

IEEE GLOBECOM 2023

4-8 December 2023 // Kuala Lumpur, Malaysia

CALL FOR PAPERS

Intelligent Communications for Shared Prosperity

SAC Symposium: Smart Grid Communications

Co-Chair

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Scope and Motivation

To address global concerns on demand for electric power and their associated carbon emissions, the smart power grid is increasingly relying on 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 an efficient two-way flow of information and power between these distributed entities. 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 it hard for ICT solutions 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.

Topics of Interest

The aim of the SAC Smart Grid Communications symposium is to bring together researchers from both academia and industry to disseminate and discuss cutting-edge research results in theory, application and implementation in the broad area of smart grid communications. Topics of interest include, but are not limited to:

- Network architecture and device placement for supporting smart grid communications
- Physical layer techniques and resource allocation in smart grid communications
- Power line communications
- Medium access control and routing protocols for smart grid systems
- Data acquisition, big data management and analytics for smart grid
- Demand side management and demand response
- Artificial intelligence and machine learning techniques for smart grid systems
- Distributed and autonomous control of microgrids

- 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 to support smart grid systems
- Edge/fog/cloud computing for smart grid systems
- Smart metering technologies for smart grid
- Machine to machine communications for smart grid
- Measurement data, experimental testbeds and field trials
- Regulation and standardization efforts for smart grid

Biography of the Co-Chair

Biplab Sikdar was received the B.Tech. degree in electronics and communication engineering from North-Eastern Hill University, Shillong, India, in 1996, the M.Tech. degree in electrical engineering from the IIT Kanpur, Kanpur, India, in 1998, and the Ph.D. degree in electrical engineering from the Rensselaer Polytechnic Institute, Troy, NY, USA, in 2001. He is currently Department Head of the Department of Electrical and Computer Engineering, National University of Singapore, Singapore and is the director of the Cisco-NUS Corporate Research Laboratory.

How to Submit a Paper

All papers for technical symposia should be submitted via EDAS. Full instructions on how to submit papers and important deadlines are posted at <https://globecom2023.ieee-globecom.org/>