

Special Issue

Intelligent Sensing, Control and Actuation in Networked Systems

Message from the Guest Editors

This Special Issue aims to showcase the latest advancements in sensing, control, and actuation technologies that are transforming the way we approach networked system challenges. By integrating cutting-edge techniques from fields such as machine learning, adaptive control, event-triggered control, and multi-agent coordination, researchers are developing innovative solutions to enhance the operational capabilities of networked systems. The scope of this Special Issue includes, but is not limited to, the following topics:

- Distributed actuator layout optimization;
- Advanced sensing and learning-based control algorithm;
- Machine learning-based techniques, such as neural networks and data-driven models, for anomaly detection and fault diagnosis;
- Actuator fault-tolerant control;
- Planning and control strategies for networked systems involving actuators;
- Actuator applications in networked systems.

Guest Editors

Dr. Guangtao Ran

Prof. Dr. Yanning Guo

Prof. Dr. Chuanjiang Li

Deadline for manuscript submissions

closed (20 October 2025)



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

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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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