

## Special Issue

# Next-Generation Electric Vehicles: Advanced Charging Solutions, Battery Management System, and V2X for Future Mobility

### Message from the Guest Editors

This Special Issue will focus on the technological innovations and interdisciplinary research driving the evolution of next-generation electric vehicles (EVs). It emphasizes the integration of advanced battery technologies, intelligent battery management systems (BMSs), fast and flexible charging infrastructures, and vehicle-to-everything (V2X) communication systems to support the transition toward sustainable, efficient, and connected mobility. This Special Issue welcomes original research articles and reviews in the following areas:

- **Battery Technologies:** Solid-state batteries, lithium-ion advancements, battery chemistry, and thermal management.
- **Battery Management Systems (BMSs):** AI/ML-based SoC/SoH estimation, fault detection, and predictive maintenance.
- **Charging Solutions:** Ultra-fast charging, wireless charging, bidirectional charging, battery supported charging stations, and grid integration.
- **V2X Communication:** V2G (Vehicle-to-Grid), V2H (Vehicle-to-Home), and V2I (Vehicle-to-Infrastructure) technologies.
- **System Integration:** Modular battery systems, digital twins for battery production, and smart energy ecosystems.

### Guest Editors

Prof. Dr. Emre Bicer

Dr. Ahmet Aksöz

Dr. Saadin Oyucu

### Deadline for manuscript submissions

15 January 2026



## Electronics

an Open Access Journal  
by MDPI

Impact Factor 2.6  
CiteScore 6.1



[mdpi.com/si/243559](https://mdpi.com/si/243559)

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

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





# Electronics

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.6  
CiteScore 6.1



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



## About the Journal

### Message from the Editor-in-Chief

*Electronics* is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

---

### Editor-in-Chief

Prof. Dr. Flavio Canavero

Department of Electronics and Telecommunications, Politecnico di  
Torino, 10129 Torino, Italy

---

### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), CAPus /  
SciFinder, Inspec, Ei Compendex and other databases.

#### Journal Rank:

JCR - Q2 (Engineering, Electrical and Electronic) /  
CiteScore - Q1 (Electrical and Electronic Engineering)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.8 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).