



## CALL FOR PAPERS

### IEEE TRANSACTIONS ON SMART GRID

#### Special Issue on Computational Intelligence Applications in Smart Grids

Computational Intelligence (CI) evolves computational models and tools of intelligence capable of handling large raw numerical sensory data directly, processing them by exploiting the representational parallelism and pipelining the problem, generating reliable and just-in-time responses, with high fault tolerance. Smart grid is basically the embedding of intelligence to enable bi-directional power flows between sources of electric power generation (traditional and renewable sources), and smart devices (traditional loads, energy storage, etc), within some specified constraints and performance requirements. CI deployment is essential for smart grids to be viable. The objective of this special issue is to address and disseminate state-of-the-art research and development in the applications of computational intelligence in smart grids. Authors are invited to submit their original and unpublished contributions to this special issue with emphasis on **CI paradigms and their applications in smart grids**, including, but not limited to:

- Adaptive dynamic programming
- Artificial immune systems
- Evolutionary computation
- Fuzzy Systems
- Neural Networks
- Reinforcement Learning
- Swarm Intelligence
- CI Algorithms for modeling, control and optimization
- Communication and control
- Cyber security
- Demand response and Demand side management
- Distributed energy resources
- Emission reductions
- Forecasting (loads and sources)
- Markets and economics
- Methods and algorithms for real-time analysis
- Optimization, Placements and Scheduling
- Optimal Power Flow
- Planning, operation and control
- Plug-in vehicles (G2V and V2G)
- Renewable energy (wind and solar)
- Smart micro-grids
- Smart sensing, sense-making and Situational Awareness
- Synchrophasors and state estimation
- Wide area monitoring, control and protection
- Visualizations for control centers

#### Submission Guidelines

Two page extended abstracts are solicited for the first round of reviews. Authors of selected abstracts will be invited to submit the full papers in the second round. Authors must refer to the IEEE Transactions on Smart Grid author guidelines at <http://www.ieee-pes.org/publications/information-for-authors> for information on content and formatting of submissions. The direct link to the Manuscript Central for the submission of papers is <http://mc.manuscriptcentral.com/tsg-pes>. In the Manuscript type drop-down menu box, the author must choose Special Issue on CIASG. For information purposes, please submit a PDF version of the abstracts including a cover letter with authors' contact information via e-mail to [jkumar@ieee.org](mailto:jkumar@ieee.org) with the subject line 'Special Issue on CIASG' by the submission date.

#### Important Dates

August 31, 2011: Deadline for the submission of extended abstract

Oct. 15, 2011: Completion for first-round of reviews

Dec. 15, 2011: Deadline for full paper submission

June 15, 2012: Final notification of authors

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