Special Issue

Advanced Actuation and Control Technologies for Vehicle Driving Systems

Message from the Guest Editors

Actuators are essential in any vehicle system to ultimately execute control decisions at the wheel, relaying information to the transmission and powertrain. This Special Issue addresses the need to develop relevant advanced technologies, considering emerging control applications in any advanced vehicle systems and specifically covering the following topics:

- Modelling, prediction, and control of the driving behavior of autonomous vehicles;
- Vehicle dynamics and control technologies;
- Predictive- and learning-based control to improve autonomous vehicles safety and performance;
- Estimation and sensing for autonomous vehicles;
- Novel design of autonomous vehicles powertrain and chassis subsystems;
- User-automated vehicle interaction, focusing on autonomous vehicle comfort and acceptance;
- Vibration suppression of in-wheel motor-active suspensions against negative electromechanical coupling influences.

We look forward to your valuable contributions.

Guest Editors

Dr. Md Abdus Samad Kamal

Cluster of Electronics and Mechanical Engineering, Graduate School of Science and Technology, Gunma University, Maebashi, Japan

Prof. Dr. Masakazu Mukai

Department of Electrical and Electronic Engineering, Kogakuin University, Tokyo 163-8677, Japan

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Actuators
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
actuators@mdpi.com

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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.

Editors-in-Chief

Prof. Dr. Kenji Uchino
Emeritus Academy Institute, The Pennsylvania State University, University Park, PA 16802, USA

Prof. Dr. Norman M. Wereley
Department of Aerospace Engineering, University of Maryland, 3179J Martin Hall, College Park, MD 20742, USA

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