coupled finite strain model for phase-transitioning austenitic steels in ambient to cryogenic temperature range, *Journal of the Mechanics and Physics of Solids*, 133, 103729: 1-15, 2019. https://doi.org/10.1016/j.jmps.2019.103729

Gordon, P.*, Liu, F., Meier, H., Panchadhara, R., and **Srivastava, V.**, A material point method for simulation of viscoelastic flows, *Computational Particle Mechanics*, 6(3), 311–325, 2019. https://doi.org/10.1007/s40571-018-0215-6

Jena, R.K., Chester S.A., **Srivastava, V.**, Yue, C.Y.*, Anand, L., and Lam, Y.C., Large-strain thermo-mechanical behavior of cyclic olefin copolymers: application to hot embossing and thermal bonding for the fabrication of microfluidic devices, *Sensors and Actuators B: Chemical,* 155(1), 93–105, 2011. https://doi.org/10.1016/j.snb.2010.11.031

Srivastava, V., Chester, S.A., and Anand, L.*, Thermally-actuated shape-memory polymers: experiments, theory, and numerical simulations, *Journal of the Mechanics and Physics of Solids*, 58(8), 1100–1124, 2010. https://doi.org/10.1016/j.jmps.2010.04.004; *MIT News:* https://news.mit.edu/2010/memory-polymer-1206

Srivastava, V., Chester, S.A., Ames, N.M., and Anand, L.*, A thermo-mechanically coupled large-deformation theory for amorphous polymers in a temperature range which spans their glass transition, *International Journal of Plasticity*, 26(8), 1138–1182, 2010. https://doi.org/10.1016/j.ijplas.2010.01.004

Ames, N. M., **Srivastava, V.**, Chester, S.A., and Anand, L.*, A thermo-mechanically coupled theory for large deformations of amorphous polymers. Part II: Applications, *International Journal of Plasticity*, 25(8), 1495–1539, 2009. https://doi.org/10.1016/j.ijplas.2008.11.005

Anand, L.*, Ames, N. M., **Srivastava, V.**, and Chester, S.A., A thermo-mechanically coupled theory for large deformations of amorphous polymers. Part I: Formulation, *International Journal of Plasticity,* 25(8), 1474–1494, 2009. https://doi.org/10.1016/j.ijplas.2008.11.004

Henann, D., **Srivastava, V.**, Taylor, H.K., Hale, M.H., Hardt, D.E., and Anand, L.*, Metallic glasses: Viable tool materials for production of surface microstructures in amorphous polymers by micro-hot-embossing, *Journal of Micromechanics and Microengineering*, 19, 115030:1-10, 2009. https://doi.org/10.1088/0960-1317/19/11/115030

Srivastava, V., Parameswaran, V., Shukla, A.* and Morgan, D., Effect of loading rate and geometry variation on the dynamic shear strength of adhesive lap joints, *Recent Advances in Experimental Mechanics*, Refereed Special Technical Publication, Kluwer Academic Publishers, 769–780, 2002. https://doi.org/10.1007/0-306-48410-2_71

Srivastava, V., Parameswaran, V. and Shukla, A.*, Experimental evaluation of the dynamic shear strength of the adhesive-bonded lap joints, *Journal of Testing and Evaluation*, 28(6), 438–442, 2000. https://doi.org/10.1520/JTE12134J

SELECTED CONFERENCE PROCEEDINGS

Lu, A, Zhong, J., Bellala, V., and Srivastava, V.*,Elastic-Viscoplastic-Damage in High-Density Polyethylene Under Chemical Environment, *SEM Annual Conference and Exposition on Experimental and Applied Mechanics*, 2022

Kothari, M., Niu, S., and **Srivastava, V.**, Thermo-mechanically coupled model for phase transition in austenitic steels for low temperature applications, *25th International Congress of Theoretical and Applied Mechanics*, 2021

Niu, S., Back, W., and **Srivastava, V.**, Accurate NDT Characterization of Hidden Flaws with Mechanics and Machine Learning, *Proceedings of Pipeline Research Council International Research Exchange*, 2021

Thirumalai, N., **Srivastava, V.**, Hallai, J., Ma, N., Sarosi, P., Jun, H.J., and Baker, D., Hydrogen Permeation, Absorption and Trapping in Carbon Steels: A Comparison of Line Pipe and OCTG Steels, *Proceedings of the 29th International Ocean and Polar Engineering Conference*, 2019

Jun, H.J., **Srivastava, V.**, Ma, N., Sarosi, P., and Thirumalai, N., Measuring Crack Propagation Resistance of Line Pipe Steels in Sour Service – A Comparative Study of Test Methods and Materials Response, *Proceedings of the 29th International Ocean and Polar Engineering Conference*, 2019

Zheng, H., Slocum, S.T., Huang, J.Z., **Srivastava, V.**, Lee, S. and Wang, H.H., Numerical Analysis of Experimental Data of Subsea Jumper Vortex Induced Vibrations, *Proceedings of the ASME 34th International Conference on Ocean, Offshore and Arctic Engineering*, 2015

Srivastava, V., Hallai, J., Campbell, B., and Kokkinis, T., Dynamic response of submerged buoys disconnected at large vessel offsets, *Proceedings of Arctic Technology Conference*, 2014

Stright, S., **Srivastava, V.**, King, G., Smith, D.W., and Tears, N.C., Regeneration of first-generation subsea fields: the challenges of new wells in old infrastructure, *Society of Petroleum Engineers Drilling Conference Proceedings*, 2012

Srivastava, V., Buitrago, J., and Slocum, S.T., Stress analysis of a cryogenic corrugated pipe, *Proceedings of the ASME 30th International Conference on Ocean, Offshore and Arctic Engineering*, 2011

Chester, S.A., **Srivastava, V.**, and Anand, L., A thermo-mechanically-coupled theory for the damage and failure of amorphous polymers, *Proceedings of the SEM IMPLAST 2010 Conference*, 2010

