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The IEEE GLOBECOM 2017 – Selected Areas in Communications Track – Smart Grid Communications

The electric power grid is undergoing unprecedented changes that have transformed it from a hierarchical, user agnostic system, to a distributed, user-centric smart grid. Realizing the vision of the smart grid is contingent upon deploying reliable and effective information and communication technology solutions that can enable high-speed, two-way communications in the grid. Indeed, communication technologies are a key enabler for many of the foreseen smart grid features such as demand response, advanced metering infrastructure (AMI), electric vehicle and storage unity integration, and microgrid control. To this end, a plethora of solutions for smart grid communications have recently emerged that rely on a myriad of wireless communication and power line communication technologies. This includes novel approaches to enable smart meters and other smart grid machine type devices to communicate with the grid, as well as new communication solutions to enable vehicle-to-grid and grid-to-vehicle communications. The integration of information and communication technologies in the grid also raises poses security risks that must be mitigated from a cyber-physical perspective. To this end, this track solicits original contributions in the broad area of smart grid communications. The goal is to provide attendees a comprehensive perspective on the latest research developments in this area. The scope of this track covers but is not limited to the following topics of interest to smart grid communications:

- Novel communication architectures for advanced metering infrastructure.
- Wireless networking techniques for supporting new smart grid features.
- Communication-centric solutions for demand response, demand-side management, and energy management.
- Big data management and grid analytics.
- Integration of storage units and electric vehicles into a smart grid architecture.
- Multiple access techniques and protocols for smart grid communications.
- Power line communications (PLCs) in the smart grid.
- Cross-layer optimization and smart grid service integration.
- Security and privacy in the smart grid.
- Resilient communications in the smart grid.
- Cyber-physical system modeling of smart energy systems.
- Game-theoretic methods for smart grid management and optimization.
- Hybrid PLC/wireless architectures and methods.
- Modulation, coding, and signal processing for wireless and PLC communications in the grid.
- Multi-hop routing and congestion control in PLC systems.
- Control, operation, and optimization of distributed energy sources and microgrids.
- Synergies between control and communications in power systems.
- Renewable energy-powered wireless communication systems.
- Machine-to-machine communications in the smart grid.
- Co-existence and interoperability of smart grid communication technologies.
- Smart grid-enabled cellular communications.
- Economic approaches for improving smart grid communications and energy efficiency.
- Optimal placement of smart grid communication infrastructure.
- Measurements data and experimental testbed for smart grid communications.

Submission Instruction:
The IEEE Globecom 2017 website provides full instructions on how to submit papers. You must select the desired symposium when submitting a paper. Submission is handled via EDAS at the following link:

Important Dates:

Paper Submission:	1 April 2017
Paper Notification:	25 July 2017
Camera-Ready Paper:	4 September 2017

Track Chair:
Walid Saad (Virginia Tech)

Biography:
Walid Saad (S'07, M'10, SM'15) received his Ph.D degree from the University of Oslo in 2010. Currently, he is an Assistant Professor and the Steven O. Lane Junior Faculty Fellow at the Department of Electrical and Computer Engineering at Virginia Tech, where he leads the Network Science, Wireless, and Security (NetSciWiS) laboratory, within the Wireless@VT research group. His research interests include wireless networks, game theory, cybersecurity, and cyber-physical systems. Dr. Saad is the recipient of the NSF CAREER award in 2013, the AFOSR summer faculty fellowship in 2014, and the Young Investigator Award from the Office of Naval Research (ONR) in 2015. He was the author/co-author of five conference best paper awards at WiOpt in 2009, ICIMP in 2010, IEEE WCNC in 2012, IEEE PIMRC in 2015, and IEEE SmartGridComm in 2015. He is the recipient of the 2015 Fred W. Ellersick Prize from the IEEE Communications Society. Dr. Saad serves as an editor for the IEEE Transactions on Wireless Communications, IEEE Transactions on Communications, and IEEE Transactions on Information Forensics and Security.