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Kvalifikationer

PhD, Modular Soft Robotic Systems for Bioinspired Crawling Locomotion, Sant'Anna School of Advanced Studies
Dimissionsdato: 2. aug. 2021

MSc, Multi-Sensing Intention Prediction of a Human Wearing a Powered Lower Limb Exoskeleton, National Chiao Tung University
Dimissionsdato: 11. aug. 2017

Ansættelse

Mærsk Mc-Kinney Møller Instituttet
SDU
Odense M
1. jan. 2026 → present

Lektor
SDU Biorobotics
SDU
1. jan. 2026 → present

Publikationer

SoftPINCH: EMG-Driven Soft Exoskeleton Assistance for Finger Flexion and Grasping
Grønvall, N. N., Sigsgaard Nielsen, M. M., Xiong, X. & Babu, S. P. M., 2027, *From Animals to Animats 18 - 18th International Conference on Simulation of Adaptive Behavior, SAB 2026, Proceedings.* Brock, O., Mengers, V. & Krichmar, J. (red.). Springer Science+Business Media, s. 347-358 (Lecture Notes in Computer Science, Bind 16965 LNCS).

Tactile perception through fluid–solid interaction
Goshtasbi, A., Berghuis, M., Parvaresh, A., Murali Babu, S. P., Style, R. W. & Rafsanjani, A., jul. 2026, I: Nature Communications. 17, 1, 16 s., 5874.

Dual Actuator Wave-Like Navigator: An Untethered Soft Crawling Robot for Multisurface Locomotion
Jensen, M., Nielsen, M. M. S., Grønvall, N. N., Tirado, J., Jørgensen, J. & Murali Babu, S. P., sep. 2025, I: Advanced Intelligent Systems. 7, 9, 13 s., 2500422.

Weld n'Cut: Automated fabrication of inflatable fabric actuators
Goshtasbi, A., Seyidoglu, B., Murali Babu, S. P., Parvaresh, A., Do, C. D. & Rafsanjani, A., apr. 2025, *2025 IEEE 8th International Conference on Soft Robotics (RoboSoft).* IEEE, 6 s. (IEEE International Conference on Soft Robotics (RoboSoft)).

Tailoring materials into kirigami robots
Murali Babu, S. P., Parvaresh, A. & Rafsanjani, A., 20. sep. 2024, I: Device. 2, 9, 10 s., 100469.

Feedback Control of a Modular proprioceptive Soft Actuator
Tirado Rosero, J. A., de Vaux, J. M., Seyidoglu, B., Murali Babu, S. P., Jørgensen, J. & Rafsanjani, A., 31. jul. 2024, I: Robotics Reports. 2, 1, s. 128-133

AI-Infused Soft Fluidic Tactile Sensing
Goshtasbi, A., Murali Babu, S. P., Moreira, R., Tehrani, M. J., Hyldgaard, R., Rasmussen, M. N. & Rafsanjani, A., maj 2024, *2024 IEEE 7th International Conference on Soft Robotics, RoboSoft 2024.* IEEE, s. 1095-1100 (IEEE International

Conference on Soft Robotics (RoboSoft)).

Crawling on waves with a soft foot
Murali Babu, S. P., Sahafi, A., Bonilla, J. & Rafsanjani, A., 2024, I: Bulletin of the American Physical Society. 1 s., D38.00005.

Effects of lateral undulation in granular medium burrowing with a peristaltic soft robot
Das, R., Babu, S. P. M., Mondini, A. & Mazzolai, B., apr. 2023, *2023 IEEE International Conference on Soft Robotics (RoboSoft).* IEEE, 6 s. (IEEE International Conference on Soft Robotics (RoboSoft)).

Programmable inflatable origami
Babu, S. P. M., Das, R., Mazzolai, B. & Rafsanjani, A., apr. 2023, *2023 IEEE International Conference on Soft Robotics (RoboSoft).* IEEE, 6 s. (IEEE International Conference on Soft Robotics (RoboSoft)).

