actuators

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Actuators Technologies for the Next Generation of Robots and Industry

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Deadline for manuscript submissions:
closed (31 January 2021)

Message from the Guest Editors

Dear Colleagues,

Actuators are crucial components in any mechatronic system, have experienced major growth throughout the years, especially given the increasing demands on human–robot interaction systems for different applications, such as industry, rehabilitation robotics, social robots, and smart structures. In this context, novel actuator technologies such as soft actuators (including polymeric, fluidics, and series elastic actuators) and others compliant actuators have been proposed with varying degrees of success. This Special Issue invites contributions dealing with the research and development of compliant actuators —including design, control, applications, and modeling— which constitute the backbone of the next generation of robots and industry.

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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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