Special Issue

Advanced Intelligent Methodologies for Power Electronic Converters

Message from the Guest Editors

The rapid advancement of digital technologies and the growing complexity of modern electrical systems have led to a paradigm shift in the design and operation of power electronic converters. These converters play a crucial role in a wide range of applications. This Special Issue is dedicated to exploring the transformative impact of advanced intelligent techniques on power electronic converter technology. The following are examples of areas that this Special Issue hopes to advance:

- AI/ML-based modeling and control of converters;
- Intelligent fault detection and diagnostics;
- Optimization algorithms for converter design;
- Adaptive and predictive control strategies;
- Real-time implementation and hardware-in-the-loop testing;
- Intelligent power management and energy efficiency techniques;
- Optimization and enhancement of system performance;
- Use of intelligent systems;
- Applications for intelligent control;
- Development of novel intelligent control topologies and methodologies;
- Modeling of complex systems;
- Process and method improvement.

Guest Editors

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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

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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).

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