



Center for Advanced Power Engineering Research

CAPER Summer 2018 Workshop

Location:

[The StateView by Marriott](#)

2451 Alumni Drive, Raleigh, NC 27606

Time:

Monday, July 30th 7:30 am – 8:00 pm

Tuesday, July 31st 7:30 am – 4:30 pm

Meeting Registration:

Early-Bird	\$175.00	through July 13 th , 2018
Late	\$250.00	

[CAPER Summer 2018 Workshop Registration](#)

Please click on the link to register and pay.

Lodging:

[The StateView, Autograph Collection Hotel, 2451 Alumni Drive, Raleigh, NC, 27606](#)

1-888-321-8002

Rate: \$139

Please make your hotel reservations as soon as possible by clicking on the above link.

Parking is offered complimentary on the hotel grounds to all CAPER participants.

Meeting attire: Business casual

For logistical questions and general requests contact Crista Hartenstein at charten@clermson.edu or call 843-730-5068

For questions concerning the technical sessions please contact Steven Whisenant (steven.whisenant@duke-energy.com) or call 704-382-6608

Agenda:

Monday, July 30th

- **Keynote:** What is Causing Current Grid Simulation Tools to be Inadequate?
 - How much Computing Power Do We Need?
- **Session I:** Standards and Tools to Ensure Integrity of the Transmission Grid
 - Tools and Challenges to Comply with TPL-001-04 Steady-State
 - Tools and Challenges to Comply with TPL-001-04 Dynamic
 - Tools and Models Used in System Protection
 - Operations Planning and Peak Studies
 - Tools and Challenges to Comply with TOP Standards
 - How the EMS is Currently Used to Comply with Standards
- **Session II:** Integrity and Validation of System Models
 - Challenges to Comply with MOD-033 Model Validation
 - Challenges Presented by Current Tools in Modeling the Integration of DR at the Transmission Level
 - Interoperability of Different Software and Models
 - Challenges Maintaining Integrity Across Different Models
- **Session III:** Modeling Distribution Systems with Distributed Resources
 - Merging Planning and Operation Tools Together
 - Steady-State vs. Dynamic Simulations
 - Why do System Models Need to Include DR?
 - Various Software Tools Used by Distribution and Academia
 - Panel Discussion: How to Bridge the Gap
- **Reception and Dinner**

Tuesday, July 31st

- **Session IV:** What Is On the Horizon for Grid Simulation Tools?
 - PSSE and Future Development
 - Use of Simulators and Digital Grid Labs
 - Real-Time Tools under Development
 - PNNL: GridLad-D
 - EPRI: OPENDSS New Functionalities
- **Session V:** New Concepts of High Performance Computing
 - Parallel Computing
 - Real-Time Simulations
 - Data Analytics and Forecasting
 - SAS
- **Session VI:** 2019 Research Planning Session
- **Breakout Groups – Research Themes:**
 - Power Delivery Infrastructure and Systems
 - Energy Policy, Markets and Economics
 - Data Management, Analytics and Security
 - Power Generation, Storage and Integration
 - Power Utilization and Energy Efficiency