IEEE Journal of Emerging and Selected Topics in Industrial Electronics

Special Section on:

Smart Operation-enabled Solution for Renewable Energy Systems

Theme: Renewable energy including the solar, wind and also hydroelectricity-based energy, have become the emerging choices for a sustainable development of humanity. However, the intermittent energy generation from solar and wind power leads to the risk of the energy system operation and power transmission with sufficient stability and reliability. In this regard, power electronics, modeling, control and optimization strategies are critical for the renewable energy applications. Advanced power electronic topology design, considering cost and energy transfer efficiency, are the prerequisites for the smart operation of renewable energy systems. Recently, superior modelling methods, nonlinear and adaptive control, and evolutionary optimization have been developing fast and are being widely investigated by many researchers related to the renewable energy systems.

The aim of the special section is to provide a timely opportunity for researchers, practicing engineers, and other stakeholders to share their latest discoveries in the areas of renewable energy systems, such as photovoltaic system, wind power system, and related energy storage system, in the context of the smart operational solutions. Topics include but not limited to the following areas from the perspectives of industrial electronics. Submissions need to demonstrate strong original contributions to these areas.

- ✓ **Power electronic component design for renewable energy systems**
- ✓ **Configuration and topology identification for renewable energy systems**
- ✓ **Design and dynamic analysis for renewable energy systems with multiple energy storage components and generators**
- ✓ **Cost and energy efficiency management of power electronic and energy storage components within renewable energy systems**
- ✓ **Data-driven based management for renewable energy generation, storage, distribution, and planning**
- ✓ **Optimal control for renewable energy systems with generators and storage components**
- ✓ **Adaptive observer design and estimation for renewable energy systems**
- ✓ **Iterative learning for optimization and control with applications to renewable energy systems**

Manuscript Preparation and Submission

Check carefully the style of the journal described in the guidelines "Information for Authors" in the IEEE- IES website: http://www.ieee-ies.org/pubs/jestie. Please submit your manuscript in electronic form through: https://mc.manuscriptcentral.com/jestie-ieee/.

On the submitting page, in pop-up menu of manuscript type, select: **"SS on Smart Operation-enabled Solution for Renewable Energy Systems"**, then upload all your manuscript files following the instructions.

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Timetable

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