



**Special Issue on  
Big Data Analytics for Grid Modernization**

Advanced analytics is playing a vital role in the age of big data, such as managing smart cities, predicting crime activities, optimizing medicine formula based on genetic defects, detecting financial frauds, and personalizing marketing campaigns. Many industries are taking advantage of the big data after years of research and development. With the increasing deployment of new metering and monitoring devices such as phasor measurement units (PMUs) and smart meters, the electric utilities are collecting a large variety of data at an unprecedented granularity and volume. So the optimal management and utilization large amounts of collected data become a huge challenge in utilities' operations and planning. This special issue aims to publish original research papers and visionary reviews on the technologies, algorithms and case studies associated with big data analytics for smart grid applications and modernizing the electric power grid.

Topics of interest include but are not limited to:

- Smart grid data compression, detection, fusion, storage and information management
- Cloud computing for smart cities
- Social media data integration for utility applications
- Real-time cross-domain data visualization
- Data management for advanced metering infrastructure
- Data driven, physics based and multi-scale modeling of smart grid
- High-performance (data-enabled) algorithms for operations of data centers and energy hubs
- PMU-based operation of microgrids
- Data-driven dynamic pricing and incentive designs
- Data driven renewable energy integration in energy hubs
- Surveillance, compliance and transparency for distribution system operators (DSO)
- Data-driven approaches to power grid resilience
- Large-scale event-based energy forecasting
- Fraud detection in smart meter data
- Predictive data-based smart grid asset management
- Model-based customer analytics and demand side management
- Data-based distribution system restoration
- Wide-area monitoring and visualization for smart transmission system

This special issue solicits original work that is not under consideration for publication in other venues. Four-page short papers are required for the first round of reviews. Authors of selected short papers will be invited to submit full papers in the second round. Authors should refer to <http://www.ieee-pes.org/publications/information-for-authors> for information about content and formatting of submissions. Please submit a PDF version of the short paper, including a cover letter with authors' contact information via e-mail to [hongtao01@gmail.com](mailto:hongtao01@gmail.com) before the deadline.

**Important Dates**

- Feb 28<sup>th</sup>, 2015 Deadline for submission of short papers
- Mar 30<sup>th</sup>, 2015 Completion of first-round of reviews
- Aug 31<sup>st</sup>, 2015 Deadline for submission of full papers
- Mar 31<sup>st</sup>, 2016 Notification of final decisions
- Apr 15<sup>th</sup>, 2016 Publication materials are due

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