CAPER
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 13th, 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@clemson.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
  - 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