

# Special Issue on State-of-the-Art Actuators: Design, Analysis, Control, Materials, Systems, and Applications

**Guest Editor:**

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Actuators are components that are essential to the moving, manipulating, or deforming of objects. Historically, conventional electromagnetic motors as well as pneumatic and hydraulic actuators have been developed to sophistication. In the past several decades, however, many other kinds of novel principle actuators have also been proposed. These have employed physical or/and chemical effects, such as piezoelectric, electrostatic, or giant magnetostrictive effects, as well as thermal expansion, phase transformation, or ion mobility in polymers. These actuators have been embedded not only in conventional machines but also in smart ones such as robots, electric vehicles, data storage devices, and manufacturing equipment by combining the actuators with the Internet of Things (IoT). In addition, there is no doubt that the technologies involved in the development of novel actuators and the improvement of their efficiency are key to the achievement of sustainable development goals (SDGs), as actuators currently consume a huge aggregate amount of energy. The actuators have the potential to be central to the development of innovative machines.

This special issue will collect contributions related (but not limited) to the following topics.

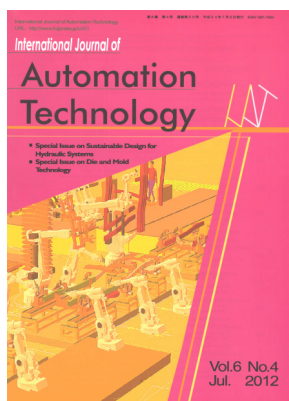
- \* *Design and analysis of actuators*: high torque and/or power density actuators, precision actuators, soft actuators, miniaturized or micro actuators, multiple-degree-of-freedom actuators, linear motors, self-sensing actuators, composites and smart structures.
- \* *Related topics*: control strategies, driving circuits, materials, mechanisms.
- \* *Applications*: robotics, positioning systems, science, technologies, aerospace, harsh environments, health care, virtual reality, arts, education, entertainment and industries.
- \* *Case studies*.

\*Speedy Review (1-2months for the first review)

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