



## **Emerging Research in Autonomous Vehicle Technology: Innovations in On-Road and Off-Road Driving Challenges**

Guest Editors:

**Dr. Antonio Tota**

Department of Mechanical and  
Aerospace Engineering,  
Politecnico di Torino, 10129  
Torino, Italy

**Dr. Luca Dimauro**

Department of Mechanical and  
Aerospace Engineering,  
Politecnico di Torino, 10129  
Torino, Italy

**Prof. Mauro Velardocchia**

Department of Mechanical and  
Aerospace Engineering,  
Politecnico di Torino, 10129  
Torino, Italy

Deadline for manuscript  
submissions:

**31 January 2025**

### **Message from the Guest Editors**

Dear Colleagues,

The increasingly widespread diffusion of autonomous driving has revolutionized the transportation landscape, promising safer, more efficient, and sustainable mobility solutions. As the technology continues to advance rapidly, an increasing attention is rising for on-road deployment as well as for off-road applications, posing unique challenges and opportunities for researchers and engineers of both academia and industry.

This Special Issue aims to bring together the latest advancements, research findings, and practical insights related to the design, modelling and control of autonomous vehicles, with a particular emphasis on the last discoveries for on-road implementation to the more challenging requirements and analysis required by off-road mobility. The scope of this issue encompasses various aspects, including but not limited to:

- autonomous vehicles
- dynamics modeling
- off-road driving
- advance control strategies
- cooperative and coordinated control
- human-machine interaction





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](http://www.mdpi.com)

[mdpi.com/journal/machines](http://mdpi.com/journal/machines)  
[machines@mdpi.com](mailto:machines@mdpi.com)  
[X@Machines\\_MDPI](https://twitter.com/Machines_MDPI)