actuators

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Dielectric Elastomer Actuators (DEAs)

Guest Editor:

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Message from the Guest Editor

Along with recent advances in materials sciences, stretchable electronics, and mechatronics, the research and development of dielectric elastomer actuators (DEAs) is rapidly increasing. The reasons lie in their multifunctionality, scalability, and performance characteristics resembling skeletal muscles, making them a promising solution for the creation of next-generation machines and devices driven by soft intelligent materials. DEAs are a type of electroactive polymers made of compliant elastomers and are able to generate large actuation strokes, exhibit a fast response, and have theoretically high electro-mechanical efficiency compared to other soft actuator technologies. Applications of DEAs cover a wide range of fields such as soft robotics, optics, and medical and biological engineering. This Special Issue invites contributions from all aspects of DEAs, including but not limited to:

- Novel robots, actuator configurations, and other mechatronic devices
- Switches, generators, and other transducers
- Theory and modeling
- Design, fabrication, and control
- Applications in research, industry, and education