Srivastava, V., and Anand, L., On modeling the mechanical behavior of amorphous polymers for the micro-hot-embossing of microfluidic devices, *Proceedings of ASME International Mechanical Engineering Congress & Exposition*, 2008

INVITED TALKS

DARPA Shape Adaptive Flexible Electronics Systems Workshop, Pawtucket, RI 2026

Keynote Speaker, Society of Engineering Science Annual Technical Meeting, Atlanta, GA 2025

AmeriMech Symposium on Mechanics of Materials Under Extreme Environment, Providence, RI 2025

18th U.S. National Congress on Computational Mechanics, Chicago, IL 2025

Keynote Speaker, Biodegradable Polymers as Medical Implants Workshop, *Indian Inst. of Tech.*, Delhi 2024

ASME Drucker Medal Symposium, *International Mechanical Engineering Congress*, Portland, OR 2024

Department of Mechanical Engineering, *University of Michigan*, Ann Arbor, MI 2023

Celebrating the 80th Birthday of Thomas J.R. Hughes, *Advances in Computational Mechanics*, Austin, TX 2023

Aerospace Engineering & Mechanics, *University of Minnesota* – Twin Cities, Minneapolis, MN 2023

Society of Engineering Science Annual Technical Meeting, Minneapolis, MN 2023

Symposium in Honor of Prof. Arun Shukla's 70th Birthday, *University of Rhode Island*, Kingston, RI 2023

Department of Civil and Environmental Engineering, *University of Southern California,* Los Angeles, CA 2023

College of Engineering Mechanics Seminar*, Georgia Institute of Technology*, Atlanta, GA 2023

Mechanical Engineering Mechanics Seminar*, Massachusetts Institute of Technology*, Cambridge, MA 2023

Mechanical Engineering Department Seminar*, Auburn University*, Auburn, AL 2023

CRUNCH Seminar, Division of Applied Mathematics, *Brown University,* Providence, RI 2023

Keynote Speaker*, 19th U. S. National Congress on Theoretical and Applied Mechanics,* Austin, TX 2022

Department of Mechanical Engineering*, Indian Institute of Technology,* Kanpur, India 2022

School of Mechanical and Aerospace Engineering*, Nanyang Technological University,* Singapore 2022

Department of Aerospace Engineering*, Indian Institute of Science,* Bengaluru, India 2022

Department of Mechanical Engineering*, Indian Institute of Science,* Bengaluru, India 2022

Mechanical Engineering Department*, Alliance University,* Bengaluru, India 2022

Mechanical Engineering – Engineering Mechanics, *Michigan Technological University,* Houghton, MI 2022

Department of Mechanical and Industrial Engineering*, New Jersey Institute of Technology*, Newark, NJ 2022

Sibley School of Mechanical and Aerospace Engineering*, Cornell University*, Ithaca, NY 2021

Pipeline Research Council International Research Exchange, Houston, TX 2021

ExxonMobil Research and Engineering, Spring, TX 2021

University Research Series, *Naval Underwater Warfare Research Center*, Newport, RI 2021

Department of Mechanical, Industrial and Systems Engineering, *University of Rhode Island,* RI 2020

Department of Orthopaedics*, The Warren Alpert Medical School of Brown University*, Providence, RI 2019

Metallurgical Engineering and Material Science, *Indian Institute of Technology*, Mumbai, India 2019

Department of Applied Mechanics, *Indian Institute of Technology*, Delhi, India 2019

Biomedical Engineering, School of Engineering, *Brown University*, Providence, RI 2018

Ocean Science and Engineering, *Massachusetts Institute of Technology*, Cambridge, MA 2016

International Symposium on Plasticity, Puerto Vallarta, Mexico 2011

Department of Mechanical Engineering, *Indian Institute of Technology*, Kanpur, India 2010

Singapore Institute of Manufacturing Technology, Singapore 2009

ExxonMobil Upstream Research Company, Houston, TX 2008

Sensitron Semiconductor, Hauppauge, NY 2008

Intel Corporation, Hillsboro, OR 2008

CONFERENCE PRESENTATIONS

Srivastava, V., Modeling Rate-Dependent Deformation and Fracture of Soft Polymers, *Materials Research Society Spring Meeting*, Honolulu, HI, 2026

Srivastava, V. **(*Keynote speaker*)**, Machine learning for modeling the fracture of elastomer-like materials, *Society of Engineering Science Annual Technical Meeting*, Atlanta, GA, 2025

Konale, A., and **Srivastava, V**., On modeling deformation, damage and fracture of soft polymers, *Society of Engineering Science Annual Technical Meeting*, Atlanta, GA, 2025

Alkhoury, K., and **Srivastava, V**., A finite element implementation of a large deformation gradient-damage theory for fracture using Abaqus user material subroutines, *Society of Engineering Science Annual Technical Meeting*, Atlanta, GA, 2025

LoGiudice, K., and **Srivastava, V**., Leveraging soft material mechanical testing methods to predict deformation-induced cell injury, *Society of Engineering Science Annual Technical Meeting*, Atlanta, GA, 2025

Srivastava, V., Rate-dependent deformation, damage and fracture of soft polymers, *AmeriMech Symposium on Mechanics of Materials in Extreme Environment*, Providence, RI, 2025

Srivastava, V. **(*Invited speaker*)** and Konale, A., Rate-dependent deformation and fracture of soft polymers, *18th U.S. National Congress on Computational Mechanics*, Chicago, IL 2025

Srivastava, V. (***Keynote speaker*)**, pH-Modulating and Therapeutic-Delivering Biodegradable Hydrogels to Improve Cancer Therapy, *Biodegradable Polymers as Medical Implants Workshop*, Scheme for Promotion of Academic and Research Collaboration, New Delhi, India, 2024

Srivastava, V. **(*Invited speaker*)** and Konale, A., Damage and fracture modeling of soft polymers, ASME Drucker Symposium, *International Mechanical Engineering Congress & Exposition*, Portland, OR 2024

