

PhD Positions in Small-Scale Magnetic Soft Robots Texas Tech University

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Posted Sep. 11, 2025, set to expire Jan. 11, 2026

Job Title	PhD Positions in Small-Scale Magnetic Soft Robots
Department	Mechanical Engineering https://www.depts.ttu.edu/me/
Institution	Texas Tech University Lubbock, Texas
Date Posted	Sep. 11, 2025
Application Deadline	Dec. 1, 2025
Position Start Date	Jan. 1, 2026
Job Categories	Graduate Student
Academic Field(s)	Mechanical Engineering Robotics

Apply By Email

Job Description

The [Computational Robotics and Mechatronics \(CRM\) Lab](#) at Texas Tech University is seeking multiple PhD students to join ongoing research in **small-scale magnetic soft robots**. Our research is currently supported by two active **National Science Foundation (NSF)** projects:

1. [Modular magneto-dynamic mechanism for small-scale soft robots](#)
2. [Self-regulating artificial cilia arrays for fluid and particle manipulation](#)

Required Qualifications and Skills:

- Degree in Mechanical Engineering, Electrical and Computer Engineering, Robotics, or a related field. (MS preferred; outstanding BS students considered).

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- Background in at least one of: electromagnetics, solid mechanics, robotics, machine learning, and engineering design.
- Preferred: experience with computational modeling (e.g., COMSOL, ANSYS, ABAQUS) and programming (Python, MATLAB, C++).
- Strong writing and communication skills and demonstrated research potential.

About Dr. Xiaolong Liu:

Dr. Liu is an Assistant Professor of Mechanical Engineering at Texas Tech University. He received his Ph.D. in Biomedical Engineering with a focus on medical robotics from the University of Tennessee, Knoxville. He previously worked at Johns Hopkins University as a Research Scientist in the Department of Mechanical Engineering and the Laboratory for Computational Sensing and Robotics (LCSR). Dr. Liu has served as a Principal Investigator and Co-Investigator on multiple research projects funded by organizations such as the National Science Foundation (NSF), the National Institutes of Health (NIH), the American Heart Association (AHA), and the Maryland Technology Development Corporation (TEDCO). He has published more than 40 peer-reviewed papers in IEEE, ASME, and BMES journals and conferences. His research has received recognition including the Maryland Innovation Initiative Award and the Best Paper Runner-up Award in Robotics. Dr. Liu has also served on NSF panels, program committees, and editorial boards of multiple IEEE conferences in robotics and automation. He is a Senior Member of IEEE.

We Offer:

- Fully covered tuition and competitive stipend
- Supportive and collaborative research environment
- Established extensive collaborative partnerships with research institutions

Application:

To apply, please reach out to Dr. Xiaolong Liu at xiaolong.liu@ttu.edu

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Please send (1) CV, (2) transcripts, (3) TOEFL and/or GRE scores (for international students), and (4) a cover letter describing your motivation for this application, potential research areas, and how your experience and interests make you a great fit for this position. Please use “**Application for PhD Position 2026**” as the email subject.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

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