Call for Papers for
Symposium on Selected Areas in Communications
Smart Grid Communications Track

TRACK CHAIR:

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SCOPE AND MOTIVATION:

To address the global concerns on the surging power demand and carbon emissions, the future smart power grid will integrate numerous distributed elements, such as renewable generators, micro power grids, energy storage units, advanced metering devices, and electric vehicle users. Effective and reliable information and communications technology (ICT) solutions play a vital role to ensure efficient two-way flows of information and power between these distributed entities. Nowadays, wireless networks with wide-area to local coverages have been widely used to monitor and communicate the real-time operating conditions of the power system. Meanwhile, some recently emerged machine type communications and vehicle-to-grid/grid-to-vehicle communications are promising to significantly improve the power grid automation. However, the heterogeneous components in the smart grid and the distinct characteristics of power system makes ICT solutions hard to accommodate the different communication requirements on bandwidth, latency, reliability and security. There are still many challenging problems concerning the proper ICT architecture and signal processing techniques applied to smart grid. In many cases, a good design for smart grid system requires interdisciplinary considerations of control, power electronics, communications, and computing techniques.
The aim of the Symposium on SAC: Smart Grid Communications Track is to bring together researchers from both academia and industry for disseminating cutting-edge research results in theory, application and implementation in the broad areas of smart grid communications.

TOPICS OF INTEREST:

The Smart Grid Communications Track seeks original contributions in topical areas including but not limited to:

- Networking architecture and device placement for supporting smart grid communications
- Physical layer techniques and resource allocation in smart grid communications
- Medium access control and routing protocols for smart grid systems
- Data acquisition, big data management and analytics for smart grid

- Cross-layer design and optimization techniques applied to smart grid systems
- Security and privacy issues in smart grid communications
- Cyber-physical modeling and analysis of smart grid systems
- Cyber-physical security in smart grid systems
- Integration of renewables, storage units and electric vehicles into smart grid systems
- Vehicle-to-grid and grid-to-vehicle communications
- Demand side management and demand response
- Distributed and autonomous control of micro-grids
- Edge/fog/cloud computing for smart grid systems
- Wireless power transfer and energy harvesting techniques for smart grid communications
- Economic approaches for improving smart grid efficiency
- Smart metering technologies for smart grid
- Machine-to-machine communications for smart grid
- Artificial intelligence and machine learning techniques for smart grid systems
- Measurement data, experimental testbeds and field trials
- Wireless power transfer and energy harvesting techniques for smart grid communications
- Regulation, standardization, and smart grid economics

IMPORTANT DATES:

Deadline for paper submission: 11 October 2021
Date for notification: 18 January 2022
Deadline for final paper submission: 15 February 2022