Srivastava, V. **(*Invited speaker*)**, Convolutional and Physics-Informed Neural Networks for Structural Mechanics Problems, *Society of Engineering Science Annual Technical Meeting*, Minneapolis, MN, 2023
Konica, S. and **Srivastava, V**., A mechanistic study of solid electrolyte interphase instability in Li metal anode batteries, *Society of Engineering Science Annual Technical Meeting*, Minneapolis, MN, 2023

Konale, A. and **Srivastava, V**., A large deformation model for quasi-static to high strain rate response of rate-stiffening soft polymers, *Society of Engineering Science Annual Technical Meeting*, Minneapolis, MN, 2023

Kottila, V.V., Parambil, N.K., Guduru, P. and **Srivastava, V**., Effect of water on unidirectional fiber-reinforced composite: a computational study, *Society of Engineering Science Annual Meeting*, Minneapolis, MN, 2023

Konale, A., Ahmed, Z., and **Srivastava, V**., A computational model for rate-dependent material state transition response of rate stiffening gels, *17th U.S. National Congress on Computational Mechanics*, Albuquerque, NM, 2023

Niu, S., Zhang, E., Bazilevs, Y., and **Srivastava, V**., Computational Data-Based Convolutional and Physics-Based Neural Networks for Structural Mechanics Problems, *17th U.S. National Congress on Computational Mechanics*, Albuquerque, NM, 2023

Konale, A., Ahmed, Z., and **Srivastava, V**., A large deformation continuum theory for strong rate-dependent and material phase transition response of shear stiffening gels, *Society of Engineering Science Annual Technical Meeting*, College Station, TX, 2022

Srivastava, V. **(*Keynote speaker*)**, Coupled mechanics from metastable phase transitioning steels to shock absorbing gels, *19th U. S. National Congress on Theoretical and Applied Mechanics*, Austin, TX, 2022

Zong, J., and **Srivastava, V**., A higher-order morphoelastic beam model for biologically growing tubes and filaments, *19th U. S. National Congress on Theoretical and Applied Mechanics*, Austin, TX, 2022

Niu, S., and **Srivastava, V**., FEA trained CNN to accurately characterize a crack and classify interacting flaws from experimental ultrasound measurements, *19th U. S. National Congress on Theoretical and Applied Mechanics*, Austin, TX, 2022

Ahmed, Z., LoGiudice, K., and **Srivastava, V**., Hydrogels to regulate extracellular pH in the breast cancer microenvironment and improve chemotherapeutic efficacy, *12th AACR-JCA Joint Conference Breakthroughs in Cancer Research: Translating Knowledge into Practice*, Maui, HI, 2022

Zhong, J., Lu, A., Bellala, V., LoGiudice, K., and **Srivastava, V**., Elasto-Viscoplastic-Damage in High Density Polyethylene Under Chemical Environment, *Society of Experimental Mechanics*, Pittsburgh, PA, 2022

Kothari, M., Niu, S., and **Srivastava, V.**, A Thermo-mechanical Continuum Model for Phase-Transitioning Austenitic Steels at Low Temperatures, *ASME International Mechanical Engineering Congress and Exposition*, virtual, 2021

Usherwood, T., LaJoie, Z., and **Srivastava, V.**, A Population, Behavior, and Vaccination-Based Model for the COVID-19 Pandemic, *ASME International Mechanical Engineering Congress and Exposition*, virtual, 2021

Sampath, S.G., Lu, A., and **Srivastava, V.**, A Novel Minimally Invasive Nitinol Based Spinal Cord Stimulation Device for Improved Pain Management, *Biomedical Engineering Society Annual Meeting*, virtual, 2021

LaJoie, Z., Usherwood, T., and **Srivastava, V.**, A Model and Predictions for COVID-19 Considering Population Behavior and Vaccination, *Biomedical Engineering Society Annual Meeting*, virtual, 2021

Mays, G., Trivedi, S., Ahmed, Z., Logiudice K., and **Srivastava, V.**, A Hydrogel System for pH Regulation of the Tumor Microenvironment, Biomedical Engineering Society Annual Meeting, virtual, 2021

Kothari, M. and **Srivastava, V.**, Thermo-mechanically coupled model for phase transition in austenitic steels for low temperature applications, *25th International Congress of Theoretical and Applied Mechanics*, virtual, 2021

Niu, S., and **Srivastava, V.**, Accurate NDT Characterization of Hidden Flaws with Mechanics and Machine Learning, *16th U.S. National Congress on Computational Mechanics*, virtual, 2021

Srivastava, V. (Invited Speaker) and Niu, S., Improved NDT Detection and Probabilistic Failure Prediction for Pipeline Anomalies, *PHMSA Pipeline Safety Research and Development Forum*, Arlington, VA, 2021

Kaiser, N.J., Bai, Y., **Srivastava, V.**, and Coulombe, K.L.K., Precision Collagen Microfiber Architecture for Engineering Tissue Anisotropy, *Regenerative Medicine Workshop*, Charleston, SC, 2020

Kaiser, N.J., Bai, Y., **Srivastava, V.**, and Coulombe, K.L.K., An Integrated Experimental-Computational Approach to

Designing Bespoke Collagen Microfiber Architecture in Tissue Scaffolds for Anisotropic Mechanical Performance, *Biomedical Engineering Society Annual Meeting*, Philadelphia, PA, 2019

PATENTS

PH regulating hydrogels that neutralize tumor acidosis and increase chemotherapy efficacy, **V. Srivastava**, Z. Ahmed, S. Santoki, G. May, US12409187B2, granted 2025
https://patents.google.com/patent/US12409187B2/en

Shape Memory Alloy and Polymer Electrode Array for Minimally-Invasive Spinal Cord and Brain Stimulation and Recording, **V. Srivastava**, A. Telfeian, and S. Sampath, Patent No. 202190000584.6 (patent in China granted, U.S. in process)

