JIEFENG SUN

J.Sun@colostate.edu
Department of Mechanical Engineering
Colorado State University

EDUCATION

Ph.D. Aug 2017 - June 2022 (expected)
Mechanical Engineering
Colorado State University, USA

M.S. Aug 2014 - July 2017
Mechanical Engineering
Dalian University of Technology, China

B.S. Aug 2010 - July 2014
Mechanical Engineering
Lanzhou University of Technology, China

PROFESSIONAL ACTIVITIES

Reviewer
Smart Materials and Structures
IEEE Access
IEEE/RSJ Robotics and Automation Letters (RA-L)
IEEE/RSJ International Conference on Robotics and Automation (ICRA)
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
IEEE/ASME International Conference on Advanced Intelligent Mechatronics(AIM)

TEACHING EXPERIENCE

Teaching Assistant MECH 564: Fundamentals of Robot Mechanics and Controls

HONOR AND AWARD

2017 Scott Inaugural Graduate Fellowship of CSU Mechanical Engineering
2018 Best Student Paper Award Finalist in International Conference on Intelligent Robots and Systems (IROS)

PUBLICATIONS

Journals Articles

1. **J. Sun** and J. Zhao, "Physics-based modeling of twisted-and-coiled actuators using cosserat rod theory," ***IEEE Transactions on Robotics***, Accepted, 2021
2. Y. Tang, Y. Chi, **J. Sun**, T.-H. Huang, O. H. Maghsoudi, A. Spence, J. Zhao, H. Su, and J. Yin, "Leveraging elastic instabilities for amplified performance: Spine-inspired high-speed and high-force soft robots," ***Science advances***, vol. 6, no. 19, p. eaaz6912, 2020

3. **J. Sun**, B. Tighe, Y. Liu, and J. Zhao, "Twisted-and-coiled actuators with free strokes enable soft robots with programmable motions," ***Soft robotics***, vol. 8, no. 2, pp. 213–225, 2021

4. **J. Sun** and J. Zhao, "An adaptive walking robot with reconfigurable mechanisms using shape morphing joints," ***IEEE Robotics and Automation Letters (RAL)***, vol. 4, no. 2, pp. 724–731, 2019

5. B. Pawlowski, **J. Sun**, J. Xu, Y. Liu, and J. Zhao, "Modeling of soft robots actuated by twisted-and-coiled actuators," ***IEEE/ASME Transactions on Mechatronics***, vol. 24, no. 1, pp. 5–15, 2018

Conference Proceedings and Presentations

1. **J. Sun**, B. Tighe, and J. Zhao, "Tuning the energy landscape of soft robots for fast and strong motion," in *2020 IEEE International Conference on Robotics and Automation **(ICRA)***. IEEE, 2020, pp. 10 082–10 088

2. **J. Sun** and J. Zhao, "Integrated actuation and self-sensing for twisted-and-coiled actuators with applications to innervated soft robots," in *2020 IEEE/RSJ International Conference on Intelligent Robots and Systems **(IROS)***. IEEE, 2020, pp. 8795–8800

3. H. Zhang, **J. Sun**, and J. Zhao, "Compliant bistable gripper for aerial perching and grasping," in *2019 International Conference on Robotics and Automation **(ICRA)***. IEEE, 2019, pp. 1248–1253

4. **J. Sun**, B. Pawlowski, and J. Zhao, "Soft manipulators with programmable motion using twisted-and-coiled actuators (conference presentation)," in *Electroactive Polymer Actuators and Devices **(EAPAD)** XXI*, vol. 10966. International Society for Optics and Photonics, 2019, p. 109660Q

5. B. Pawlowski, **J. Sun**, and J. Zhao, "Dynamic modeling of soft manipulators actuated by twisted-and-coiled actuators," in *2018 IEEE Conference on Decision and Control **(CDC)***. IEEE, 2018, pp. 409–414

6. **J. Sun**, B. Pawlowski, and J. Zhao, "Embedded and controllable shape morphing with twisted-and-coiled actuators," in *2018 IEEE/RSJ International Conference on Intelligent Robots and Systems **IROS)***. IEEE, 2018, pp. 5912–5917

Patent

1. H. Zhang, J. Zhao, and **S. Jiefeng**, "Compliant bistable gripper for aerial perching and grasping," Sep. 29 2020, **US Patent** 10,787,259