

Shoma Tanaka

Curriculum Vitae

Department of Mechanical Engineering
Institute of Science Tokyo
☎ (+81) 3-5734-2648
✉ tanaka.s.ca@m.titech.ac.jp, tanaka.s.4e89@m.isct.ac.jp
in [Linkedin](#)



Education

- 2024–present **PhD, Engineering**, Department of Mechanical Engineering, Institute of Science Tokyo.
2023–2024 : **Master of Engineering**, Department of Mechanical Engineering, Tokyo Institute of Technology.
2019–2023 : **Bachelor of Engineering**, Department of Mechanical Engineering, Tokyo Institute of Technology.

Research Experience

Institute of Science Tokyo, Japan

- Oct., 2024 – **Realizing autonomy and functionality in physical machines.**
present by harnessing mechanical and fluidic nonlinearities as well as material functionalities
Advisor : **Dr. Hiroyuki Nabae**, Associate Professor, Department of Mechanical Engineering, Institute of Science Tokyo ([Personal Web-page](#))
- Tokyo Institute of Technology, Japan
- Apr., 2022 – **Reproducing the remarkable motions observed in living organisms.**
Sep., 2024 by exploring their underlying structural principles
Advisor : **Dr. Koichi Suzumori**, Professor, Department of Mechanical Engineering, Institute of Science Tokyo ([Personal Web-page](#))

Publications

Journal Articles

- 2025 Sota Suzuki, **Shoma Tanaka**, Hiroyuki Nabae, and Shingo Maeda. Mckibben artificial muscle embedded with stretchable textile sensor. *Advanced Intelligent Systems*, volume 7, page e202500356. Wiley Online Library, 2025.
- 2025 Ryota Kobayashi, **Shoma Tanaka**, Hiroyuki Nabae, Gen Endo, and Koichi Suzumori. Mckibben muscle with elastic thread embedded in parallel extending range of motion of muscle-driven robots. *IEEE Robotics and Automation Letters*. IEEE, 2025.
- 2025 Hana Ito, **Shoma Tanaka**, Yunhao Feng, Hiroyuki Nabae, Yasuji Harada, Akira Fukuhara, and Koichi Suzumori. A canine musculoskeletal robot for investigating biomechanical functions during locomotion. *Advanced Robotics Research*, page e202500170. Wiley Online Library, 2025.
- 2024 **Shoma Tanaka**, Hiroyuki Nabae, and Koichi Suzumori. Serially coupled self-excited pneumatic actuator for environment-adaptive steering robot. *IEEE Robotics and Automation Letters*. IEEE, 2024.
- 2023 **Shoma Tanaka**, Hiroyuki Nabae, and Koichi Suzumori. Back-stretchable mckibben muscles: Expanding the range of antagonistic muscle driven joints. *IEEE Robotics and Automation Letters*, volume 8, pages 5331–5337. IEEE, 2023.

In Conference Proceedings

- 2025 **Shoma Tanaka**, Ryota Kobayashi, Hiroyuki Nabae, and Koichi Suzumori. Time-lag generation mechanical valve for enhancing time response of back-stretchable mckibben muscles. In *2025 IEEE/SICE International Symposium on System Integration (SII)*, pages 679–683. IEEE, 2025.
- 2024 **Shoma Tanaka**, Hiroyuki Nabae, and Koichi Suzumori. Dynamic characteristics of back-stretchable mckibben muscles. In *Proceedings of Jc-IFTToMM International Symposium Vol. 7 (2024)*, pages 211–213. Japanese Council of IFTToMM, 2024.
- 2024 **Shoma Tanaka**, Ryota Kobayashi, Hiroyuki Nabae, and Koichi Suzumori. Fiber jamming mechanism for back-stretchable mckibben muscles. In *2024 IEEE/SICE International Symposium on System Integration (SII)*, pages 48–53. IEEE, 2024.

Awards

- 2025 Research Encouragement Award, The Robotics Society of Japan (RSJ)
- 2025 SICE International Young Authors Award for SII2025, The 2025 IEEE/SICE International Symposium on System Integration (SII2025)
- 2024 Excellent Presentation Award, Interim Master's Thesis Presentation Session (Mechanical Course), Tokyo Institute of Technology, FY2023
- 2024 Best Soft Robotic Paper Award, The 2024 IEEE/SICE International Symposium on System Integration (SII2024)

Research fundings and Scholarship

- 2025–2028 Research Fellowship for Young Scientists DC1, Japan Society for the Promotion of Science (JSPS)
- 2024–2027 JST ACT-X Program, Japan Science and Technology Agency (JST)
- 2024–2025 Tsubame Doctoral Student Scholarship, Institute of Science Tokyo
- 2023–2024 Takano Academic Foundation Scholarship (selected as a 2023 scholar), Takano Academic Foundation
- 2023–2024 JASSO Scholarship (full exemption for outstanding performance), Japan Student Services Organization

Academic Achievements & Recognitions

- 2025 Miura Award, The Japan Society of Mechanical Engineers (JSME)
- 2021 Overall 2nd Place, 1st ACTS Competition
- 2021 UNISEC Award, 1st ACTS Competition
- 2021 2nd Place, Technical System Award, 1st ACTS Competition
- 2020 Outstanding Student Award, Hakuseikai (33rd), Tokyo Institute of Technology