Special Issue

Next-Generation Instrumentation and IoT-Enhanced Monitoring for Advanced Power Electronics Systems

Message from the Guest Editors

This Special Issue focuses on the integration of advanced instrumentation and IoT technologies to enhance monitoring and control in power electronics systems. As power electronics are fundamental to applications such as renewable energy, smart grids, electric vehicles, and industrial automation, the need for precise, real-time monitoring, and diagnostics is growing. This issue explores the role of IoT-enhanced systems, smart sensors, and next-generation instrumentation in improving the efficiency, reliability, and fault detection capabilities of power electronics. The scope of the issue includes cutting-edge research on IoT-based remote monitoring, advanced data acquisition techniques, predictive maintenance, fault diagnostics, and the role of machine learning in enhancing system performance. Contributions focusing on innovations in sensor design, real-time data analytics, and their integration with power electronics across various applications are welcomed.

Guest Editors

Dr. Serhii Baraban

Dr. Olena Rubanenko

Dr. Milan Belik

Deadline for manuscript submissions

closed (15 October 2025)



Electronics

an Open Access Journal by MDPI

Impact Factor 2.6 CiteScore 6.1



mdpi.com/si/218806

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

mdpi.com/journal/electronics





Electronics

an Open Access Journal by MDPI

Impact Factor 2.6 CiteScore 6.1



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.

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), CAPlus / 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).

