RESEARCH DAY

Texas A&M Engineering Experiment Station Smart Grid Center (SGC)
Department of Electrical and Computer Engineering
Energy and Power Group (EPG)

Room 1107-1108
Center for Infrastructure Renewal (CIR), Texas A&M University System
1041 RELLIS Parkway, Bryan TX 77807

Friday, April 22, 2022
Agenda

8:30 – 9:00 Arrival and check in; light breakfast provided

9:00 – 9:25 Welcome, SGC and EPG Overview (Tom Overbye)

9:25– 9:50 Asset Management in Distribution Systems with Distributed Renewable Generation (Miroslav Begovic)

9:50-10:15 ML/AI for Risk Prediction and Mitigation of Outage Impacts (Mladen Kezunovic)

10:15 – 10:30 Break

Research Session 1: TBD (Chair) (10:30 to Noon, Room 1107-1108)

10:30 – 10:55 Closing the Loop: Developing and Validating a Next-Generation Cyber-Physical Energy Management System from Situational Awareness to Risk Mitigation (Kate Davis)

10:55 – 11:20 Enhancing cybersecurity of grid connected PV Inverters with dynamic watermarking (Prasad Enjeti)


11:40 – Noon Development and Application of a University Electric Grid Control Room Research Facility (Jonathan Snodgrass)

Lunch (Room 1107-1108) and Control Room Hands-On Activities and Demos (Rooms 3339 and 3350)

Noon – 13:10 Lunch at Pre-function Area; Control room hands-on activities and demos in Rooms 3339 and 3350
Research Session 2: TBD (Chair) (13:10 to 14:40, Room 1107-1108)

13:35 – 14:00  Towards Carbon-neutral electricity and mobility: Is the grid infrastructure ready (Le Xie)
14:00 – 14:20  Partial Resonance AC Link Grid-connected converters (Farid Naghavi)
14:20 – 14:40  High Altitude Electromagnetic Pulse E3 Modeling and Mitigation (Melvin Stevens)

14:40 – 14:55  Break

Research Session 3: TBD (Chair) (14:55 to 16:00, Room 1107-1108)

14:55 – 15:20  Modeling and Analysis of Coupled Electric Grid and Natural Gas Infrastructures (Adam Birchfield)
15:20 – 15:40  Application of Multi-Domain Energy Dynamics to Magnetism (Kason Carrol)
15:40 – 16:00  The ARPA-E Grid Optimization Competition (Farnaz Safdarian)
16:00  Adjourn

Logistics

The event will be held at the Texas A&M Center for Infrastructure Renewal (CIR). CIR is on the new Texas A&M RELLIS campus. For parking at CIR, TAMU parking permits apply, otherwise for free parking, when entering to the CIR building you must to provide your car’s license plate number at the front desk.

For any issues associated with the event contact either Tom Overbye (overbye@tamu.edu, cell: 217-649-9488) or Andrea Kishne (akishne@tamu.edu, office: 979-317-1285) or Melisa Spradlin (melisa.spradlin@tamu.edu); the CIR conference wing contact is Tania Wolf (tania.wolf@tamu.edu).
Directions and Parking

- CIR building is marked with #20 on the RELLIS campus map.

- Parking is available nearby the CIR building. **For Guests without Texas A&M University parking permits**, parking is available with no fee charged, just, please follow instructions shown below:
  - CIR staff will register you upon arrival.
  - You must provide name, license plate number and reason for visit.
  - Permits are tag-less and are monitored using license plate recognition.

Maps are shown below.