Reconfigurable kirigami skins steer a soft robot
Seyidoğlu, B., Babu, S. P. M. & Rafsanjani, A., apr. 2023, *2023 IEEE International Conference on Soft Robotics (RoboSoft).* IEEE, 6 s. (IEEE International Conference on Soft Robotics (RoboSoft)).

An earthworm-like modular soft robot for locomotion in multi-terrain environments
Das, R., Babu, S. P. M., Visentin, F., Palagi, S. & Mazzolai, B., 2023, I: Scientific Reports. 13, 1, 14 s., 1571.

Soft robotics towards sustainable development goals and climate actions
Giordano, G., Murali Babu, S. P. & Mazzolai, B., 2023, I: Frontiers in Robotics and AI. 10, 10 s., 1116005.

A plant tendril-like soft robot that grasps and anchors by exploiting its material arrangement
Meder, F., Murali Babu, S. P. & Mazzolai, B., 1. apr. 2022, I: IEEE Robotics and Automation Letters. 7, 2, s. 5191-5197

Selective Stiffening in Soft Actuators by Triggered Phase Transition of Hydrogel-Filled Elastomers
Visentin, F., Murali Babu, S. P., Meder, F. & Mazzolai, B., 9. aug. 2021, I: Advanced Functional Materials. 31, 32, 2101121.

Sensorized Foam Actuator with Intrinsic Proprioception and Tunable Stiffness Behavior for Soft Robots
Babu, S. P. M., Visentin, F., Sadeghi, A., Mondini, A., Meder, F. & Mazzolai, B., jun. 2021, I: Advanced Intelligent Systems. 3, 6, 13 s., 2100022.

A Soft Sensorized Foot Module to Understand Anisotropic Terrains during Soft Robot Locomotion
Babu, S. P. M., Visentin, F., Sadeghi, A., Mondini, A. & Mazzolai, B., jul. 2020, I: IEEE Robotics and Automation Letters. 5 , 3, s. 4055-4061

Soft Robotic Locomotion by Peristaltic Waves in Granular Media
Das, R., Murali Babu, S. P., Pelagi, S. & Mazzolai, B., maj 2020, *2020 3rd IEEE International Conference on Soft Robotics (RoboSoft).* s. 223-228

Antagonistic pneumatic actuators with variable stiffness for soft robotic applications
Babu, S. P. M., Sadeghi, A., Mondini, A. & Mazzolai, B., 24. maj 2019, *2019 2nd IEEE International Conference on Soft Robotics (RoboSoft).* IEEE, s. 283-288

Soft sucker shoe for anti-slippage application
Babu, S. P. M., Sadeghi, A., Mondini, A. & Mazzolai, B., 5. jul. 2018, *2018 IEEE International Conference on Soft Robotics, RoboSoft 2018.* IEEE, s. 491-496 6 s.

Thio residue from thermal processing of cometary ices containing carbon disulfide and ammonia
Methikkalam, R. R. J., Pavithraa, S., Murali Babu, S. P., Hill, H., Raja Sekhar, B. N., Pradeep, T. & Sivaraman, B., 1. aug. 2016, I: Advances in Space Research. 58, 3, s. 438-443 6 s.

Undervisning og vejledning

3D printed, Modular, Multimodal Robot Locomotion

Murali Babu, S. P.
02/09/2024 → 01/01/2025

Bioinspired Autonomous Systems

Murali Babu, S. P.
02/02/2022 → 16/06/2022

Bioinspired Autonomous Systems

Murali Babu, S. P.
08/02/2023 → 14/06/2023

Bioinspired Autonomous Systems

Murali Babu, S. P.
04/02/2025 → 26/06/2025

Dual Wave like Actuator for Multimodal Crawling Locomotion

Murali Babu, S. P.
01/02/2024 → 17/06/2024

Introduction to Soft Robotics

Murali Babu, S. P.
05/09/2023 → 20/01/2024

Introduction to Soft Robotics

Murali Babu, S. P.
04/09/2024 → 24/01/2025

Modular Exoskeleton Trainign Platform Using Extended Reality

Murali Babu, S. P.
03/02/2025 → 17/06/2025