



## Power Systems Engineering Research Center

### **Industry Advisory Board Meeting Highlights** **May 16-18 2018, Wichita State University**



PSERC's Industry Advisory Board (IAB), composed of industry members, meets twice per year with researchers and students to conduct business and to engage in discussions about research and educational activities.

The host site rotates among the 12 PSERC member universities and this May the host was Wichita State University. The meeting was held in the Old Town Conference Center in downtown Wichita, not too far from the university campus.

Our gratitude goes to Prof. Ward Jewell, PSERC site director at Wichita State, for hosting the 3-day long meeting. Special thanks go to the WSU staff: Jody Hall and Lauren Fontarum, and the PSERC staff: Paula Baker and Avanna Peeples for their attention to every little detail, superb organization, and cheerful helpfulness.

Many thanks to all the WSU graduate students who helped throughout the meeting with the presenter time clock and the Q&A sessions.



*The Hotel at Old Town provided guest accommodations and meeting facilities for the May 2018 IAB meeting.*

### **Attendees**

The meeting was attended by 109 people:

- 25 industry and government (17 of the 30 current PSERC member companies were represented at the meeting)
- 42 university members
- 42 students

### **Wednesday, May 16th**

The meeting started in the early afternoon with the three stem group sessions and included presentations from Kory Hedman, Ben Kroposki, Jim McCalley, and Ward Jewell.

A mini-job fair was held in parallel to a welcoming reception. At the fair, the PSERC graduate students had the opportunity to meet with many of the industry representatives to learn about current and future job openings. The following eleven industry members participated in the fair and we appreciate their time and willingness to meet and interact with the students:

- |           |               |        |
|-----------|---------------|--------|
| • AEP     | • Idaho Power | • NREL |
| • EPRI    | • ISO-NE      | • PJM  |
| • EXCELON | • MISO        | • SPP  |
| • GEIRI   | • NRECA       |        |

## Thursday, May 17

The day began with a welcome from Dr. John Watkins, Chair of the Electrical Engineering and Computer Science department at Wichita State University. His remarks were followed by an organizational update and welcome from PSERC's director Dr. Vijay Vittal.



*109 people attended the May 2018 IAB meeting*

Throughout the morning and the early afternoon, attendees had the opportunity to listen to presentations of the following PSERC projects scheduled to end in 2018:

- **Life-cycle Management of Mission-Critical Systems through Certification, Commissioning, In-Service Maintenance, Remote Testing, and Risk Assessment (T-57HI)**  
Presenter: Mladen Kezunovic, Texas A&M
- **Power Electronics to Improve the Performance of Modern Power Systems: Case Study on Partially Rated Solid-State Transformers (T-58)**  
Presenter: Ali Mehrizi-Sani, Washington State
- **Leveraging Conservation Voltage Reduction for Energy Efficiency, Demand Side Control and Voltage Stability Enhancement in Integrated Transmission and Distribution Systems (S-70)**  
Presenter: Zhaoyu Wang, Iowa State
- **Real-time Synchrophasor Data Quality Analysis and Improvement (S-71)**  
Presenter: Le Xie, Texas A&M

- **Attack-Resilient and Secure EMS: Design, Algorithms, Operational Protocols, and Evaluation (S-72)**  
Presenter: Lalitha Sankar, Arizona State
- **Functional assessment of DFIG and PMSG-based wind turbines for grid support applications (S-73G)**  
Presenter: Zhaoyu Wang, Iowa State
- **Robust and Decentralized Operations for Managing Renewable Generation and Demand Response in Large-Scale Distribution Systems (M-35)**  
Presenter: Andy Sun, Georgia Tech
- **Analysis of Power System Operational Uncertainty from Gas System Dependence (M-36)**  
Presenter: Sarah Ryan, Iowa State
- **Improving Voltage Stability Margin Estimation through the use of HEM and PMU Data (S-77G)**  
Presenter: Daniel Tylavsky, Arizona State
- **Efficient modeling of modular multilevel converters for fast simulation of large-scale MMC-HVDC embedded power systems (S-78G)**  
Presenter: Jiangchao Qin, Arizona State
- **Input-Output Properties of the Power System Swing Dynamics: Identification, Model Reduction, and Controller Designs (S-79G)**  
Presenter: Sandip Roy, Washington State

Following the presentations, students, faculty members, and industry members participated in a poster session that featured 28 posters, 21 of which were prepared by students that competed for the annual *Best Poster* award. The posters were evaluated by PSERC industry members.



*Poster Session*



### *Poster Session*

The day ended with a dinner for all the participants and some remarks from Dr. Vittal wishing a happy retirement to Dr. Chris DeMarco from the University of Wisconsin at Madison and thanking Dr. Jewell and his staff for the meeting logistics.



*Dr. DeMarco (right)*



*Dr. Jewell (salmon shirt)*

### **Friday, May 18**

At the beginning of the session, the IAB chair, Patrick Panciatici presented a summary of the main outcomes of the closed IAB meeting and the morning session continued with an open discussion moderated by Ward Jewell about Edge Technologies.

What followed was a tutorial presented by Doug Bowman of Southwest Power Pool on the topic of Wind Generation.

After the tutorial presentation, Dr. Lampis announced the winner of the best student poster competition. The winning students were Mariola Ndrio and Ye Guo from the University of Illinois-UC with the M-38 poster titled "Coordination Mechanisms for Seamless Operation of Interconnected Power Systems."



*Ye Guo and Mariola Ndrio from the University of Illinois-UC (on the left) are the May 2018 winners of the best poster competition. Dr. Vittal is on the right.*

The meeting was adjourned at 11:00 am.