

Special Issue

Shape Memory Alloy Actuators

Message from the Guest Editors

Since the invention of shape memory alloys (SMAs), in particular, NiTi based SMAs in the 1970s, we have seen extensive R&D in various types of actuators based on bulk and/or thin-film SMA elements. Recent developments in fatigue-resistance and temperature-insensitive versions provide more opportunities for SMAs in a wider range of applications. Furthermore, additive manufacturing of SMA elements enables rapid customization for individuals. This Special Issue of *Actuators*, entitled Shape Memory Alloy Actuators, is a platform to showcase the achievements so far. Both review and original technical (including both experimental and modeling) papers are welcome.

Keywords:

- Shape memory alloys
- Magnetic shape memory alloys
- Shape memory effect
- Superelasticity
- Two-way actuators
- One-way actuators
- Thin film shape memory alloys
- Nitinol
- 3D/4D printing
- Modeling and simulation

Guest Editors

Prof. Dr. Xing Shen

College of Aerospace Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing 210016, China

Dr. Wei Min Huang

School of Mechanical and Aerospace Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798, Singapore

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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

Electrical Engineering, Emeritus Academy Institute, 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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