IEEE International Conference on Communications

Call for Papers for Selected Areas in Communications Symposium
Communications for the Smart Grid Track
(SAC-4 CSG)

Symposium Track Chair

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Submissions must be done through EDAS at: https://edas.info/newPaper.php?c=22645&track=81060
The paper submission deadline is October 14, 2016.

Scope and Motivation

Communications technology has profoundly changed our daily lives in the last few decades. From the prosperity of e-commerce to the proliferation of social networking, communications has significantly improved system efficiency, functionality, adaptability and consumer-centricity. We are currently witnessing a similar enablement of power systems to that of a smarter grid providing opportunities for greater sustainability, reliability and increased capacity.
As such smart grid systems are on the cusp of a rapid technological, economic and environmental evolution. Communications no doubt is at the center of this surge facilitating situational awareness, advanced operation and control and collaboration. For example, wide area monitoring protection and control, advanced metering and demand response represent a fraction of the new applications facilitated through greater grid connectivity. Smart grid communication systems must accommodate a wide variety of often changing requirements and constraints. Differences in geographic size, user scale, bandwidth, latency, reliability and security have resulted in great debate on appropriate media, tools and technologies. Moreover, the distinct characteristics of power systems make use of off-the-shelf communication systems infeasible at times.

Main Topics of Interest

This Communications for the Smart Grid track invites contributions that explore communication requirements in various gridapplications, analyze existing communication technologies within that context and develop communication architectures, protocols and communication-centric data-management solutions meeting those requirements. Topics of interest include, but are not limited to:

- Channel characterization and modeling in smart grid systems
- Physical layer technologies for smart grid systems
- Medium access and routing protocols for smart grid systems
- Resource allocation and cross-layer optimization for smart grid systems
- Coexistence, interoperability and interference in smart grid systems
- Optimized implementation solutions in smart grid systems
- Architectures and networking in smart grid systems
- Data models, communications requirements and quality-of-service for data delivery in smart grid systems
- Modeling, performance analysis, and field trials for smart grid systems
- Effects of communication technologies on smart grid operation and control
- Communication-power system co-design
- Cyber-physical smart grid system modeling and analysis
- Cyber-physical security and attacks in smart grid systems
- Secure communication architectures for smart grid systems
- Standardization efforts and regulation for smart grid systems

Biography

Deepa Kundur is a Professor and Director of the Centre for Power & Information in The Edward S. Rogers Sr. Department of Electrical & Computer Engineering at the University of Toronto. She received the B.A.Sc., M.A.Sc., and Ph.D. degrees all in Electrical and Computer Engineering in 1993, 1995, and 1999, respectively, from the University of Toronto. From January 2003 to December 2012 she was a faculty member in Electrical & Computer Engineering at Texas A&M University, and from September 1999 to December 2002 she was a faculty member in Electrical & Computer Engineering at the University of Toronto.

Professor Kundur's research interests lie at the interface of cyber security, signal processing and complex dynamical networks. She is an author of over 150 journal and conference papers. She is also a recognized authority on cyber security issues and has appeared as an expert in popular television, radio and print media. Professor Kundur has participated on several editorial boards and currently serves on the Advisory Board of IEEE Spectrum. She also currently serves as General Chair for the Workshop on Communications, Computation and Control for Resilient Smart Energy Systems at ACM e-Energy 2016, General Chair for the Workshop on Cyber-Physical Smart Grid Security and Resilience at Globecom 2016, General Chair for the Symposium on Signal and Information Processing for Smart Grid Infrastructures at GlobalSIP 2016 and Symposium Co-Chair for the Communications for the Smart Grid Track of ICC 2017.

Professor Kundur's research has received best paper recognitions at numerous venues including the 2015 IEEE Smart Grid Communications Conference, the 2015 IEEE Electrical Power and Energy Conference, the 2012 IEEE Canadian Conference on Electrical & Computer Engineering, the 2011 Cyber Security and Information Intelligence Research Workshop and the 2008 IEEE INFOCOM Workshop on Mission Critical Networks. She is a Fellow of the IEEE.