



# Power Systems Engineering Research Center

## Industrial Advisory Board Meeting

May 18-20 in Wichita, Kansas

The [Power Systems Engineering Research Center \(PSERC\)](#) is a university-industry collaboration focusing on research and education needs in the electric power industry. It has been a [National Science Foundation Industry/University Cooperative Research Center](#) since 1996. Its Industrial Advisory Board (IAB), composed of PSERC's industry members, meets twice per year with PSERC researchers and students to conduct Center business, and to engage in discussions about the Center's research and education activities. This is a stimulating meeting with presentations on research and education activities, discussions of research ideas, and conversations on current issues facing the electric power industry.

### Objectives

The objectives of this IAB meeting are to:

- Promote interaction among researchers, industry members, and students
- Communicate the status of current PSERC research projects and education activities
- Present research results and discuss ideas for new research projects.

### Attendees

The IAB meeting is attended by university researchers (including project leaders and Center management from thirteen universities), industrial members of PSERC, students, and invited guests.

### Meeting Highlights

Highlights of this meeting include:

- Final presentations on ending research projects
- Presentations and posters on current research projects
- Tour of the Wichita State University's Power Quality Lab
- A tutorial on public involvement in electric transmission line routing
- An orientation session for new representatives to the IAB meeting and for guests.

Our multi-disciplinary speakers from industry and academia bring a wealth of experience in the industry. With times for formal and informal discussions, this meeting provides an excellent opportunity for networking as well as for information gathering and dissemination.

### Orientation Session

Everyone is invited to attend the PSERC orientation session on Wednesday afternoon, May 18. Our invited guests will have the opportunity to meet one-on-one with a university researcher after the poster session on Thursday afternoon to learn more about PSERC.

# Agenda

## Wednesday, May 18 (Hotel at Old Town Conference Center)

8:00 a.m. - 12:00	Executive Committee Meeting (for PSERC university site directors)
1:00 - 3:00 p.m.	Tour of the <a href="#">WSU Power Quality Lab</a> . Demonstrations of tests of various loads under surge and other disturbance conditions. Transportation available from hotel. Permit parking also available near the Lab ( <a href="#">Driving directions</a> from Hotel to <a href="#">campus</a> . Turn right on Yale to <a href="#">Wallace Hall</a> .).
3:00 - 3:45	PSERC Orientation
3:45 - 5:00	T&D Technologies Stem Committee Meeting
5:00 - 6:15	Markets Stem Committee Meeting
6:15 - 7:30	Systems Stem Committee Meeting
6:00 - 9:00	Reception

## Thursday, May 19 (Room 180, [Hughes Metropolitan Complex](#))

7:30 - 8:00 a.m.	Registration and Continental Breakfast
8:00 - 8:15	Welcome and Introductions – Bob Thomas, Director
8:15 - 8:30	Welcome – Walter Horn, Dean, College of Engineering
8:30 - 8:45	T&D Technologies Stem Report – Mladen Kezunovic
8:45 - 9:00	Systems Stem Report – Vijay Vittal
9:00 - 9:15	Markets Stem Report – Shmuel Oren
	<b><i>Markets Project Presentations – Shmuel Oren, Moderator</i></b>
9:15 - 9:35	Modeling Market Signals for Transmission Adequacy Issues: Valuation of Transmission Facilities and Load Participation Contracts in Restructured Electric Power Systems – Shijie Deng
9:35 - 9:55	Reliability Assessment Incorporating Operational Considerations and Economic Aspects for Large Interconnected Grids – George Gross
9:55 - 10:05	Markets Stem Discussion
10:05 - 10:30	Break
	<b><i>Systems Project Presentations – Vijay Vittal, Moderator</i></b>
10:30 - 10:50	Extended State Estimation for Synchronous Generator Parameters – Jerry Heydt
10:50 - 11:10	Security Enhancement through Direct Non-Disruptive Load Control – Ian Hiskens
11:10 - 11:30	Techniques for the Evaluation of Parametric Variation in Time-Step Simulations – Chris DeMarco
11:30 - 11:50	Detection, Prevention and Mitigation of Cascading Events – Vijay Vittal
11:50 - 12:00	Systems Stem Discussion
12:00 - 1:00	Lunch
1:00 - 1:20	Visualization of Power Systems and Components – Tom Overbye
1:20 - 1:40	On-Line Transient Stability Assessment – Vijay Vittal
1:40 - 2:00	Optimal Placement of Phasor Measurement Units for State Estimation – Ali Abur
2:00 - 2:10	Systems Stem Discussion
2:10 - 3:30	Poster Session with Discussions on On-Going Projects
3:30 - 5:30	Closed IAB Meeting
3:30 - 5:30	Researcher Forum
6:00 - 8:30	Reception and Dinner (7:00 p.m.) at the <a href="#">Rhatigan Student Center, WSU campus</a>

