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Cooperative Microactuator Systems

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Deadline for manuscript submissions:
closed (15 September 2021)

Message from the Guest Editors

Dear Colleagues,

This Special Isssue collects the emerging research activities in the field of cooperative microactuator systems, which are expected to generate new synergies, e.g. through parallelization, cascading and multistability as well as through inherent sensing. New theoretically founded concepts will be required for understanding the complex coupling and synergy effects due to the close neighbourhood of microactuators in small space. Furthermore, new methods for design, fabrication and control will be needed to enable the cooperation of similar or different microactuators. This Special Issue seeks contributions in the fields of:

1. Locomotion systems
2. Manipulation of objects at different length and time scales
3. Adaptive optical and mechanical systems
4. Fluid flow control systems

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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.

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