



3rd International Conference on Smart Grid and Renewable Energy

www.sgre-qa.org

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Doha, Qatar

Special Session on Control Resilience, Cybersecurity, and Situational Awareness of Smart Grid organized and co-chaired by:

Dr. Mohammad Shadmand	shadmand@uic.edu
Dr. George Amariuca	amariuca@ksu.edu
Dr. Gabriele Oligeri	goligeri@hbku.edu.qa

Call for Papers

Outline of the Session:

Nowadays, the traditional power system is experiencing massive changes to enable housing larger number of renewable energy resources, i.e. solar energy, wind systems, and energy storage. All the projected numbers show that the power system, which was traditionally dependent on centralized power plants equipped with synchronous machines, is evolving into a new concept with fleet of smart devices within smart grid paradigm. However, such power grid with smart devices and subsystems could be a subject for cyber-physical attacks targeting their coordination and synchronization for optimal and harmonious operation. This special session discusses how to realize data-driven and model-based attack resilient power grid with smart devices and subsystems that are able to effectively detect and protect the critical infrastructure from cyber-attacks.

Topics of the session include, but are not limited to:

- AI/ML Techniques for Device Level and System Level Anomaly Detection and Classification
- Attack Resilient Control Systems for Power Electronic Systems
- Cryptographic Schemes for Smart Grid
- Self-learning Power Electronics with Voltage/Frequency Restoration Capability
- Self-healing Schemes for Stealthy Attacks in Smart Grid
- Cybersecurity for Wide-Area Protection and Control
- Design of Countermeasures for Cyber-Physical Attacks in Smart Grid
- Blockchain Approaches Against Cyber-Physical Threats in Smart Grid
- Hardware Methods for Mitigating the Attacks on Power Electronics
- End-to-end security for Smart Devices in Smart Grid
- Power Grid Probing via Smart Inverters for Realizing Situational Awareness

Author's schedule:

Deadline for submission of special session papers	December 1, 2021
Notification of acceptance	January 1, 2022
Deadline for submission of final manuscripts	1 February 2022

All the instructions for paper submission are included in the conference website:

<http://www.sgre-qa.org/>