

## Special Issue

# Challenges in the Guidance, Navigation and Control of Autonomous and Transport Vehicles, 2nd Edition

### Message from the Guest Editors

In recent years, transportation systems have considerably evolved in terms of safety, resulting in increased demands on autonomy, performance and energy efficiency. Some of the main research challenges to meet these requirements are rooted in the development of safe and efficient guidance, navigation and control (GNC) systems for different types of transportation vehicles, ranging from mobile robots to automotive and aerospace vehicles. Increasingly autonomous vehicles will require advanced sense-and-avoid technologies and algorithms, the ability to autonomously handle constraints and recover from faults, and an efficient combination of manned and automated control systems. Optimal and robust navigation and control systems are required to meet the challenging performance and energy requirements of the modern day. System identification and adaptive control methods are also needed to allow ground and air vehicles to adapt their control algorithms to changes in model parameters. This Special Issue will bring together papers which describe recent advances in guidance, navigation and control systems for a large range of transportation and autonomous vehicles.

---

### Guest Editors

Dr. Nadjim Horri

Prof. Dr. William Holderbaum

Dr. Fabrizio Giulietti

---

### Deadline for manuscript submissions

closed (31 December 2024)



## Applied Sciences

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.5  
CiteScore 5.5



[mdpi.com/si/205695](https://mdpi.com/si/205695)

*Applied Sciences*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[applsci@mdpi.com](mailto:applsci@mdpi.com)

[mdpi.com/journal/applsci](https://mdpi.com/journal/applsci)





# Applied Sciences

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.5  
CiteScore 5.5



[mdpi.com/journal/  
applsci](https://mdpi.com/journal/applsci)



## About the Journal

### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

---

### Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo  
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32,  
20133 Milano, Italy

---

### 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), Ei Compendex, Inspec, CAPlus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering )