Special Issue

Advanced Actuation and Control Technologies for Automation and Robotics Systems in Manufacturing

Message from the Guest Editors

The existing competitiveness in the manufacturing of consumer goods is becoming increasingly more evident. Companies need to install more sophisticated systems to increase productivity while safeguarding the principles of economic, environmental and social sustainability. Automation and robotics play a key role in the development of these systems. The increasingly automated production induces greater economic sustainability and improves market competitiveness; in addition, care for the environment can be greatly improved with the help of automation and control, increasing environmental sustainability; furthermore, robots and coupled automatic systems can minimize the difficulty of operators' labor, performing dangerous or health-detrimental tasks, thus increasing social sustainability. This Special Issue aims to bring together high-quality scientific work of advanced actuation and control technologies in the field of automation and robotics, which will allow us to increase productivity and quality in a sustainable way, promoting global benefits for entire communities.

Guest Editors

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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.

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