



## ***Transforming the Resilience of Critical Infrastructure Systems and Communities***

**Resilience Week Objective:** A Symposium dedicated to advancing the interdisciplinary dialog on policy and technologies that accelerate critical infrastructure and community resilience to unexpected and malicious threats.

### ***Session 05: Cyber Physical Resilience in Smart Grids***

#### **Session Chair**

- Chair: Nathan Lemons, Los Alamos National Laboratory, [nlemons@lanl.gov](mailto:nlemons@lanl.gov)
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#### **Paper Submission**

- Submissions due: June 3
- Acceptance notification: September 9
- Final submissions due: September 23

Please refer to the Resilience Week 2019 website for [submission instructions](#).

#### **Session Abstract**

Power grids in recent years have undergone a critical transformation due to increased presence of controllable loads as well as stochastic generation from renewable energy. Efficient control of the new grid infrastructure, at both global transmission and local distribution levels, relies on effective automation through an efficient cyber architecture. Control and observability in the current grid has been made actionable through placement of new high fidelity sensor devices. These new communication and control infrastructures have increased the vulnerability of power grids and related infrastructure such as smart buildings to cyber physical attacks. This session is aimed at modeling of grids to understand the potential of cyber-physical attacks and its effective use in designing protection and recourse actions.

#### **Topics**

- Security of electric grids under coordinated cyber physical attacks
- Secure operation and attack detection in smart buildings
- Economic implications of attack resilient power grid operation
- Resilient grid modeling for attack prevention