

Special Issue on
**Advanced Monitoring and Control Techniques in Modern
Smart Grid with Renewable Energy Sources**

CALL FOR PAPERS

With the advancement of renewable power generation and their increasing penetration in power grid, power quality, power system stability, and reliability are significantly challenged due to intermittent nature of renewable energy resources. For example, varying power injection due to varying wind or solar conditions can lead to rapid voltage and frequency fluctuations at the point of interconnection; wind farm connected through long distance transmission lines can result in severe power system oscillation. To overcome these challenges, advanced monitoring and control techniques play more important role in power system operation with renewable energy integration than conventional centrally controlled power grid. Synchrophasor technology as part of smart transmission system development provides wide area monitoring to realize control and protection of power grid with large scale renewable energy sources integrated. Advanced controllers for renewable power generation offer improved power quality and power system stability of the modern power grid.

This special issue aims to promote innovative applications of monitoring and control technology for renewable energy integration in tomorrow's smart grid. Prospective authors are invited to submit original research contributions and review papers for publication in this special issue.

Potential topics include but are not limited to the following:

- ▶ Voltage and frequency control for grid-connected renewable energy sources
- ▶ Voltage and frequency control for stand-alone microgrid with renewable energy sources
- ▶ Wide area monitoring and control methods using phasor measurement unit (PMU) for large power grid with renewable energy sources
- ▶ Data driven analytics approach for control system design for large renewable power plants integration using either synchrophasor data or other monitored data
- ▶ Novel control technique development to enhance power system stability and power quality

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/je/industrial.engineering/amct/>.

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First Round of Reviews

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