

Special Issue

Advanced Power Electronics and Energy Systems for Renewable Integration and Sustainable Power Systems

Message from the Guest Editor

The primary focus of this topical collection is on advanced power electronic technologies and system-level solutions that enable efficient renewable energy integration into modern power systems. Our scope encompasses power converters, inverter technologies, control and modulation techniques, energy storage systems, microgrids, smart grids, and energy management strategies. Particular attention will be given to contributions addressing system resilience, energy efficiency, grid stability, and the interaction between electricity networks and other sectors such as water and transportation within the broader energy-water nexus. The purpose of the Special Issue is to bridge the gap between theoretical developments and practical applications by showcasing original research, review articles, and case studies that demonstrate innovative approaches for designing, controlling, and operating sustainable power systems. Contributions addressing both centralized and decentralized energy systems, including islanded and grid-connected microgrids, are especially encouraged.

Guest Editor

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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 guestedited 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 16.4 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the second half of 2025).