



Power Systems Engineering Research Center

Industry Advisory Board Meeting Highlights December 4-6, 2019



Dominion Energy in Richmond, VA

The Industry Advisory Board (IAB) meeting this December took place in Richmond, VA. From December 4th through December 6th the modern and elegant meeting venues of Dominion Energy welcomed 90 people as follows:

- 41 industry members representing 15 industries
- 28 university faculty and staff from 10 universities
- 21 students

We wish to thank the management of Dominion Energy for generously hosting the PSERC meeting in their facilities and in particular we would like to acknowledge the organizational work of Dr. Chetan Mishra, Allison Hannah, and many others at Dominion Energy for their careful planning and execution of the meeting many parts. We would also like to thank graduate student, Sameer Nekkalapu, for helping during the researchers presentations and the administrative support provided by Taylor Mills and Lauren Bataska from the PSERC office in Arizona.



Entrance to the Dominion Energy venue

Wednesday, December 4th

The general meeting started in the early afternoon with stem meeting sessions that included presentations by:

T&D:

- Ward Jewell, Wichita state – stem chair
- Aung Ho, CAISO

Systems:

- Ajjarapu Venkataramana, Iowa State – stem chair
- Patrick Panciatici, RTE
- Venkat Krishnan, NREL

Markets:

- Kory Hedman, ASU – stem chair
- Tongxin Zheng, ISO-NE
- Yohan Sutjandra, The Energy Authority
- Mike Swider, NYISO

The stem presentations were followed by a welcoming reception and a mini job fair. At the fair, the PSERC Power Systems graduate students had the opportunity to meet with the industry representatives to learn about current and future job openings. Many industry members participated in the fair and we appreciate their time and willingness to meet and interact with the students.

Thursday, December 5th

After breakfast, the day began with a warm welcome from Kevin Curtis, VP of Electric Transmission at Dominion Energy followed by an organizational update prepared by Dr. Vijay Vittal, PSERC's Director and presented by Dr. Anna Rosa Lampis, PSERC Deputy Director.



Attendees listen to one of the presentations

Throughout the morning and early afternoon, attendees had the opportunity to listen to presentations regarding the seven project proposals that emerged from the annual solicitation process held during the fall. The presentations were:

- **Proposal #1:** *Predictive Outage Risk Assessment Platform for Improved Resilience Monitoring of T&D Systems with High Penetration of Inverter-Interfaced Distributive Energy Resources (DERs)*
Project Leader: Mladen Kezunovic (Texas A&M)
Team Member: Vijay Vittal (Arizona State) and Saeed Lotfifard (Washington State)
- **Proposal #2:** *Risk-tunable Demand Response and DERs from Ubiquitous Grid Edge Users*
Project Leader: Le Xie (Texas A&M)
Team Members: P.R. Kumar (Texas A&M) and Shmuel Oren (Berkeley)
- **Proposal #6:** *Generating Value from Detailed Realistic Synthetic Electric Grids*
Project Leader: Tom Overbye (Texas A&M)
Team Members: Kate Davis (Texas A&M), Bernie Lesieutre (Wisconsin), and Line Roald (Wisconsin)

- **Proposal #7: Design of Socially-aware Retail Electricity Market to Enhance Adoption and Participation of Grid-Edge Technologies**

Project Leader: Visvakumar Aravinthan (Wichita State)

Team Members: Mojdeh Hedman (Arizona State), Chenan Singh (Texas A&M), Ehsan Salari (Wichita State), and C. Brendan Clark (Wichita State)

- **Proposal #10: Grid Supporting Controllers for Enabling 100% Penetration of Inverter Based Resources**

Project Leader: Maryam Saeedifard (Georgia Tech)

Team Members: Sakis Meliopoulos (Georgia Tech) and Saeed Lotfifard (Washington State)

- **Proposal #12: Modeling and Coordinating Distributed Energy Resources in Power Systems and Markets**