Finalist in the American Academy of Pain Medicine x MIT Hacking Medicine Innovation Challenge, Miami, FL 2023

Computationally Trained Machine Learning Models for Non-Destructive Evaluation of Material and Structural Flaws, **V. Srivastava** and S. Niu, filed 2024

RESEARCH GRANTS

Source of Support: U.S. Department of Defense, Office of Naval Research
Title: Materials and Structures in Extreme Environments: Modeling, Experiments, and Data-Driven Design
Dates: 12/01/2025 – 11/30/2028
Role on Grant: PI, **Overall Grant Amount:** $5,382,100
Lead Investigator for the research thrust "Polymers, Nature-Inspired Structures and Anti-Biofouling Solutions for Undersea Applications"

Source of Support: U.S. Department of Defense, Naval Surface Warfare Center
Title: Mechanical Properties, Damage, and Failure in Additively Manufactured Advanced Polymers Subjected to Long-Term Seawater Exposure
Dates: 04/01/2025 – 03/30/2028
Role on Grant: PI, **Grant Amount:** $300,000

Award: Dean's Award in Bioengineering
Source of Support: Brown University
Title: Advancing and translating cancer therapy research toward pre-clinical studies
Dates: 07/01/2024 – 06/30/2025 **(Completed)**
Role on Grant: PI**, Grant Amount:** $25,000

Source of Support: U.S. Department of Transportation
Title: Selection and Development of Safer Polymer and Composite Pipeline Liners through Microstructural and Macroscopic Study of Materials and Designs
Dates: 04/01/2023– 03/30/2026 **(Completed)**
Role on Grant: PI, **Grant Amount:** $1,000,000

Source of Support: U.S. Department of Defense, Office of Naval Research
Title: Undersea Vehicle Science and Technologies: Multifunctional Structural Batteries, Materials for Extreme Environments and Multi-Metal Additive Manufacturing
Dates: 06/01/2023 – 05/30/2027
Role on Grant: Co-PI, **Grant Amount:** $2,762,558
Lead Investigator for the research thrust "Soft tissue and cell damage under impact and shock loads"

Source of Support: U.S. Department of Defense, Office of Naval Research
Title: Predictive Modeling and Simulation for Next Generation Naval Undersea Vehicles and Platforms
Dates: 06/01/2022 – 05/30/2026
Role on Grant: Co-PI**, Grant Amount:** $4,684,264
Lead Investigator for the research thrust "Deformation and damage of FRP and advanced composites."

Source of Support: U.S. Department of Defense, Office of Naval Research
Title: Undersea Vehicle Science and Technologies: Multifunctional Structural Batteries, Materials for Extreme Environments and Multi-Metal Additive Manufacturing
Dates: 08/01/2022 – 07/31/2026
Role on Grant: Co-PI, **Overall Grant Amount:** $3,751,412
Lead Investigator for the research area "Materials and Structures for Extreme Environment"
Brown School of Engineering News: https://engineering.brown.edu/news/2021-09-27/onr-award

Award: Brown Biomedical Innovations to Impact
Source of Support: Brown University
Title: Shape Memory Alloy Novel Minimally Invasive Neural Stimulation Device for Improved Pain Management
Dates: 10/01/2022 – 09/30/2023 **(Completed)**
Role on Grant: PI**, Grant Amount:** $100,000
Brown University News: https://www.brown.edu/news/2022-11-30/bbii
Brown School of Engineering News: https://engineering.brown.edu/news/2022-12-01/bbii-awards-2022

Source of Support: General Motors
Title: General Motors-Brown University Collaborative Research Laboratory in Computational Materials Research
Dates: 12/01/2021 – 06/30/2024 **(Completed)**
Role on Grant: Co-PI ($200,000), **Overall Grant Amount:** $1,250,000
Lead Investigator for the "Modeling of Li metal deformation and SEI failure in Li-battery anode"

Source of Support: U.S. Department of Transportation
Title: Modeling Slow Crack Growth Under Thermal and Chemical Effects and Accurate NDT of Cracks for Fitness Predictions of Polyethylene Pipes
Dates: 09/01/2020 – 08/31/2023 **(Completed)**
Role on Grant: PI**, Grant Amount:** $250,000

Award: Research Seed Award
Source of Support: Brown University
Title: Responsive Hydrogel Based pH Regulation of Cancer Tumor Microenvironment to Reduce Metastasis
Dates: 03/01/2021 – 06/30/2023 **(Completed)**
Role on Grant: PI**, Grant Amount:** $50,000
News articles: Brown Herald and Brown 2021-seed-awardees

Source of Support: Rhode Island State Commerce Corporation, Hitachi
Title: Understanding Microstructural Variables and their effects on Thermoplastic Polyurethane Properties
Dates: 10/01/2020 – 07/31/2021 **(Completed)**
Role on Grant: PI**, Grant Amount:** $50,000

Award: Richard B. Solomon Faculty Research Award to recognize excellence in scholarship
Source of Support: Brown University
Title: Bio-inspired Novel Hydrogel Architecture for Energy Harvesting
Dates: 05/01/2020 – 06/30/2022 **(Completed)**
Role on Grant: PI**, Grant Amount:** $13,300
Brown School of Engineering News: https://engineering.brown.edu/news/2020-04-08/university-awards

Source of Support: U.S. Department of Transportation
Title: Improved NDT Detection and Probabilistic Failure Prediction for Interacting Pipeline Anomalies
Dates: 10/01/2019 – 09/30/2022 **(Completed)**
Role on Grant: PI, **Grant Amount:** $250,000

Source of Support: Rhode Island State Commerce Corporation, Gliaview LLC
Title: Biopolymers for Cranial Prosthesis Application
Dates: 06/01/2019 – 05/31/2020 **(Completed)**
Role on Grant: PI**, Grant Amount:** $50,000

