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Special Session on

**“Battery and Super-capacitor Energy Storage Systems for
Renewable Energy Applications”**

Organized by

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Call for Papers

Theme: (100 words)

Battery energy storage systems (BESS) and super-capacitor energy storage systems (SC-ESS) have gained a key role in renewables integration to electric markets, enabling power quality enhancement by performing peak shaving, ramp-rate control, load shifting, capacity firming, power forecast prediction matching, among other features. Moreover recent advances have allowed renewable systems lacking inertia to offer ancillary services, traditionally exclusive to rotating generators.

The aim of this special session is to gather all recent research, development and solutions related to BESS, SC-ESS and hybrid energy storage systems used in renewable energy applications, providing a platform to present and discuss opportunity, latest developments in this area, while promoting interaction between industry and academia.

Topics of interest include, but are not limited to:

A list of 5-10 special areas

1. BESS or SC-ESS sizing strategies for renewable energy applications.
2. Power Converters and configurations for BESS and/or SC-ESS in renewable energy applications.
3. Partial Power Converters.
4. High efficiency or high step-up ratio converters.
5. Control strategies for BESS or SC-ESS in renewable energy applications.
6. Modelling of BESS or SC-ESS in renewable energy applications.
7. BESS or SC-ESS enabled ancillary services and grid code compliance.
8. BESS and/or super-capacitor-ESS support for grid code compliance in renewable energy applications.
9. Reliability and fault tolerant operation of power converters used in BESS or SC-ESS.