Special Issue

Artificial Muscles for Biorobotics: Study, Application and Future Perspectives

Message from the Guest Editors

The first examples of artificial muscles can be traced back to the 1950s, with the invention of the McKibben pneumatic muscle. This type of actuator, thanks to its intrinsic flexibility and biomimetics, immediately found numerous applications in the fields of biomechanics and soft robotics. In recent years, the evolution of materials technology has led to the creation of new examples of artificial muscles, which can exploit novel pneumatic actuator shapes, as well as shape memory alloys or new dielectric elastomers. All this, together with the use of original control techniques, has led to amazing developments in the biorobotics field—that is, the creation of robotic devices interacting with biological organisms, or able to imitate them (biomimetic robotics).

Guest Editors

Prof. Dr. Carlo Ferraresi

Department of Mechanical and Aerospace Engineering DIMEAS, Politecnico di Torino, 10129 Turin, Italy

Dr. Giovanni Gerardo Muscolo

Department of Electrical, Electronic, and Information Engineering "Guglielmo Marconi" ALMA MATER STUDIORUM, Università di Bologna, Viale del Risorgimento, 2, 40136 Bologna, Italy

Deadline for manuscript submissions

closed (30 March 2023)

Actuators

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.3

mdpi.com/si/95111

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 2.3
CiteScore 4.3

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)

MDPI