

Gauri A. Desai, PhD

Title: Postdoctoral Research Scholar, Female Athlete Science and Translational Research (FASTR) Program, Stanford University

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EDUCATION

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|-------------|---|
| 2023 | PhD, Biomechanics
Indiana University-Bloomington, IN, USA
Advisor: Allison H. Gruber |
| 2017 | MSc, Sport and Health Sciences
University of Exeter, Exeter, UK
Advisor: Luis Marco Garcia |
| 2016 | B.A., Psychology
Sophia College for Women, Mumbai, India |
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EXPERIENCE

Academic Employment

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| 2025-present | Postdoctoral Research Scholar, Female Athlete Science and Translational Research (FASTR) Program, Stanford University |
| 2023-2025 | Postdoctoral Research Associate, Department of Kinesiology, University of Maryland |
| 2018-2023 | Teaching Assistant, Department of Kinesiology, Indiana University-Bloomington |

Other Experience

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| 2024 | Panelist, Congressional Briefing, Women's Health & Performance |
| 2023-present | Topical Expert, VOICEINSPOORT |
| 2022-present | Fellowship Reviewer and Judge, Women in Sports Tech Inc. |
| 2022-present | Research Intern/Collaborator, The Micheli Center for Sports Injury Prevention |

May-Oct 2021	Summer Research Intern/Collaborator, IMeasureU
2017-2018	Sport Science Intern, Sir H.N. Reliance Hospital Sports Medicine Center

AWARDS

2025	Up & Comer Award, American Society of Biomechanics, \$1000
2024	AMTI Young Scientist Award, Biomechanics Interest Group, American College of Sports Medicine, \$500
2024	Trainee Research Award, Mid-South Biomechanics Conference
2022	Biomechanics Interest Group Student Research Award, American College of Sports Medicine, \$500
2022	Cooper Fellowship for Academic Excellence, Indiana University-Bloomington, \$2500
2021	Women in Sports Tech Inc. Fellowship, \$5000
2020	Biomechanics Interest Group Student Research Award, American College of Sports Medicine, \$500
2020	Marian Godeke Fellowship for Academic Excellence, Indiana University-Bloomington, \$5000
2019	Cooper Fellowship for Academic Excellence, Indiana University-Bloomington, \$2500

PUBLICATIONS

Working Papers

2026	Elizabeth M. Bell, Johanna C. Weiss, Gauri A. Desai , Jenna K. Burnett, Samantha J. Snyder. "Pregnancy-Related Changes in the Energetic Cost of Walking: A Systematic Review". In Preparation.
2026	Gauri A. Desai , Alex Gonzalez, Sarah C. Johnson, Trent Stellingwerf, Keely Henninger, Megan Roche, Alexandra Eichelmann, Emily Kraus. "Free Triiodothyronine concentrations and training load alterations in female ultramarathon runners preparing for a 100-mile race". In Preparation.

- 2026** **Gauri A. Desai** and Ross H. Miller. "The metabolic cost of walking is lower in high-functional transfemoral prosthesis users with bone-anchored prostheses versus socket-suspended prostheses" *Journal of Applied Physiology*. In Preparation.
- 2025** **Gauri A. Desai** and Ross H. Miller. "Transfemoral prosthesis: Residual limb orientation affects the metabolic cost of optimal control simulations of walking." *Journal of Biomechanical Engineering*. Under Review.
- 2025** **Gauri A. Desai**, Kristin E. Whitney, Allison H. Gruber, William P. Meehan, Alexandra F. DeJong Lempke. "Ground Reaction Forces and Bone Mineral Density in Female Adolescent Runners following Bone Stress Injury." *Journal of Biomechanics*. Under Review.

Published Original Research Articles

- 2026** Alexandra DeJong Lempke, Katherine L. Smulligan, **Gauri A. Desai**, Kelsey E. Hagan, Jessie R. Oldham, Leila Z. Islam, Kristin E. Whitney. "Impaired neuromusculoskeletal response to imposed training stimuli associated with Low Energy Availability: A systematic review." *British Journal of Sports Medicine*. 60. No. 1 (2026): 55-66.
- 2025** **Desai, Gauri A.**, et al. "Age and running experience influence shock attenuation during human running". *Journal of Science and Medicine in Sport* (2025).
- 2025** **Desai, Gauri A.**, et al. "Greater external negative mechanical work is accompanied by a greater metabolic cost of walking for socket-suspended versus bone-anchored prosthesis users with transfemoral limb loss." *Clinical Biomechanics* (2025): 106598.
- 2025** Rodrigo Rabello, **Gauri A. Desai**, Allison H. Gruber. "Inconsistent effects of experience on running biomechanics may be influenced by study heterogeneity and classification criteria: a systematic review and proposal of a revised taxonomy." *Sports Medicine Open*. 2025 11(1) 69.
- 2025** Rodrigo Rabello, **Gauri A. Desai**, Allison H. Gruber. "Running stiffness and spatiotemporal parameters are similar between non-runners and runners with different experience levels." *Sports Biomechanics*. In Press. DOI: 0.1080/14763141.2025.2480094
- 2024** **Gauri A. Desai**, Alexandra F. DeJong Lempke, Jarek Harezlak, Allison H. Gruber. "Sex differences in Body Composition and Shock Attenuation During Running." *Journal of Biomechanics* 173 (2024): 112245.

