

## Special Issue

# Recent Advances in the Design and Control of Modern Power Electronic Interfaces for Renewable Energy Integration

### Message from the Guest Editors

The modern liberalization of the energy market, however, has defined a new trend, shifting us toward decentralized generation, bidirectional power flow, active energy management at different nodes in the network, intelligent measurements and control, and optimized system efficiency. These are the key features for the realization of a flexible, intelligent, reliable, accessible, and economic network (smart grid). This Special Issue aims to gather together the latest developments and allow researchers to share experiences in studying and developing emerging power electronic converters and control and design methods for the integration of renewable energies. Research areas may include (but are not limited to) the following:

- Artificial intelligence-based design and control of power converters;
- Active power decoupling;
- Transformerless inverters with a wide input voltage range;
- High step-up DC-DC converters;
- Advanced MPPT techniques;
- Fault detection and diagnosis;
- Fault-tolerant control;
- Advanced control with ancillary grid services;
- Islanding detection;
- Design and control of energy storage systems coordinated with renewable energy sources.

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### Guest Editors

Dr. Mohamed Trabelsi  
Dr. Sertac Bayhan  
Dr. Andrii Chub

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### Deadline for manuscript submissions

closed (30 September 2023)



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## Editor-in-Chief

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