

# 4<sup>th</sup>

# IEEE INTERNATIONAL FUTURE ENERGY ELECTRONICS CONFERENCE IFEEC 2019

SINGAPORE  
NOVEMBER  
25-28

## Special Session on Novel Approach and Techniques for Renewable Smart Energy Systems with Power Electronics Application

### • Organized and co-chaired by:

- |                            |   |                       |
|----------------------------|---|-----------------------|
| • Sanjeevikumar Padmanaban | Aalborg University, Esbjerg, Denmark        | san@et.aau.dk         |
| • Jens Bo Holm-Nielsen     | Aalborg University, Esbjerg, Denmark        | jhn@et.aau.dk         |
| • Michael Pecht            | University of Maryland, USA                 | pecht@umd.edu         |
| • Dan M. Ionel             | University of Kentucky, USA                 | dan.ionel@uky.edu     |
| • Amin Firozbbhai Qureshi  | Aalborg University, Esbjerg, Denmark        | afq@et.aau.dk         |
| • Amer Ghias               | Nanyang Technological University, Singapore | amer.ghias@ntu.edu.sg |

### Call for Papers

#### Outline of the Session:

Rising demand-side resources are increasing steep narrow, sustained important in the successful market integration of renewable energy became the mandatory solution. The flexibility benefits arising from demand-side management needed to balance the uncertainty and variability of renewable generation, i.e., Photovoltaic, Windmill and power from Biomass/Bioenergy for large-scale power generation. Electricity markets should be designed to support higher renewable penetration rates and periodic variation with the environment. To this end, the impacts associated with transportation electrification. The advent of prosumers and the expansion of distributed generation will propel the active role of the demand side in the market environment. Together with more stringent de-carbonization targets and higher grid integration of renewable entails several challenges for the electric energy sector towards a Smart Grid through power electronics technologies.

This Special Issue, we invite original and unpublished submissions on demand-side management and market design for demand-side support renewable integration. This special issue aims to explore the new strategies for overcoming the technical challenges of grid integration of renewable energy systems, such as synchronization of interfaced converters with the power grid, operation, and control of different power converters in power systems, and stability analysis of power grid under large shares of renewable energies.

Topics of this special session include, but are not limited to:

- Modeling, analysis, and control of standard inverters, modular multilevel and parallel grid-connected inverter.
- Grid integration of renewable energy systems includes Photovoltaic, Windmill, Electric Power from Biomass/Bioenergy and Fuel-Cell technologies.
- Harmonics mitigations, power quality issues in renewable-based power plants.
- Electrical power conversion, design of LCL and adaptive Filters, new adaptive control algorithms.



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- Operation and control of power electronics converters in power systems, ac transmission networks, and other emerging power electronic based power systems.
- Medium- to high-power modular multilevel converters for ac grids.
- Ancillary services through grid-interfacing power converters.
- Rapid control algorithms, sliding mode, adaptive and model reference predictive strategies.

## Author's schedule:

Deadline for submission of special session papers	June 15, 2019
Notification of acceptance	August 2019
Deadline for submission of final manuscripts	September 2019

## Potential Authors:

Frede Blaabjerg,	Aalborg University, Denmark
Jens Bo Holm-Nielsen,	Aalborg University, Denmark
P.Sanjeevikumar,	Aalborg University, Denmark
Venkata Yamasu	Northern Arizona University, USA
Dan M. Ionel,	University of Kentucky, USA
Jiangbiao He,	University of Kentucky, USA
Gabriele Grandi,	University of Bologna, Italy
Pierluigi Siano,	University of Salerno, Italy
Luigi Martirano,	University of Rome, Italy
Eklas Hossain,	Oregon Institute of Technology, USA
O. Ojo	Tennessee Technological University, USA
Sridhar Seshagiri,	San Diego State University, USA
Viliam Fedak,	Technical University of Kosice, Slovak Republic
Zbigniew Leonowicz,	Wroclaw University, Poland
Atif Iqbal,	Qatar University, Qatar
Haitham Abu-Rub,	Texas A & M University, Qatar
Sagar Mahajan Bhaskar,	Qatar University, Qatar
Kiran Pandav Maroti,	Qatar University, Qatar
Amer Ghias	amer.ghias@ntu.edu.sg

## Potential Reviewers:

Jiangbiao He,	University of Kentucky, USA
Gabriele Grandi,	University of Bologna, Italy
Pierluigi Siano,	University of Salerno, Italy
Luigi Martirano,	University of Rome, Italy
Eklas Hossain,	Oregon Institute of Technology, USA
O. Ojo	Tennessee Technological University, USA
Sridhar Seshagiri,	San Diego State University, USA
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