

Title : Application of Power Electronic Converters for Renewable Energy Sources

Session Organizers :

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Objective of the Special Session:

The generation of electricity through the use of renewable sources of energy continues to be a hot topic in today's world due to the common trend of increasing the share of renewable in the energy generation mix. Nevertheless, increasing the amount of energy that comes from renewable sources has two effects: it changes the way the electric grid works because of the increased number of power electronic converters that interface with the grid, and it necessitates the development of more efficient methods for converting renewable energy. As a result of this, improved methods for modeling renewable energy sources, innovative topologies of power converters that interface with renewable energy sources and mains, and control and monitoring algorithms are required. In addition, as a result of the intermittent and non-inertial nature shared by the vast majority of renewable energy sources, the function played by energy storage devices takes on an increasingly critical significance. The objective of the Special Issue of Energies titled " Application of Power Electronic Converters for Renewable Energy Sources " is to bridge the existing knowledge gap by spreading innovative and potentially fruitful strategies and procedures for addressing the issues outlined above.

Prospective authors are invited to submit original contributions, survey papers or tutorials for review for publication in this special issue. Topics of interest include but are not limited to:

- Maximum power point tracking algorithms
- Operation of renewable energy sources in isolated micro-grids
- Grid interfacing of renewable energy converters
- Hybridization of energy storage with renewable energy systems
- Energy management of hybrid renewable energy systems
- Design and control of power converters for electric vehicles
- Design and advanced control techniques for power converters
- Multilevel converters in HVDC
- Modeling approaches for integrated energy systems
- Intelligent control and integration of power electronic systems