TEACHING

Course evaluation scale: *Highest effectiveness = 5* to Lowest effectiveness = 1
Brown Engineering News: https://engineering.brown.edu/news/2023-05-02/teaching-mentoring-dei-awards

Undergraduate Course:

ENGN 1210: **Biomechanics** *(upper-level core course)*

- Spring 2025: 42 students (88% response). Instructor Effectiveness: 4.78; Course Effectiveness: 4.88
- Spring 2024: 34 students (85% response). Instructor Effectiveness: 4.67; Course Effectiveness: 4.56
- Spring 2023: 42 students (86% response). Instructor Effectiveness: 4.79; Course Effectiveness: 4.65
- Spring 2022: 33 students (88% response). Instructor Effectiveness: 4.77; Course Effectiveness: 4.58
- Spring 2021: 26 students (77% response). Instructor Effectiveness: 4.95; Course Effectiveness: 4.74
- Spring 2020: 27 students (96% response). Instructor Effectiveness: 4.88; Course Effectiveness: 4.74
- Spring 2019: 22 students (82% response). Instructor Effectiveness: 4.67; Course Effectiveness: 4.44

ENGN 1750: **Advanced Solid Mechanics** *(upper-level elective)*

- Fall 2025: 13 students (62% response). Instructor Effectiveness: 4.67; Course Effectiveness: 4.5

Graduate Course:

ENGN 2911R: **Analytical Modeling for Biomechanical and Biomedical Systems** *(new course developed in 2018)*

- Fall 2024: 15 students (80% response). Instructor Effectiveness: 4.91; Course Effectiveness: 4.75
- Fall 2021: 15 students (93% response). Instructor Effectiveness: 4.93; Course Effectiveness: 4.93
- Fall 2020: 22 students (91% response). Instructor Effectiveness: 4.70; Course Effectiveness: 4.68
- Fall 2019: 13 students (100% response). Instructor Effectiveness: 5.00; Course Effectiveness: 5.00
- Fall 2018: 9 students (89% response). Instructor Effectiveness: 5.00; Course Effectiveness: 4.63

Brown School of Engineering News: https://engineering.brown.edu/news/2020-04-17/conversations-covid

Course Instructor at ExxonMobil

- **Fitness for Service of Structures**: Overview and Case Studies 2017
- **Offshore and Arctic Engineering**: Deepwater Field Development 2013 –2014
- **Floating Drilling School**: Drilling Riser and Stationkeeping Systems 2012 – 2014

ADVISING

Postdoctoral fellows advised

Keven Alkhoury, Ph.D. (Solid Mechanics) 2024 – current
Damage and failure of polymers

Vaishakh Kotilla Veedu, Ph.D. (Solid Mechanics) 2022 – 2025
Hygroscopic damage and failure of fiber-reinforced composites

Shabnam Konica, Ph.D. (Solid Mechanics) 2022 – 2023
Continuum scale modeling of Li anode surface instabilities
(current position: FEA Developer, Dassault Systèmes)

Jun Zhong, Ph.D. (Solid Mechanics) 2020 – 2022
Modeling of cell-extracellular matrix interactions, polyethylene damage and failure modeling
(current position: Scientist, Bristol Myers Squibb)

Mrityunjay Kothari, Ph.D. (Solid Mechanics) 2018 – 2019
Thermo-mechanically coupled modeling of metastable austenitic steels
(currently **tenure-track Assistant Professor** of Mechanical Engineering at the University of New Hampshire)

Doctoral dissertations supervised

Prathik Narayanan (Solid Mechanics) 2024 – current
Expected Completion: 2028

Deepro Ghosh (Solid Mechanics) 2023 – current
Expected Completion: 2027

Kevin LoGiudice (Biomedical Engineering) 2021 – current
Expected Completion: 2027

Zahra Ahmed (Biomedical Engineering) 2019 – current
Expected Completion: 2026

Aditya Konale (Solid Mechanics) 2021 – 2026 (Graduated)
Thesis: Soft Material Deformation and Damage Mechanics: Experiments, Modeling and Computations
(current position: Applied Materials)

Sijun Niu (Solid Mechanics) 2018 – 2022 (Graduated)
Thesis: Finite Element and Neural Networks for Flaw Characterization and Plasticity Models
(current position: Display Mechanical Engineer, Apple Inc.)

Master's thesis supervised

Matthew Fang (Biomedical Engineering) Graduated (2026)
Thesis: Characterization of Alkaline-Acclerated Degradation of 3D-Printed Polylactic Acid Scaffolds

Dingyi Yang (Biomedical Engineering) Graduated (2025)
Thesis: Mechanobiological Effects of Residual Stress on Epithelial Cell Morphology

Tarik Matthew Simpson (Biomedical Engineering) Graduated (2025)
Thesis: A preliminary investigation of damage in marine mammal tissue due to mechanical loads using silicon rubber (ECOFLEX) as a representative material

Rachel Rowey (Biomedical Engineering) Graduated (2025)
Thesis: Development of a Method for A-Scan Ultrasound Localization of Solid, Nonpalpable Breast Lesions

Karolina Palac (Biomedical Engineering) Graduated (2025)
Thesis: Development of a Method for A-Scan Ultrasound Localization of Solid, Nonpalpable Breast Lesions

Dashaun Simon (Biomedical Engineering) Graduated (2024)
Thesis: An Experimental Study of a Flexible, Self-Healing Strain Sensor

Hyun Young Nam (Solid Mechanics) Graduated (2023)
Thesis: A Slow Crack Growth Model for High-Density Polyethylene under Thermal and Chemical Environment
(current position: Ph.D. student at Brown University)

Francesca Abulencia (Biomedical Engineering) Graduated (2023)
Thesis: A Method for the Detection and Characterization of Breast Tumors using Ultrasound with CNN
(current position: Clinical Informatics Analyst, InterSystems)

Andrea Lu (Biomedical Engineering) Graduated (2022)
Thesis: Response and Failure of HDPE and UHMWPE under Chemical, Biological, and Thermal Environments
(current position: Associate Marketing Manager, BD Medical Device Company)

