Special Issue

Advanced Actuators and Magnetic Fluid Systems: Design, Control, and Applications

Message from the Guest Editors

This Special Issue entitled "Advanced Actuators and Magnetic Fluid Systems: Design, Control, and Applications" aims to present high-quality research papers. We focus on novel systems or structures that demonstrate significant enhancement effects, particularly innovative achievements in the fields of magnetic fluid flow and microfluidics. The Special Issue will pay particular attention to cutting-edge research that can enhance the performance of magnetic pumps, seals, and dampers. Authors are encouraged to submit their original designs, control strategies, and application examples to advance the development of this field.
Prof. Dr. Xiaolong Yang

Guest Editors

Prof. Dr. Zhenggui Li

Prof. Dr. Xiaolong Yang

Dr. Fang Chen

Dr. Wangxu Li

Deadline for manuscript submissions

31 March 2026

Actuators

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.3

mdpi.com/si/233707

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

mdpi.com/journal/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.

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

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