

Special Issue

Artificial Intelligence Applications for Power Electronics

Message from the Guest Editor

The rapid advancement of artificial intelligence (AI) technologies is profoundly transforming the field of power electronics. AI-driven methods are being increasingly incorporated into the design, control, optimization and maintenance of power electronic systems, leading to smarter, more efficient and highly adaptive solutions across a wide range of applications. This Special Issue aims to showcase recent developments, innovative methodologies and real-world implementations of AI in various areas of power electronics. Topics of interest include, but are not limited to:

- AI-based modeling, prediction and diagnostics for power electronic converters and systems.
- Intelligent control techniques for power electronics, including neural networks, machine learning and reinforcement learning.
- AI-enabled applications in renewable energy integration, smart grids and microgrids.
- Predictive maintenance and fault detection for power electronic devices using AI.
- Optimization of system performance and energy management with AI algorithms.
- Edge AI and embedded intelligence for power electronic hardware.
- Case studies and practical implementations of AI in industrial power electronics.

Guest Editor

Prof. Dr. Jizhong Zhu

School of Electric Power Engineering, South China University of Technology, Guangzhou 510641, China

Deadline for manuscript submissions

30 September 2026



Electronics

an Open Access Journal
by MDPI

Impact Factor 2.9
CiteScore 7.0



mdpi.com/si/258646

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

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





Electronics

an Open Access Journal
by MDPI

Impact Factor 2.9
CiteScore 7.0



[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 guestedited by leading experts in selected topics of interest.

Editors-in-Chief

Prof. Dr. Flavio Canavero

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

Prof. Dr. Sergio Busquets-Monge

Electronic Engineering Department, Universitat Politècnica de Catalunya, 08028 Barcelona, Spain

Author Benefits

High Visibility:

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

Journal Rank:

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

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.8 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the first half of 2026).