



Advances in Autonomous Vehicles Dynamics and Control

Guest Editors:

Dr. Zhongchao Liang

School of Mechanical
Engineering and Automation,
Northeastern University,
Shenyang 110819, China

Dr. Jing Zhao

Department of
Electromechanical Engineering,
University of Macau, Macao,
China

Dr. Zhongguo Li

Department of Electrical and
Electronic Engineering, University
of Manchester, Manchester M13
9PL, UK

Deadline for manuscript
submissions:

28 February 2025



Message from the Guest Editors

Dear Colleagues,

This Special Issue seeks to bring together the latest research and developments in the field of autonomous vehicle dynamics and control. We invite submissions that address a broad range of topics related to this field, including advanced control system designs, dynamics modeling and simulation, and machine learning approaches. Specifically, topics of interest include, but are not limited to, the following:

- Dynamics modeling and real-world implementation of autonomous vehicle control systems;
- Energy-efficient control and optimization for autonomous vehicles;
- Advanced control system designs for precise control and maneuvering of autonomous vehicles in complex driving scenarios;
- Data-driven approaches to vehicle dynamics modeling and simulation;
- Cooperative and coordinated control of multiple autonomous vehicles;
- Applications of autonomous vehicles in transportation, warehouses, construction, manufacturing and space exploration, etc.

Dr. Zhongchao Liang

Dr. Jing Zhao

Dr. Zhongguo Li

Guest Editors



an Open Access Journal by MDPI

Editor-in-Chief

**Prof. Dr. Antonio J. Marques
Cardoso**

CISE—Electromechatronic
Systems Research Centre,
University of Beira Interior,
Calçada Fonte do Lameiro, P-
6201-001 Covilhã, Portugal

Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.

Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.

There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec, and other databases.

Journal Rank: JCR - Q2 (Engineering, Mechanical) / CiteScore - Q2 (Control and Optimization)

Contact Us

Machines Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/machines
machines@mdpi.com
[X@Machines_MDPI](https://twitter.com/Machines_MDPI)