

Special Session on

“Distributed Automation of Cyber-Physical Power Systems”

Organized by

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Call for Papers

The electrical power systems are typically cyber-physical systems with highly coupled electrical and communication systems. The integration of renewable energy sources, energy storage systems and controllable loads in the electrical systems has dramatically increased the system controllability. In the meantime, the coordinated control strategies of distributed energy resources are deployed based on communication networks and its associated infrastructure. Advanced and intelligent techniques are to be explored to unlock the potential of cyber-physical power systems combining the knowledge of information and communications technology, control and optimization theory, computer science and electrical engineering.

Topics of the Session:

This special session aims to provide timely solutions for emerging challenges in distributed automation of cyber-physical power systems. Original technical paper and state-of-the-art survey papers are invited for submission. Topics of interest include, but are not limited to:

- Modeling and Framework of Cyber-Physical Power Systems
- Hierarchical and Distributed Control of Microgrids
- Coordinated Control in Smart Grid
- Grid Ancillary Services by Distributed Energy Resources
- Distributed Energy Management of Integrated Energy Systems
- Peer-to-Peer Energy Trading
- Blockchain for Power and Energy Applications
- Internet-of-Things Infrastructures and ICT
- Cyber-Security, Risk Assessment, and Privacy Preservation
- Realtime Communication Network Design