

Special Issue

Power Converters for Renewable Energy Integration and Energy Storage Systems

Message from the Guest Editors

The growing demand for sustainable energy solutions is driving rapid advancements in renewable energy sources (RESs) and energy storage system (ESS) technologies. Central to these advancements are power electronic converters, which play a critical role in ensuring efficient, stable, and reliable energy conversion between RESs, ESSs, and the grid. This Special Issue aims to bring together innovative research and insights into the design, optimization, and application of power converters in these evolving energy landscapes.

Topics of interest include but are not limited to the following:

Novel converter topologies for RES and ESS integration;
Innovative control strategies for power converters integrating RESs and ESSs;

Grid-feeding, grid-supporting, and grid-forming power converters with distributed resources;

Power converters for fast-charging infrastructures in electric vehicles;

High-efficiency converter designs for distributed generation;

Harmonic and power-quality improvements in energy systems;

Converter reliability and fault tolerance;

Power converters' roles in enhancing the stability and flexibility of the grid.

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 guestedited by leading experts in selected topics of interest.

Editor-in-Chief

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