Anna Rusnak (Biomedical Engineering) Graduated (2022)
Thesis: Using Convolutional Neural Network for Early Breast Cancer Detection
(current position: Research Associate, Computational Biology/AI at FL84)

Gavin May (Biomedical Engineering) Graduated (2022)
Thesis: Effect of pH-Regulation on Chemotherapeutic Efficacy
(current position: Ph.D. student at Yale University)

Kevin LoGiudice (Biomedical Engineering) Graduated (2021)
Thesis: Responsive Hydrogel-Based pH Regulation to Reduce Malignant Phenotypes in Breast Cancer Cells
(current position: Ph.D. student at Brown University)

Shruti Trivedi (Chemical Engineering) Graduated (2021)
Thesis: Development of Hydrogel Systems for pH Regulation of Cancer Tumor Microenvironment
(current position: Senior Associate Scientist at Pfizer Pharmaceutical R&D)

Shailen Sampath (Biomedical Engineering) Graduated (2021)
Thesis: Shape Memory Nitinol Based Minimally Invasive Spinal Cord Stimulation Lead Concept for Pain Relief
(current position: Medical student at Columbia University)

Yifei Bai (Solid Mechanics) Graduated (2020)
Thesis: Computational modeling of anisotropic engineered heart tissue
(current position: Ph.D. student at the University of Oxford)

Savan Santoki (Fluid Mechanics) Graduated (2020)
Thesis: A biocompatible hydrogel system for active pH control
(current position: Founder, Advanced Magnetic Products)

Luis Marquez (Fluid Mechanics) Graduated (2020)
Thesis: Design and analysis of a new minimally invasive spinal cord stimulation device
(current position: Mechanical Engineer at Veranex)

Undergraduate honors research thesis supervised

Owen Landry 2026
Thesis: Strain Rate Material Response of Synthetic Tissue Surrogates of the Marine Mammal melon

Stella Chen 2025
Thesis: Damage and Failure of Polylactic Acid Filament in a Saltwater Environment

Daanish Aleem Qureshi 2025
Thesis: Detecting Dietary Patterns and Health Status Using Machine Learning Through Photos of Hands

Jamie Saito 2025
Thesis: Acidosis and Hypoxia Induced Responses in Patient-Derived Organoids Drive Development of pH-Modulating Hydrogel Immunotherapy

Justin Moustouka 2025
Thesis: Development of a Tunable Microfabrication-Based Platform for Cell Migration Studies under 3D Spatial Confinement

Angelina Schorr 2024
Thesis: Cancer Cell Response to Chemical Stimuli in Engineered Tumor Microenvironments

Rachel Rowey 2024
Thesis: Immune Checkpoint Inhibitor Releasing and pH-Modulating Hydrogels for Acidosis-Dependent Immunosuppression

Karolina Palac 2024
Thesis: Mechanical Considerations for In Vitro Studies of Cell Behavior

Venkatsai Bellala 2024
Thesis: Development of a Drop Tower to Experimentally Study Moderate Rate Cell Injury

Ishitaa Gupta 2024
Thesis: Inducing polymer mesophases and analyzing their properties in non-mesogenic polymers

Ruth Sullivan 2023
Thesis: Experimental Validation of FEA Trained Neural Network for Characterization of Soft Tissue Anomalies

Zachary LaJoie 2022
Thesis: A mathematical model for COVID-19 considering population behavior, variants, and vaccination

Shailen Sampath 2020
Thesis: Design of Minimally Invasive Percutaneous Spinal Cord Stimulation Leads using Shape Memory Polymer and Super Elastic Alloy

Ph.D. thesis committees served

Jiahao Liu (Solid Mechanics) 2026 - current
(Thesis Advisor: Yuri Bazilevs, Ph.D.)

Zoe Pace (Biomedical Engineering) 2026 - current
(Thesis Advisor: Kareen Coulombe, Ph.D.)

Zakhar Lyakhovych (Biomedical Engineering) 2025 – current
(Thesis Advisor: Edith Mathiowitz, Ph.D.)

Landon Begin (Biomedical Engineering) 2025 – current
(Thesis Advisor: Joseph Crisco, Ph.D.)

Basel White (Biomedical Engineering) 2025 – current
(Thesis Advisor: Michelle Dawson, Ph.D.)

Sarah Planchak (Biomedical Engineering) 2025 – current
(Thesis Advisor: Anubhav Tripathi, Ph.D.)

Lily Cordner (Biomedical Engineering) 2024 – current
(Thesis Advisor: Ian Wong, Ph.D.)

Nazanin Ahmadi (Biomedical Engineering) 2024 – current
(Thesis Advisor: George Karniadakis, Ph.D.)

Alex Hruska (Biomedical Engineering) 2023 – current
(Thesis Advisor: Ian Wong, Ph.D.

Krishangi Krishna (Biomedical Engineering) 2022 – current
(Thesis Advisor: Kimani Toussaint, Ph.D.)

Ke Ma (Solid Mechanics) Graduated (2026)
(Thesis Advisor: Yuri Bazilevs, Ph.D.)

Zicheng Yan (Solid Mechanics) Graduated (2025)
(Thesis Advisor: David Hennan, Ph.D.)

Shaunak Shende (Solid Mechanics) Graduated (2025)
(Thesis Advisor: Yuri Bazilevs, Ph.D.)

Kiera Dwyer (Biomedical Engineering) Graduated (2025)
(Thesis Advisor: Kareen Coulombe, Ph.D.)

Harsh Jagad (Materials Engineering) Graduated (2025)
(Thesis Advisor: Yue Qi, Ph.D.)

Mitchell Harling (Biomedical Engineering) Graduated (2024)
(Thesis Advisor: Kimani Toussaint, Ph.D.)

Deanna Stueber (Biomedical Engineering) Graduated (2024)
(Thesis Advisor: Vicki Colvin, Ph.D.)

