Special Issue

Research and Application of Wide Band Gap Semiconductors

Message from the Guest Editors

The emerging generation of power semiconductor devices based on wide bandgap (WBG) semiconductors is revolutionizing the power device market. Improved material quality and painstaking R&D efforts have enabled superior device performances for 4H-SiC MOSFETs and GaN HEMTs when compared to equivalent Si-based solutions. However, the success of future generation devices relies upon addressing several scientific challenges.

- Optimization of material growth towards low defect density substrates and thick epi layers.
- Comprehensive understanding of the role of defects in the electrical and thermal performance of final devices.

This Special Issue aims to highlight and collect the latest advancements in device fabrication, material growth, device electro-thermal modeling and simulations, lateral and vertical novel device configurations, reliability tests and measurements, as well as converter- and system-related solutions for both WBG and UWBG devices.

Guest Editors

Dr. Nazareno Donato

Department of Engineering, University of Cambridge, Cambridge CB2 1PZ, UK

Dr. Alessandro Borghese

Department of Electrical Engineering and Information Technology (DIETI), University of Naples Federico II, Via Claudio 21, 80125 Naples, Italy

Deadline for manuscript submissions

closed (15 May 2025)

Electronics

an Open Access Journal by MDPI

Impact Factor 2.6
CiteScore 6.1

mdpi.com/si/201634

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

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), 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).