



Special Issue on
Advanced Power Electronic Converters, Control and
Modelling Techniques for Renewable Energy Systems

Call for Papers

Renewable energies such as solar, wind, and fuel cell have become alternatives to conventional fossil energy due to their eco-friendly nature, cost-effectiveness, and sustainability. Large scale wind and photovoltaic (PV) renewable generations have been increasingly installed worldwide, which is a major driving force to reshape the modern energy systems. Power electronic converters are indispensable parts of the renewable energy systems. Advanced power conversion and control is an enabling technology that would facilitate further developments in high-efficient energy conversion and transmission functions. Much research effort has been made to investigate the advanced power electronics converters with high efficiency, high power density, and high reliability. Moreover, various control and modeling techniques have been developed for enhancing the performance of the overall system. However, there is still huge room for performance improvement in high-efficiency power electronic converter systems.

This special issue targets the topology, control and modeling of power converters in renewable energy systems, specifically for low voltage and medium voltage applications. Prospective authors are invited to submit original contributions, or survey papers, for review and publication in this special issue on advanced power electronic converters for renewable energy systems.

In this special issue, potential topics include, but are not limited to:

- High efficiency un-bidirectional/bidirectional, un-isolated/isolated DC/DC converters
- High efficiency, High power DC/AC converters
- Soft-switching techniques, resonant converters, switch-capacitor converters and switched-inductor converters
- Multiphase converters, multilevel converters, modular converters
- Novel modeling, simulation and control for converters
- Magnetic components design technologies
- Optimal layout and heat dissipation design methods
- Application of high-performance wide band-gap devices (GaN and SiC)
- Novel operation and control strategy for renewable power system
- Reliability of the converter in renewable power system



Authors should read over the journal's [For Authors](#) carefully before submission. Prospective authors should submit an electronic copy of their complete manuscript through the journal's [Paper Submission System](#).

Please kindly specify the “**Special Issue**” under your manuscript title. The research field “**Special Issue –Advanced Power Electronic Converters, Control and Modelling Techniques for Renewable Energy Systems**” should be selected during your submission.

Special Issue timetable:

Submission Deadline	March 15th, 2021
Publication Date	May 2021

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