Weican Li (Solid Mechanics) Graduated (2024)
(Thesis Advisor: Yuri Bazilevs, Ph.D.)

Josephine Kalshoven (Biomedical Engineering) Graduated (2024)
(Thesis Advisor: Joseph Crisco, Ph.D.)

Cu Huy (Biomedical Engineering) Graduated (2024)
(Thesis Advisor: Arto Nurmikko, Ph.D.)

Ramisa Fariha (Biomedical Engineering) Graduated (2024)
(Thesis Advisor: Anubhav Tripathi, Ph.D.)

Enrui Zhang (Applied Mathematics) Graduated (2023)
(Thesis Advisor: George Karniadakis, Ph.D.)

Ryan Dubay (Biomedical Engineering) Graduated (2023)
(Thesis Advisor: Eric Darling, Ph.D.)

Alicia Minor (Biomedical Engineering) Graduated (2023)
(Thesis Advisor: Kareen Coulombe, Ph.D.)

Wenqiang Fang (Solid Mechanics) Graduated (2022)
(Thesis Advisor: Haneesh Kesari, Ph.D.)

Cameron Baptista (Biomedical Engineering) Graduated (2022)
(Thesis Advisor: Edith Mathiowitz, Ph.D.)

Xiuqi Li (Solid Mechanics) Graduated (2021)
(Thesis Advisor: David Henann, Ph.D.)

Yixiang Deng (Fluids and Thermal Sciences) Graduated (2021)
(Thesis Advisor: George Karniadakis, Ph.D.)

Weilin Deng (Solid Mechanics) Graduated (2019)
(Thesis Advisor: Haneesh Kesari, Ph.D.)

Kaushik Vijaykumar (Solid Mechanics) Graduated (2019)
(Thesis Advisor: Haneesh Kesari, Ph.D.)

Michael Jandron (Solid Mechanics) Graduated (2019)
(Thesis Advisor: David Henann, Ph.D.)

Master's thesis committees served

Anh Vu	(Biomedical Engineering, Thesis Advisor: Ian Wong, Ph.D.)	2026
Alfonso De Los Cobos	(Biomedical Engineering, Thesis Advisor: Joseph Crisco, M.D.)	2026
Nicholas Nocevski	(Biomedical Engineering, Thesis Advisor: Jeffrey Morgan, Ph.D.)	2026
Sharon Roberts	(Biomedical Engineering, Thesis Advisor: Eric Darling, Ph.D.)	2026

Jack Blocker	(Biomedical Engineering, Thesis Advisor: Anita Shukla, Ph.D.)	2026
Amulya Kadaba	(Biomedical Engineering, Thesis Advisor: Jillian Beveridge, Ph.D.)	2025
Jinqian Li	(Biomedical Engineering, Thesis Advisor: George Karniadakis, Ph.D.)	2025
Samantha Zalk	(Biomedical Engineering, Thesis Advisor: Jillian Beveridge, Ph.D.)	2024
Achilles Gatsonis	(Biomedical Engineering, Thesis Advisor: George Karniadakis, Ph.D.)	2024
Alejandro Marzoratti	(Biomedical Engineering, Thesis Advisor: Ian Wang, Ph.D.)	2023
Madison Altieri	(Biomedical Engineering, Thesis Advisor: Joseph Crisco, M.D.)	2023
Braxton Morrison	(Biomedical Engineering, Thesis Advisor: Michelle Dawson, Ph.D.)	2023
Dana Leichter	(Biomedical Engineering, Thesis Advisor: Richard Gilbert, M.D.)	2022
Anyaa Shah	(Biotech, Thesis Advisor: Edith Mathiowitz, Ph.D.)	2022
Itzel Aponte	(Biomedical Engineering, Thesis Advisor: Vicki Colvin, Ph.D.)	2021
Tobias Clevinger	(Biomedical Engineering, Thesis Advisor: Edith Mathiowitz, Ph.D.)	2021
Julian Montagut	(Biomedical Engineering, Thesis Advisor: Jonghwan Lee, Ph.D.)	2020
Sheila Velagapudi	(Biomedical Engineering, Thesis Advisor: Edith Mathiowitz, Ph.D.)	2020
Gina Vimbela	(Biomedical Engineering, Thesis Advisor: Anubhav Tripathi, Ph.D.)	2019
Travis Nguyen	(Biotechnology, Thesis Advisor: Edith Mathiowitz, Ph.D.)	2019

Undergraduate researchers advised

Ryan Li, Mechanical Engineering, Class of 2029	2026 – current
Daniel Hu, Mechanical Engineering and Applied Math, Class of 2028	2026 – current
Daniela Suarez, Biomedical Engineering, Class of 2029	2025 – current
Nour Mousbah, Mechanical Engineering, Class of 2028	2025 – current
Nikash Long, Biomedical Engineering, Class of 2028	2025 – current
Owen Landry, Biomedical Engineering, Class of 2028	2025 – current
Melissa Truong**, Biomedical Engineering, Class of 2028	2025 – current
Dariana Alvarez-Ortiz**, Mechanical Engineering, Class of 2028	2025 – current
Blane Henok[++], Electrical Engineering, Class of 2028	2025 – current
Talia Lang**, Biomedical Engineering, Class of 2028	2025 – current
Angela Zeng**, Biomedical Engineering, Class of 2028	2025 – current
Valeria Quero**, Computer Science, Class of 2028	2025
Katrina Truong, Mechanical Engineering, Class of 2026	2024 – 2025
Mia Kamisato**, Biomedical Engineering, Class of 2027	2024 – current
Emilio Peveri**, Applied Math and Biology, Class of 2026	2024 – current
Xinai Zhang, Biomedical Engineering, Class of 2026	2024 – 2025
Hellie Chen**, Materials Engineering, Class of 2027	2024 – 2025
Ian Lau**, Biochemistry & Molecular Biology, Class of 2026	2023 – current
Justin Moustouka***, Biomedical Engineering, Class of 2025	2024 – 2025

