



## IEEE Globecom 2016 – Washington, DC USA

### Workshop on Communications, Computation and Control for Resilient Energy Systems (C<sup>3</sup>RES)

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**Technical Program Chairs:** *Abdallah Farraj, Hamed Mohsenian-Rad and Marthe Kassouf*

Smart grids are undergoing a rapid technological, economic and environmental evolution. The marriage of information and communication technologies with traditional energy production, delivery and distribution systems, aims to create more reliable, efficient, environmentally-friendly and consumer-centric energy systems. However, this increased dependence on information technology heightens system vulnerabilities to include those of its cyber-enabled components. The high degree of complexity, connectedness and collaboration of emerging energy systems makes comprehensive identification of weaknesses challenging. To help secure future energy systems, approaches to protect and enhance resilience during both system design and operations are critical. This workshop addresses issues of cyber-physical smart grid security and resilient energy system design and operation. Emphasis is placed on efficient strategies that harness communication networking, computation and/or control to improve security and resilience through increased adaptability, reliability and functionality.

Topics of interest include (but are not limited to):

- Cyber-physical security models and metrics
- Smart grid resilience metrics
- Resilient cyber-physical control
- Software defined networks (SDN) for enhanced smart power system security
- Cognitive communication systems for resilient energy systems
- Cyber-physical co-simulation for security and resilience assessment
- Smart grid communication protocols security analysis
- Cyber-physical resilience for energy systems with a high penetration of renewable sources
- System planning and design for secure energy systems
- Role of storage and distributed generation in system resilience
- Microgrids and resilience
- Smart grid optimization for improved survivability and robustness
- Cloud-based smart grid analytics
- Big data for improved situational awareness for enhanced security and resilience
- Reshaping system dynamics for resiliency to attack
- Secure load and renewable energy forecasting, modeling and monitoring
- Energy system state estimation for enhanced resilience

**Submission of Papers:** Prospective authors are invited to submit full-length papers, with up to 6 pages in IEEE double-column format for main body of the paper (i.e., everything excluding references) and unlimited pages for references, should present original theoretical and/or experimental research in any of the areas listed above that has not been published, accepted for publication, or under review by another conference or journal.

#### Timeline for paper submission:

July 1 <sup>st</sup> , 2016:	Paper submission deadline (23:59 EST)
September 1 <sup>st</sup> , 2016:	Author notification (acceptance/rejection)
October 1, 2016:	Camera-Ready due
December x, 2016:	Workshop

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