- 2024** Samantha J Snyder, Maliheh Fakhar, **Gauri A Desai**, Jae Kun Shim, Ross H Miller (2024) "Gender Differences In Cumulative Knee Loading During Walking And Running: 727." *Medicine C Science in Sports C Exercise*.
- 2023** **Desai, Gauri A.**; Gruber, Allison H.; Rosenberg, Molly. "Shock Attenuation May Be Influenced By Body Composition In Human Running: 2511." *MSSE* 55(9S)826-827.
- 2023** **Desai, Gauri A.** "Gait and Body Composition Mechanisms of Shock Attenuation Among Runners." *Diss. Indiana University*.
- 2022** **Desai, Gauri A.**, and Allison H. Gruber. "Bilateral differences in coordination variability among injured and uninjured runners: A prospective study." *Journal of Biomechanics* 132: 110938.
- 2022** **Desai, Gauri A.**, and Allison H. Gruber. "Weekly Moderate-to-vigorous Physical Activity And Biomechanical Plasticity Among Active Adults: A Prospective Study: 778." *MSSE* 54.9S: 186.
- 2021** **Desai, Gauri A.**, and Allison H. Gruber. "Segment coordination and variability among prospectively injured and uninjured runners." *Journal of Sports Sciences* 39.1: 38-47.
- 2020** **Desai, Gauri A.**, and Allison H. Gruber. "Assessing Between-limb Differences In Prospectively Injured And Uninjured Runners Using Dynamical Measures Of Gait: 2632 Board# 93 May 29 9: 30 AM-11: 00 AM." *Medicine & Science in Sports & Exercise* 52.7S: 718.
- 2019** Gruber A, Helfrich PB, Nguyen A, **Desai G**, Paquette M. Gait alterations from a prolonged run persist after four minutes. International Society of Biomechanics/American Society of Biomechanics conference 2019.

PRESENTATIONS

- 2026** **Gauri A. Desai**, Keeley Henninger, Alyssa Olenick Emily Kraus. "Women Are Built For the Long Run: Women's Fitness Panel" *TrailCon*, Tahoe, CA, USA.
- 2026** **Gauri A. Desai**, Alexa M. Eichelmann, Emily Kraus. "Training Load and Free Triiodothyronine In Female Trail Ultramarathon Runners: A Preliminary Analysis" *American College of Sports Medicine 2026*, Salt Lake City, UT, USA.
- 2025** **Gauri A. Desai**, Emily Kraus, Allison H. Gruber. "Male and female runners use unique gait strategies to achieve comparable low-frequency shock attenuation magnitudes during running" *Female Athlete Research Meeting 2025*, Stanford, CA, USA.