Stella Chen**,***, Mechanical Engineering, Class of 2025	2023 – 2025
Jamie Saito***, Biomedical Engineering, Class of 2025	2023 – 2025
Daanish Qureshi, Biomedical Engineering, Class of 2025	2022 – 2025
Angelina Clark, Biomedical Engineering, Class of 2025	2023 – 2024
Manu Chigzoie**, Chemical Engineering, Class of 2026	2024
Joseph Olagundoye**, Computer Engineering, Class of 2026	2024
Rachel Rowey^^^,**,***, Biomedical Engineering, Class of 2024	2022 –2024
Karolina Palac**,***, Biomedical Engineering, Class of 2024	2022 – 2024
Angelina Schorr^^,***,[xx], Biomedical Engineering, Class of 2024	2021 – 2024
Venkatsai Bellala**,***, Biomedical Engineering, Class of 2024	2020 – 2024
Ruth Sullivan***, Biomedical Engineering, Class of 2023	2020 – 2023
Serly Chohmalian**, Biomedical Engineering, Class of 2026	2023
Eshanika Urs, Biomedical Engineering, Class of 2026	2023
Thomas Usherwood[+,^,xx], Biomedical Engineering, Class of 2022	2020 – 2022
Zachary LaJoie***,^^^, Biomedical Engineering, Class of 2022	2020 – 2022
William Back**, Engineering Physics, Class of 2022	2020 – 2021
Roberto Castro**, Chemical Engineering, Class of 2022	2019 – 2021
Amy Oh, Biomedical Engineering, Class of 2022	2018 – 2021
Shailen Sampath***, Biomedical Engineering, Class of 2020	2019 – 2020
Isaac Nathoo**, Biomedical Engineering, Class of 2021	2018 – 2020
Norbesida Bagabila**, Biomedical Engineering, Class of 2021	2019
Sarah Berman, Meredie Cohen, and Mariko Kishimoto (Capstone advisor)	2020

[+]*Barry Goldwater Scholarship, ^Outstanding BME Senior Award,* [++]*Presidential Scholarship,* [xx]*NSF GRF, ^^The Neal Mitchell '58 Systems Thinking Project Award, ^^^Doris M. and Norman T. Halpin Prize, **UTRA Undergraduate Research Award, ***Honors Thesis Advisee*

OUTREACH AND SERVICE

To the university

Director of Graduate Studies for Biomedical Engineering Program	2024 – present
Freshman and Sophomore Advisor	2019 – present
Biomedical Engineering Concentration Advisor	2022 – 2024
Biomedical Engineering Graduate Program Committee Member	2021 – 2022
Hibbitt and Hope St Postdoc Fellows Committee	2023 – 2024
Biomedical Engineering Industry Liaison	2019 – 2024
Honors Thesis Program Committee, School of Engineering	2018 – 2024
Critical Challenge Project Advisor, Executive Masters in Science & Technology Leadership	2018 – 2022

To the profession

Reviewer for peer-reviewed journals: Acta Biomaterialia, Journal of the Mechanics and Physics of Solids, Mechanics of Materials, International Journal of Plasticity, International Journal of Solids and Structures, Journal of Applied Mechanics, Soft Matter, International Journal of Mechanical Science, Engineering with Computers, Extreme Mechanics Letters, Composites Part B, Experimental Mechanics, International Journal of Impact Engineering, Carbohydrate Polymers, Cellular and Molecular Bioengineering, Cold Regions Science and Technology, Materials Today Communications, Energy, Materials & Design, Computers in Biology and Medicine, Computers and Structures, European Journal of Mechanics /A Solids, International Journal of Numerical Methods in Biomedical Engineering, Scientific Reports, ACS Biomaterials Science & Engineering

Organized The AmeriMech Symposium on "Mechanics of Materials in Extreme Environments" at Brown University (Providence, RI) in 2025. Brown News: https://engineering.brown.edu/news/2025-09-25/amerimech

Organized a mini symposium on "Mechanics of Materials under Extreme Environments" in the U.S. National Congress on Computational Mechanics (Chicago, 2025).

Organizer for MiniSymposia on "Soft Materials" in Society for Engineering Science (Austin 2023, Atlanta 2025)

Panel: U.S. Department of Transportation PHMSA Core R&D Program 2020

Panel: National Science Foundation, Division of Civil, Mechanical and Manufacturing Innovation 2019

Advisory Board Member, High-Pressure High-Temperature Subsea Systems 2017 – 2018

DeepStar Global Offshore Technology Development Consortium (Represented ExxonMobil

on a board including leaders from other oil and gas majors (Chevron, Equinor, Occidental, and Shell)

Member of the Ph.D. Board of Examiners for the Indian Institute of Technology, Delhi 2023 – present
Symposium co-chair: Society of Experimental Mechanics (2023), Society of Engineering Science (2023)

To the community

Faculty advisor to South Asian scholars in STEM (SASS) for student professional development 2023 – present

STEM Outreach: Lectures to *Lincoln School* (all girls K-12) on mechanics of materials 2019, 2020, 2021

Invited lecture titled *"Arctic, Energy and Environment"* 2019

for the Brown course titled Social Impact of Emerging Technologies – The Role of Scientists/Engineers

Invited speaker, Brown Biomedical Engineering and Biotechnology Ph.D. program annual retreat 2019

Panelist "Transition from postdoc to faculty," Brown postdoctoral retreat 2019

Panelist "Getting into the industry as a Ph.D. scientist/engineer," 2019

Brown Biomedical Engineering and Biotechnology Ph.D. program annual retreat

Panelist "Industry perspective," Brown Biomedical Engineering Society 2019

ExxonMobil's Campus Ambassador to M.I.T. 2014 – 2017

AFFILIATIONS

American Society of Mechanical Engineers, Materials Research Society, Society of Engineering Science, Society of Experimental Mechanics, Biomedical Engineering Society