Special Issue

Actuators in Robotic Control

Message from the Guest Editor

Actuators are essential devices in these robotics and automation systems; in particular, humanoid/legged robots have different needs compared to industrial robots. To meet these different needs, many researchers have developed new types of actuator. The future of robotics will rely heavily on actuators with force/torque control. For robotic systems, how to manipulate fragile items as humans can do is a big and challenging task. Electric actuators are suitable for this purpose, but they are not yet optimized. As a matter of fact, robotic arms and legs should reproduce the ability of human arms and legs on several levels. However, human muscles in limbs can also store energy and have a sort of internal elasticity. To reproduce the behaviors in human muscles, one or more elastic elements are inserted into electric actuators. The implementations of soft actuators exhibit high mechanical complexity and their size, weight, and cost prevent their widespread use. As a result, their application to multi-degree-of-freedom robotic machines still remains an open issue and a challenging task.

Guest Editor

Prof. Dr. Chih Jer Lin

Graduate Institute of Automation Technology, National Taipei University of Technology, 1, Sec. 3, Zhongxiao E. Rd., Taipei 10608, Taiwan

Deadline for manuscript submissions

closed (31 August 2021)

Actuators

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.3

mdpi.com/si/42404

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