

## Special Issue

# Design and Control of Self-Sensing Actuators for Soft Robotics

### Message from the Guest Editors

Soft robotics, with an intrinsic softness of body, allows for the design of multifunctional robotic components that enable adaptable and flexible behavior in varying and unpredictable environments. Traditional discrete component assembly approaches contrast with those of soft robotics, where soft monolithic systems commonly exploit imprecise and graded borders between functional modules. This approach not only tackles the associated fabrication challenges, such as the integration of dissimilar materials, but also paves the way to embed distributed computation to meet challenging control of multi-DOF soft materials while tracking their precise shape and position changes. Self-sensing actuators, as a new generation of multifunctional components, offer a flexible approach to the development of integrated actuators and sensors. The objective of this joint Special Issue between the two journals *Sensors* and *Actuators* is to promote a deeper understanding of various approaches for the integration of sensors and actuators in soft robotics.

### Guest Editors

Prof. Jonathan Rossiter

Prof. Shinichi Hirai

Dr. Majid Taghavi

Dr. Hareesh Godaba

### Deadline for manuscript submissions

closed (30 September 2022)



## Actuators

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## About the Journal

### Message from the Editorial Board

We are just entering the Next Wave of Technology (NWT) where actuators will play the same role as the computer chip did for computers/social media approximately four decades ago. Just in the U.S., production of \$1 trillion year of electromechanical systems (vehicles, orthotics, manufacturing cells, freight trains, aircraft, etc.) will be impacted by the NWT, all driven by actuators. Five key trends can be found for the future perspectives: “Performance to Reliability”, “Hard to Soft”, “Macro to Nano”, “Homo to Hetero” and “Single to Multi functional”. We invite papers that primarily impact these economic sectors; those illustrating basic scientific principles are also welcome.

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### Editors-in-Chief

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