



SAC Symposium: Smart Grid Communications

Symposium Chair

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Scope and Motivation

To address increasing demand for electricity as driven by electric vehicles and computation for AI and indeed information, operation and communications technology (IOCT) at large on one hand and net-zero carbon emission promises on the other hand, it is urgent to revolutionize current smart grid systems to make them operate more effectively and efficiently in terms of supporting both energy flow and information flow. This involves not only recently emerged machine type communications and vehicle-to-grid/grid-to-vehicle communications but also new techniques as introduced by modern AI technologies. Due to the high degree of heterogeneity, complexity, ultra-reliability and security of modern smart grid systems, there are still many challenges ranging from smart grid system architecture, communication protocols, resource allocation algorithms, networking, testbeds and field trials. These challenges call for novel and interdisciplinary approaches.

Topics of interest

The aim of the SAC Smart Grid Communications is to bring together researchers from both academia and industry to disseminate and discuss cutting-edge research results in theory, algorithm and application 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

- Resource allocation in smart grid communications
- Medium access control and routing protocols for smart grid systems
- Power line communications
- Data acquisition, big data management and analytics for smart grid
- Demand response management in smart grid systems
- Artificial intelligence and machine learning techniques for smart grid systems
- Distributed and autonomous control of microgrids
- Security and privacy issues in smart grid communications
- Digital twins for 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
- Experimental testbeds and field trials
- Regulation and standardization efforts for smart grid

Biography of the Chair

Kun Yang received his PhD from the Department of Electronic & Electrical Engineering of University College London (UCL), UK. He is currently a Chair Professor in the School of Computer Science & Electronic Engineering, University of Essex, UK, leading the Network Convergence Laboratory (NCL). He is also an affiliated professor of Nanjing University, China. His main research interests include wireless networks and communications, communication-sensing-computing cooperation, and new AI (artificial intelligence) for wireless. He has published 500+ papers and filed 50 patents. He serves on the editorial boards of a number of IEEE journals (e.g., IEEE WCM, TVT, TNB). He is a Deputy Editor-in-Chief of IET Smart Cities Journal. He has been a Judge of GSMA GLOMO Award at World Mobile Congress – Barcelona since 2019. He was a Distinguished Lecturer of IEEE ComSoc (2020-2021). He is a Member of Academia Europaea (MAE), a Fellow of IEEE, a Fellow of IET and a Distinguished Member of ACM.

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://icc2025.ieee-icc.org/>