

Special Issue

Microgrids with Energy Storage: Advanced Control and Power Conversion Technologies

Message from the Guest Editors

Microgrids are increasingly recognized as vital for enhancing energy resilience, improving power quality, and facilitating the integration of renewable energy sources. This Special Issue focuses on emerging trends in the control of renewable energy sources, storage, and controllable loads in AC, DC, and hybrid AC/DC islanded energy systems and microgrids, along with the topology of advanced power electronic converters utilized. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Coordinated control strategies for microgrids;
- Advanced control of grid-side converters;
- Grid-forming and grid-following converters;
- Cybersecurity;
- Risk assessment and mitigation methods;
- Innovative power electronic topologies;
- Application of advanced storage systems;
- Design, operation, and control of energy islands;
- Offshore hydrogen production systems;
- Real-time simulation and hardware-in-the-loop testing.

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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.

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