Project Leader: Meng Wu (Arizona State)

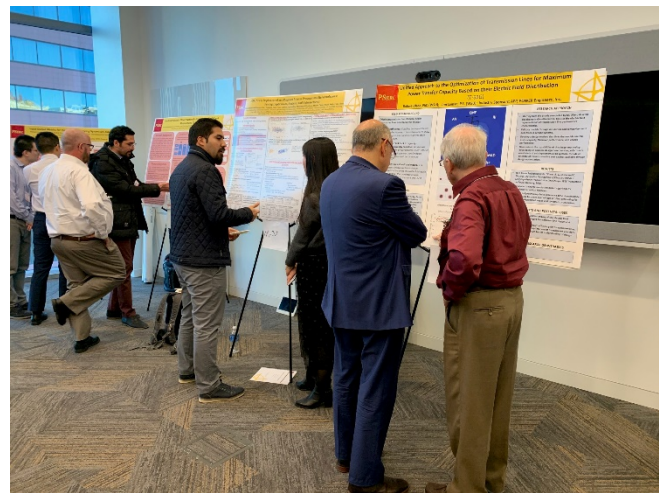
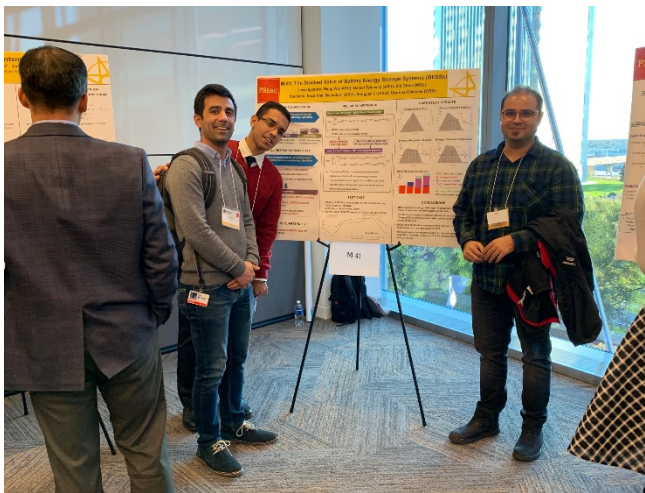
Team Members: Vijay Vittal (Arizona State) and Alejandro Dominguez-Garcia (Illinois)

- **Proposal #13: Who are controlling the DERs? Increasing DER hosting capacity through targeted modeling, sensing, and control**

Project Leader: Line Roald (Wisconsin)

Team Members: Daniel Molzahn (Georgia Tech) and Mojdeh Khorsand (Arizona State)

The afternoon poster session featured posters based on ongoing PSERC research projects. The posters presented by the students were entered in the annual *Best Poster* competition evaluated by industry members.



Poster session

Following the poster session, the IAB members participated in a closed industry meeting. The day ended with a dinner at the Delta Hotel by Marriott that provided an opportunity to relax and network.



Dinner at the Delta Hotel by Marriott

Friday, December 6th

At the beginning of the session the IAB chair, Evangelos Farantatos-EPRI presented a summary of the main outcomes of the closed IAB meeting.



*Left: Anna Rosa Lampis, PSERC Deputy Director
Center: Arun Kaarthick Manoharan, Wichita State
Right: Evangelos Farantatos, EPRI- IAB Chair*

After the summary, Dr. Anna Rosa Lampis announced the winner of the best student poster competition. The winning poster was the one for the project:

T-61: Optimal Model Coordination for Integrated Transmission and Distribution Systems. Presented by Arun Kaarthick Manoharan from Wichita State University.

We very much appreciate all the industry members that participated in the evaluation of the posters.

The Friday morning session continued with a presentation by Dr. Kevin Jones from Dominion Energy:

Working with Data: The Link Between Research, Technology, and Engineering.

The presentation was very well received and provided many stimulating idea exchanges.

The meeting adjourned at 11:00 a.m.