**Friday, May 20 (Room 180, Hughes Metropolitan Complex)**

7:30 - 8:00 a.m. Continental Breakfast  
8:00 - 8:20 Feedback from the IAB Business Meeting

***T&D Project Presentations – Mladen Kezunovic, Moderator***

8:20 - 8:40 Voltage Dip Effect on Loads in Electric Power System – George Karady  
8:40 - 9:00 Enhanced Reliability of Power System Operation Using Advanced Algorithms and IEDs for On-Line Monitoring – Mladen Kezunovic  
9:00 - 9:20 Automated Integration of Condition Monitoring with an Optimized Maintenance Scheduler for Circuit Breakers and Power Transformers – Jim McCalley  
9:20 - 9:30 T&D Technologies Stem Discussion  
9:30 - 9:45 Break  
9:45 - 11:15 Structuring Public Involvement in Electric Transmission Line Routing – Ward Jewell, Wichita State University; and Ted Grossardt and John Ripy, University of Kentucky Transportation Center

*Tutorial Description:*

*One of the main constraints to transmission line construction is the difficulty in routing new lines. Opposition to new routes comes from many parties, and can delay, increase the cost, and in some cases, stop a new line altogether. Public involvement is required in line-routing decisions. This tutorial reviews current practices for public involvement in the routing process, and demonstrates a new method for structuring public involvement. This method, being developed by an NSF-sponsored university consortium, uses a computerized polling system. It simplifies, accelerates, and increases the chance of success of public acceptance of a line. The university investigators seek participants' feedback on the method and on the features of a landscape that influence routing decisions.*

11:15 IAB Meeting Adjourns

# Information for Planning Your Attendance at the IAB Meeting

## Host University

Our host university is Wichita State University ([take a campus tour](#) | [campus map](#)). Among other sites, the campus provides an [outdoor sculpture collection](#).

## Hotel ([Make your reservation by April 18 to obtain the special IAB meeting rate](#))

Lodging will be at the Hotel at Old Town ([description](#) | [virtual tour](#) | [directions](#)), 830 East First, Wichita, KS 67202. The daily room rate is \$95. Call (877) 265-3869 to make a reservation. Ask for the PSERC rate. Parking at the hotel is free. [Old Town](#) has brick-lined streets and historic lampposts with a collection of converted brick warehouses, circa 1870-1930, with native limestone accents and distinctive architectural features. More than 100 restaurants, shops, clubs, theaters, galleries, museums, and businesses have found their home there.

## Airport Transportation

You can take a taxi from the Wichita airport to the hotel for about \$10. Rental cars are available at the airport. On Friday bus transportation will be available from Wichita State University to the airport beginning at 11:30 a.m., although you may need to take a taxi depending upon your flight schedule. We will facilitate taxi sharing when possible.

## Meeting Locations, Transportation, and Parking

On Wednesday, the Stem Committee meetings and reception will be at the Conference Center across the street from the Hotel at Old Town. The phone number at the Conference Center is (316) 262-7300.

On Thursday and Friday, the IAB meeting will be held at the [Hughes Metropolitan Complex](#) at 29<sup>th</sup> and Oliver, one mile north of the main Wichita State campus ([area map](#)). Bus transportation to Wichita State will be provided from the Hotel at Old Town ([driving map from the hotel to the Complex](#)). Messages can be called to (316) 978-3258. The Thursday evening reception and dinner will be on campus at the [Rhatigan Student Center](#) on the Wichita State University campus. Transportation will be available from the Complex to the Center. You may also choose to walk. (As needed, [driving map from the hotel to campus](#). Turn right on Yale to Student Center.) If you prefer to use a car, plenty of parking is available at the Metropolitan Complex, and no permit is needed. For Lab tour and Thursday evening's reception and dinner, you can park on campus. Permits will be available at registration. Request a parking permit when you register.

## Meeting Registration ([Please register by April 18](#))

The registration fee is \$145 for all IAB members, faculty, staff, and invited guests. The fee is waived for students. The fee covers the continental breakfasts, breaks, receptions, dinner, and materials. There is a \$20 per person charge for your dinner guests on Thursday night. To register, use [on-line registration](#) or the [registration form](#). Confirmation and receipt will be emailed to you.

## Additional Information

For logistical questions and requests, contact Stephanie Sauls at (316) 978-6493 or [stephanie.sauls@wichita.edu](mailto:stephanie.sauls@wichita.edu). If you have general questions about registration, the meeting agenda or PSERC, please contact Dennis Ray, PSERC Executive Director, at (608) 265-3808 or [djray@engr.wisc.edu](mailto:djray@engr.wisc.edu).