

Annual Conference of the IEEE Industrial Electronics Society (IECON 2021)

Special Session on

“Power Electronics Converters for Green Energy Supplies: Topology, Modeling, Control, and Stability Analysis”

Organized by

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Call for Papers

Theme: The technical challenges like lack of standardized topological structure, inadequate modelling and stability, and versatile control designs in developing power electronic converters for green energy supplies have always been at the forefront in industrial applications. In practice, these challenges lead to emergence of various power converter topologies and designs for renewable energy generation, high-voltage DC (HVDC) transmission, electric vehicle charging stations, data/telecom centers, aircrafts, and microgrids. Understandably, these converters constitute the fundamental building blocks in the previously highlighted applications and thus, increasing research efforts have been witnessed to develop the power converters with improved reliability, stability, efficiency, and power density. Moreover, the recent trends also emphasizing on developing advanced control techniques for the efficient operation of power converters for renewable energy conversion applications. In this context, this special session is primarily intended to develop power converters with real-time and hardware-in-the-loop simulations tools while ensuring improved designs, control technologies, and stability.

Topics of interest include, but are not limited to:

- Modelling, and advanced control of power electronic converters

- New topological structure of unidirectional and bidirectional DC-DC converters for electric vehicle
- Bidirectional soft-switching DC-DC converters
- Coordinated control of grid-integrated converters
- Application of power electronic converters in wind and solar
- Harmonics and power quality standards: An industry update
- Advanced current and voltage controller's technology for power converter
- Application of PWM based modulation techniques
- Real-time and hardware-in-the-loop simulation of power converters

A list of 5-10 special areas:

- Power Quality
- Grid Integration of Renewable Energy Sources
- Wind Energy Conversion System
- DC-DC Converters for Electric Vehicle Applications
- Distributed Generation

Submissions Procedure: All the instructions for paper submission are included in the conference website: <https://attend.ieee.org/iecon-2021/>

Deadlines:

Full paper submission:	June 25, 2021
Paper acceptance notification:	July 30, 2021
Camera-ready paper submission:	Aug. 27, 2021

-The sponsoring IES Technical Committee(s):NA