Thematic Issue Proposal for Recent Advances in Electrical and Electronic Engineering

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Title: Grid Integration of Renewable Energy Sources

Aims & Scope: In most of the countries, renewable energy sources have touched grid parity. The key to increase the penetration of renewables in the power mix is to have intelligent integration of the renewable energy sources in the power system network. Integration of intermittent renewable energy sources to the power system network depends on the scale of power generation. Higher capacity renewables are connected to the high voltage network and lower capacity renewables are connected in the medium and low voltage network. There are many technical challenges for integrating the renewables at higher voltage levels as well as lower voltage levels. It necessitates many technical developments, for example in power conditioning devices, to fulfil the necessity for demand flexibility and controllable dispatching of the power. The aims of this special issue is going to explore the new strategies for overcoming the technical challenges of grid integration of renewable energy sources, such as interconnection (tie line) capacity among different power system areas (zones), techno-economic hybrid system with several types of distributed energy resources, micro-grid, demand side management capabilities.

Keywords/Subject Coverage

Topics areas include, but not limited to:

Application of Grid Integration of Renewable Energy Sources

• Power grid with significant capacity of renewable energy sources

• Micro-grid with intermittent renewable energy sources (e.g. building integrated solar photovoltaic systems) • Combined heat and power plants integration within the micro-grid

• Centralized and distributed energy storage systems within the micro-grid

• Demand response system for flexibility considering gird constraints as well as intermittent renewable power productions

• Smart communities with high penetration of building integrated photovoltaic systems

• Impact of increasing demand of electric vehicle charging with grid to vehicle and vehicle to grid strategies

- Wind power integration within the power system network, integration of fuel cell technologies in the distributed network for power production as well as heat utilization
- Energy storage (e.g. batteries, hydrogen, flywheel, pumped hydro storage, etc)
- Power conditioning devices for grid integration of renewable energy sources
- Home energy management systems

Notes for Prospective Authors

Prospective authors are invited to contribute high-quality papers by the submission deadline through the online submission system. The submission of a paper implies that the paper is original and has not been submitted for review or is not copyright-protected elsewhere and will be presented by an author if accepted. All submitted papers will be refereed by experts in the field based on the criteria of originality, significance, quality, and clarity. The authors of accepted papers will have an opportunity to revise their papers and take consideration of the referees' comments and suggestions.

Schedule:

Manuscript Submission deadline: May 20, 2018

Peer Review Due: June 10, 2018

Revision Due: June 25, 2018

Notification of acceptance by the Guest Editor: July 5, 2018

Final manuscripts due: March, 2020