

## Special Issue

# Smart Materials in Robotics and Actuators

### Message from the Guest Editors

Smart actuator materials, including magnetorheological fluid (MRF), magnetorheological elastomer (MRE), piezoelectric material (PM), shape memory alloy (SMA), shape memory polymer (SMP), dielectric elastomer (DE), etc., have high application potential in soft mechatronics and robotics, such as soft grippers, artificial muscles, wearables, haptics equipment, and biomedical devices. The adaptability, design flexibility, reconfigurability, and versatility of smart soft materials enable applications that are not possible with traditional rigid robots and actuators. This Special Issue aims to describe various smart actuator materials technologies, provide insight into the latest scientific research in smart materials, and discuss how they are related to actuation and robotic application. We encourage submissions of papers presenting original research findings or novel reviews that could summarize the current state of the art on the topic.

### Guest Editors

Dr. Ali Zolfagharian

School of Engineering, Deakin University, Geelong, VIC 3216, Australia

Dr. Mahdi Bodaghi

Department of Engineering, School of Science and Technology,  
Nottingham Trent University, Nottingham NG11 8NS, UK

### Deadline for manuscript submissions

closed (31 December 2023)



## Actuators

an Open Access Journal  
by MDPI

Impact Factor 2.3  
CiteScore 4.3



[mdpi.com/si/112062](https://mdpi.com/si/112062)

*Actuators*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[actuators@mdpi.com](mailto:actuators@mdpi.com)

[mdpi.com/journal/  
actuators](https://mdpi.com/journal/actuators)





# Actuators

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.3  
CiteScore 4.3



[mdpi.com/journal/  
actuators](https://mdpi.com/journal/actuators)



## 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

Emeritus Academy Institute, The 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)