



IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS  
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*Communications Enabling Shared Understanding*



## Call for Papers

### Selected Areas in Communications Symposium

#### Smart Grid Communications Track

##### Track chair

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##### Scope and Topics of Interest

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 communication 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, communication, and computing techniques.

The aim of the 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 include, but are not limited to:

- Artificial intelligence and machine learning techniques for smart grid systems
- Cross-layer design and optimization techniques applied to smart grid systems
- Cyber-physical modelling and analysis of smart grid systems
- Cyber-physical security in smart grid systems

- Data acquisition, big data management and analytics for smart grid
- Demand side management and demand response
- Distributed and autonomous control of micro-grids
- Economic approaches for improving smart grid efficiency
- Edge/fog/cloud computing for smart grid systems
- Integration of renewables, storage units and electric vehicles into smart grid systems
- Machine to machine communications for smart grid
- Measurement data, experimental testbeds and field trials
- Medium access control and routing protocols for smart grid systems
- Networking architecture and device placement for supporting smart grid communications
- Physical layer techniques and resource allocation in smart grid communications
- Regulation and standardization efforts for smart grid
- Security and privacy issues in smart grid communications
- Smart metering technologies for smart grid
- Vehicle-to-grid and grid-to-vehicle communications
- Wireless power transfer and energy harvesting techniques for smart grid communications

### **Submission Guidelines**

The IEEE ICC 2020 website ([icc2020.ieee-icc.org](http://icc2020.ieee-icc.org)) provides full instructions on manuscript format and how to submit a manuscript. You will select the desired symposium/track when submitting your manuscript.