actuators

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Polymeric Actuators 2020

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Deadline for manuscript submissions:
closed (31 December 2020)

Message from the Guest Editors

Challenges imposed by changes in society and environment require the development of Smart Systems. Active prostheses will, e.g., help the rehabilitation of patients. Drug delivering systems will release drugs, on the basis of well-established protocols. Bio-inspired underwater robots will take care of repetitive or dangerous tasks. Polymeric actuators have been already proposed for the realization of Smart Systems, able to solve even the most complex problems with little or no human intervention, in strategic sectors, such as bio-inspired robotics, aerospace and nanomedicine, just to name a few...

The realization of the next-generation Smart Systems requires, then, new actuators and stimulus-responsive polymers. It will be necessary to develop new materials, models, production procedures, functional subsystems, design tools, and fabrication systems, etc.

This special issue aims to collect contributions in (but are not limited to) the following topics:

- polymeric actuators
- nanocomposites
- eco friendly materials
- biocompatible materials
- multiplysic models
- robotics
- bio-inspired robotics
- smart 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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