Special Issue

Advanced Mechanism Design and Sensing for Soft Robotics

Message from the Guest Editor

This Special Issue will showcase novel approaches to mechanism design, highlighting lightweight, deformable structures that provide increased dexterity and compliance in soft robotic systems. These advances are complemented by state-of-the-art sensorization strategies, which incorporate diverse sensors to monitor deformation, force, and environmental interactions in real-time. The seamless integration of sensors not only improves the robots' ability to interact with their surroundings but also enhances their autonomy and adaptability by offering more accurate feedback for control algorithms. Critical applications of these technologies span from medical robotics, where soft robots operate safely in delicate environments, to industrial automation, where flexibility and safety are essential. This collection of articles will bridge the gap between design and functionality, offering a comprehensive framework for developing next-generation soft robotic systems capable of complex and sophisticated interactions.

Guest Editor

Dr. Martina Maselli
The BioRobotics Institute, Scuola Superiore Sant'Anna, Viale Rinaldo Piaggio 34, 56025 Pontedera, Italy

Deadline for manuscript submissions

30 September 2026

Actuators

an Open Access Journal by MDPI

Impact Factor 2.4
CiteScore 4.3

mdpi.com/si/220537

Actuators
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
actuators@mdpi.com

mdpi.com/journal/actuators

Actuators

an Open Access Journal by MDPI

Impact Factor 2.4
CiteScore 4.3

mdpi.com/journal/actuators

MDPI

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.

Editors-in-Chief

Prof. Dr. Kenji Uchino
Electrical Engineering, Emeritus Academy Institute, Pennsylvania State University, University Park, PA 16802, USA

Prof. Dr. Norman M. Wereley
Department of Aerospace Engineering, University of Maryland, 3179J Martin Hall, College Park, MD 20742, USA

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within SCIE (Web of Science), Scopus, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Mechanical) / CiteScore - Q1 (Control and Optimization)