- 2024** **Gauri A. Desai**, John R. Pope, Jae Kun Shim, Ross H. Miller. "Joint biomechanics in transfemoral amputees with a socket-based versus osseointegrated prosthetic: A pilot study." *American College of Sports Medicine Conference*, Boston, MA, USA.
- 2024** **Gauri A. Desai**, John R. Pope, Ross H. Miller. "Residual Limb Length and Metabolic Cost of Walking in Transfemoral Amputees: A Simulation Study." *Mid-South Biomechanics Conference*, Memphis, TN, USA.
- 2023** **Desai, Gauri A.** "Running Biomechanics and Running Injury". Invited Talk. University of Maryland College Park, Neuromechanics Research Core, Department of Kinesiology, MD, USA.
- 2023** **Gauri A. Desai**, Kristin E. Whitney, Allison H. Gruber, Alexandra Dejong Lempke. "Bone Mineral Density and Ground Reaction Forces in Female Adolescent Runners following Bone Stress Injury." *Female Athlete Conference*, Boston, MA, USA.
- 2023** **Desai, Gauri A., Gruber**, Allison H., Rosenberg, Molly. "Shock Attenuation May Be Influenced By Body Composition In Human Running." *American College of Sports Medicine Conference*, Denver, CO, USA.
- 2023** **Desai, Gauri A.** "Shock attenuation mechanisms during running in different runner sub-populations." Invited Lecture. *Department of Physical Therapy and Rehabilitation, University of California San Francisco School of Medicine*, CA, USA.
- 2022** **Desai, Gauri A.** "Running-related Injury Risk Factors" Invited Talk. New Balance Athletics Inc., MA, USA.
- 2022** **Desai, Gauri A.**, and Allison H. Gruber. "Weekly Moderate-to-vigorous Physical Activity And Biomechanical Plasticity Among Active Adults: A Prospective Study." *American College of Sports Medicine Conference*, San Diego, CA, USA.
- 2019** **Desai, Gauri A.**, and Allison H. Gruber. "Coordination and variability among prospectively injured and uninjured runners." *ISB/ASB Conference*, Calgary, Canada.
- 2019** **Desai, Gauri A.**, Shreyas Fadnavis, Allison H. Gruber. "Age and running experience as determinants of impact shock frequencies during running". *North American Congress on Biomechanics*, Ottawa, Canada.
- 2019** **Desai, Gauri A.**, and Allison H. Gruber. "Lower limb joint coupling in prospectively injured and uninjured runners quantified using dynamical versus discrete measures of running gait." *Memphis South Biomechanics Conference*, Memphis, TN, USA.
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Mentoring

Indiana University-Bloomington Biomechanics Lab

Undergraduate Students

- 2019-2022: Addie Ellinger
- 2021-2023: Abigail Steele
- 2022-2023: Blake Fields
- 2022-2023: Julie Maberry
- 2021-2023: Ben Price
- 2022-2024: Krystal Lan

Masters Students

- 2022-2023: Kai Wen Chien

Neuromechanics Research Core, University of Maryland, College Park

PhD Students

- 2023-2025: John R. Pope
- 2023-2025: Maliheh Fakhar
- 2023-2025: Zoey Kearns

Masters Students

- 2023-2025: Chioma Ezeajughi

Stanford University, FASTR Program

- 2025-present: Alexa Eichelmann, MSc

Skills

Qualisys and Vicon 3D motion capture | AMTI Force Plates | Novel and Pedar force and pressure insoles | Inertial Measurement Units | OpenSim | Optimal Control Simulations | Visual 3D | AddBiomechanics | MATLAB | R-Studio | Python | Dual x-ray absorptiometry | Statistical modeling and analysis | Oxygen uptake kinetics | Experimental design | Signal processing | Data management | Running Biomechanics | Injury risk mitigation | Clinical gait analysis | Adaptable Leadership | Mentoring | Teamwork | Collaboration | Empathy | Communication | Adaptability | Persistence | Problem solving | Emotional Agility

Service to Profession

2026-2027

Programming Committee, American Society of Biomechanics

2025

Abstract Reviewer, American Society of Biomechanics, Pittsburgh, PA, USA

2025

Abstract Reviewer, American College of Sports Medicine Conference, Atlanta, GA, USA

2024

Abstract Reviewer and Session Organizer, American College of Sports Medicine Conference, Boston, MA, USA

2024-present

Reviewer, Journal of Applied Biomechanics

Reviewer, Journal of Biomechanics

Reviewer, Footwear Science

Reviewer, PeerJ

Reviewer, BMJ Open Sport and Exercise Medicine

Reviewer, Journal of Athletic Training

Reviewer, BMC Musculoskeletal Disorders

References

- **Dr. Allison H. Gruber:** PhD advisor
Associate Professor, Department of Kinesiology, Indiana University-Bloomington
Email: ahgruber@indiana.edu
- **Dr. Ross H. Miller:** Postdoc advisor
Associate Professor, Department of Kinesiology, University of Maryland College Park
Email: rmiller82@wisc.edu
- **Dr. Emily Kraus:** Postdoc advisor
Clinical Assistant Professor and Director of the Female Athlete Science and Translational Research Program (FASTR), Department of Orthopedic Surgery, Stanford University
Email: ekraus@stanford.edu

- **Dr. Alexandra F. DeJong Lempke:** Collaborator and Mentor
Assistant Professor, Department of Physical Medicine and Rehabilitation,
Virginia Commonwealth University
Email: Alexandra.Lempke@vcuhealth.org
- **Melanie Strong:** Mentor
Co-Founder and Managing Partner, NEXT VENTURES
Email: mel@nextventures.com
- **Marilou McFarlane:** Mentor
Founder and CEO, Women in Sports Tech Inc.
Email: coachmarilou415@gmail.com