

2023 Electric Power Forum
Accelerating innovation through research collaboration

The 60th EPRC Annual Conference

From 6 pm Monday 15 until 1 p.m. Wednesday May 17
Iowa State University Memorial Union (2229 Lincoln Way, Ames, IA 50011)

Summary Agenda:

Monday May 15, 6 PM: Dinner for attendees attending Tuesday morning workshops

Dinner Speech by Dominic Saebeler, “Overview of cyber risk focused research activities at Information Trust Institute of University of Illinois”

Tuesday May 16 Morning

8 AM – 12 noon: Cybersecurity workshop: the NSA RECIPE project presented by Drs. Manimaran Govindarasu, Dr. Doug Jacobson and the RECIPE team.

12 noon Buffet lunch

Tuesday May 16 Afternoon

1:00 PM: 1:45 PM Keynote address, “History and Impact of ISU’s power program and the ISU Electric Power Research Center”, Dr. Vijay Vittal, Arizona State University

1:45 PM-4:30 PM Panels

4:30 PM- 6:00 PM Reception and Poster Competition

6:00 PM – 7 PM Banquet

7:00 PM- 8:00 PM Banquet Speech, Juan Torres, Associate Laboratory Director, National Renewable Energy Laboratory

Wednesday May 17

7:30 am-1 pm: EPRC Technical Advisory Committee Meeting and working lunch.

Registration is free but space is limited. Registration deadline is **May 7, 2023**.

Register here: : <https://www.ece.iastate.edu/eprc/power-forum/electric-power-forum-2023-registration-form/>

PDH certificates will be provided for registered attendees.

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All events in Iowa State University Memorial Union (2229 Lincoln Way, Ames, IA 50011)

Detailed Agenda:

**Monday evening May 15, 6 pm: dinner for folks attending the Tuesday morning workshops.
Memorial Union Campanile Room**

Speaker: Dominic Saebeler, Senior Associate Director – Information Trust Institute, University of Illinois, Urbana-Champaign. “Title: Overview of cyber risk focused research activities at Information Trust Institute of University of Illinois”

Abstract: The presentation will provide an overview of the cyber risk focused research activities of Information Trust Institute (ITI). ITI is actively leading, or partnering with, other institutions, national labs and industry stakeholders in various capacities to identify and research various topics that seek to raise awareness, mitigate risk and increase overall security of critical infrastructure. The University of Illinois, through ITI, has emphasized research focused on the energy sector where it partners closely with Illinois utilities as well as others in the Midwest to identify risks and actively translate research outcomes to purposeful educational material and exercises designed to prepare utilities for emerging cyber risk.

Tuesday morning May 16, 8 am-12 noon, Memorial Union Sunroom:

Cybersecurity workshop: the NSA RECIPE project, Dr. Doug Jacobson, Dr. Manimaran Govindarasu, 4 PDH

The workshop will have two sessions. Session 1 will provide a tutorial on evolving cyberattacks and defenses on the smart grid. It will first provide an overview of emerging smart grid environment with DER, microgrid, and EV integration, then present an overview of the attack surface and plausible attack vectors, and finally present an overview of sample defense measures, industry best practices, and cyber exercises. Session 2 will focus on hands-on learning session on cybersecurity utilizing Iowa State University’s Smart Grid Cybersecurity Testbed (*PowerCyber*). In particular, the participants will practice hands-on modules involving network scanning, vulnerability assessment, and attack exploitation, and defense based on firewall and intrusion detection/prevention. The attendees are expected to bring their own laptops for participating in Session 2.

12 Noon: Buffet Lunch, Memorial Union Sunroom

1:00-1:45: Keynote address, “History and Impact of ISU’s power program and the ISU Electric Power Research Center”, Professor Vijay Vittal, Regents Professor, School of Electrical, Computer and Energy Engineering, Arizona State University, IEEE Fellow, and member of the National Academy of Engineering, and former EPRC Director.

1:45 pm-4:30 pm Panels: EPRC Recent R&D impact examples, state of the art and future challenges:

1:45 pm - 2:30 pm Panel 1: Transmission development, state of the art, challenges:

Drs. McCalley, Ajjarapu, and industry panelists

2:30 pm - 3:05 pm Panel 2: Distribution smart grid R&D, state of the art, challenges:

Drs. Wang, Dobson and industry panelists

3:10 pm – 3:45 pm Panel 3: presentation on DOE agrivoltaics project

3:45 pm- 4:10 pm Panel 4: Microgrid demonstrations and resilience planning:

EPRC Director Kimber

4:10 pm-4:30 pm: Impact of EPRC-industry collaborations for DOE infrastructure funding

4:30 pm- 6:00 pm: Reception and Power and Energy Poster competition

6:00 pm – 7:00 pm: Banquet

7:00 pm-8:00 pm: Banquet speech

Juan Torres, Associate Laboratory Director of the National Renewable Energy Laboratory.



Juan Torres serves as the associate laboratory director for energy systems integration at the National Renewable Energy Laboratory.

He oversees NREL's research on power systems engineering, grid planning, energy security and resilience, decision science, and systems analysis, which represents a portfolio of more than \$175 million and more than 500 employees.

Torres is co-chair for the U.S. Department of Energy's Grid Modernization Laboratory Consortium, a partnership of 14 national laboratories to advance modernization of the U.S. power grid. He also co-leads the Advanced Research on Integrated Energy Systems (ARIES) research platform. ARIES is the nation's most advanced platform for energy systems integration research and validation. It is designed to support and accelerate the nation's transition to a decarbonized electric grid.

Torres has provided congressional testimony on several occasions. In 2021, he testified on Lessons Learned From the Texas Blackouts: Research Needs for a Secure and Resilient Grid, called by the U.S. House of Representatives Committee on Science, Space, and Technology. In July 2019, Torres spoke before this committee's Subcommittee on Energy about modernizing and securing our nation's electricity grid. And in 2018, he provided testimony to the U.S. Senate Energy and Natural Resources Committee on the topic of blackstart, the process of returning energy to the power grid after a systemwide blackout.

Prior to joining NREL in 2017, Torres served in a variety of technical and management positions throughout his 27-year career at Sandia National Laboratories, most recently as deputy to Sandia's vice president for energy and climate programs. At Sandia, Torres led research efforts and vulnerability assessments in cybersecurity, guided research in advanced microgrids and renewable energy, and led the security and resilience team under Grid Modernization Laboratory Consortium efforts.

Torres holds a bachelor's degree in electronics engineering technology from the University of Southern Colorado and a master's degree in electrical engineering from the University of New Mexico and has completed additional graduate work in management science and engineering at Stanford University.

May 17 7:30 am-1 pm: EPRC Technical Advisory Committee Meeting

7:30 AM Continental Breakfast

8:00 AM-11:30 AM EPRC industry updates

11:30 AM-1:00 PM EPRC Business meeting and working lunch

1:00 PM Power Forum adjourns

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