



# Power Systems Engineering Research Center

## Industrial Advisory Board Meeting

December 6-8, 2006  
Golden, CO

The Power Systems Engineering Research Center (PSERC) is a university-industry collaboration focusing on research and education needs in the electric power industry. 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:

- Recommend new research projects beginning in 2007
- Learn about the status of current PSERC research projects and education activities
- Hear presentations on completed research
- Facilitate interaction among researchers, industry members, and students

### Attendees

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

### Meeting Highlights

Highlights of this meeting include:

- Presentations on research proposals and posters on current projects
- Presentations on final project reports
- An orientation session for anyone interested in background information on PSERC.

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, December 6. 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.

### Host

Our local host for the IAB meeting is Colorado School of Mines.

# Agenda

## Wednesday, Dec. 6 (Marriott)

- 3:00 - 3:45 PSERC Orientation  
3:45 - 5:00 Markets Stem Committee Meeting  
5:00 - 6:15 Systems Stem Committee Meeting  
6:00 - 7:30 Reception  
7:15 - 8:30 T&D Technologies Stem Committee Meeting

## Thursday, Dec. 7 (Marriott)

- 7:30 - 8:00 Registration and Continental Breakfast  
8:00 - 8:10 Welcome from Colorado School of Mines  
8:10 - 8:30 PSERC Update - Vijay Vittal

### 8:30 - 10:00 **Systems Stem Proposal Presentations**

***Real-Time Security Assessment of Angle Stability and Voltage Stability Using Synchrophasors*** (P-12) – Mani V. Venkatasubramanian, Washington State University

***Implementation Issues for Hierarchical, Distributed State Estimators*** (P-22) – Ali Abur, PSERC Adjunct Researcher, Northeastern University

***Development and Evaluation of System Restoration Strategies from a Blackout*** (P-3) – Chen-Ching Liu, Iowa State University

***Fast Simulation, Monitoring, and Mitigation of Cascading Failure*** (P-20) – Jim McCalley, Iowa State University

10:00 - 10:10 Break

### 10:10 - 11:40 **T&D Technologies Stem Proposal Presentations**

***Comparative Characterization of Parallel Distribution Sensors under Field Conditions*** (P-17) – Don Russell, Texas A&M University

***Integration of Asset and Outage Management Tasks for Distribution Applications*** (P-25) – Mladen Kezunovic, Texas A&M University

***Power System Level Impacts of Plug-In Hybrid Cars*** (P-10) – Sakis Meliopoulos, Georgia Institute of Technology

***Characterization of Composite Cores for High Temperature-Low Sag (HTLS) Conductors*** (P-7) – Ravi Gorur, Arizona State University

11:40 - 11:50 Break

### 11:50 - 12:50 **Markets Stem Proposal Presentations**

***Improved Investment and Market Performance Resulting from Proper Integrated System Planning*** (P-11) – Richard Schuler, Cornell University

***Integrated Financial and Operational Risk Management in Restructured Electricity Markets*** (P-8) – Shijie Deng, Georgia Institute of Technology

***Facilitating Environmental Initiatives While Maintaining Efficient Markets and Electric System Reliability*** (P-24) – William Schulze, Cornell University

12:50 - 1:45 Lunch

**Thursday, Dec. 7 (continued)**

1:45 - 2:30

**Cross-Stem Proposal Presentations**

***Impact of Increased DFIG Wind Penetration on Power System Reliability and Consequent Market Adjustments*** (P-16) – Vijay Vittal, Arizona State University

***The Electric Power Industry and Climate Change – Discussion Paper*** (P-9) Judy Cardell, PSERC Adjunct Researcher, Smith College, and Tom Overbye, University of Illinois at Urbana/Champaign

2:30 - 3:30

Poster Session with Discussions on Present and Proposed Projects

3:30 - 5:30

Closed IAB Meeting

6:30 - 9:00

Reception and Dinner at [The Fort](#)

**Friday, Dec. 8 (Marriott)**

7:30 - 8:00

Continental Breakfast

8:00 - 8:30

Feedback from the IAB Business Meeting

8:30 - 9:30

**Final Project Presentations**

***Optimal Electricity Market Structures to Reduce Seams and Enhance Investment*** (M-9) – Richard Schuler, Cornell University

***Uncertain Power Flows and Transmission Expansion Planning*** (M-10) – Jerry Heydt, Arizona State University and Pete Sauer, Univ. of Illinois at Urbana-Champaign

9:30 – 9:50

Break

9:50 - 11:00

**Final Project Presentations**

***Overloading and Optimum Operation of Liquid Filled Power Transformers*** (T-25) - P.K. Sen, Colorado School of Mines

***A Novel Approach for Prioritizing Maintenance of Underground Cables*** (T-23) and ***A Low Voltage Resistance Based Diagnostic Tool for Insulator Condition Assessment*** (T-26G) – Ravi Gorur, Arizona State University

11:00 a.m.

IAB Meeting Adjourns

11:30 - 1:00

Executive Committee Meeting

# Information for Planning Your Attendance at the IAB Meeting

## Hotel

The meeting will be held at:

[Marriott Denver West](#)  
1717 Denver West Boulevard  
Golden, Colorado 80401 USA  
Phone: (303) 279-9100  
Fax: (303) 271-0205

The room rate is \$109 for all standard rooms. Reservations for the Event will be made by individual attendees directly with Marriott reservations at (888) 238-1803 or (303) 279-9100. Ask for the PSERC Meeting rate. The deadline for making your room reservation is November 15, 2006.

## Dinner on Thursday

Thursday's dinner will be at [The Fort](#). Transportation will be provided for those attendees needing it, but we assume that most people will have rental cars. Please indicate on the registration form if you will require a ride to the restaurant.

## Airport Transportation

The hotel is approximately thirty-four miles from the Denver International Airport so rental cars may be your best option. [A map with driving instructions is available](#). The Golden West Commuter provides transportation as well for \$50 per person round trip.

## Registration

The registration fee is \$175 for all IAB members, faculty, staff and invited attendees. The fee is waived for students. The fee covers the continental breakfasts, breaks, receptions, dinner, and materials. There is a \$45 charge for your dinner guest on Thursday night. You can pay by check or by credit card. A receipt will be available at the IAB meeting. Please register by November 15. [A form is available for registration](#).

## Meeting Materials

As materials become available for the meeting, they are posted for PSERC members on the [PSERC website](#). Presentation handouts will be available for all participants at the meeting.

## Additional Information

For logistical questions and requests, contact P. K. Sen at 303-384-2020 or [psen@mines.edu](mailto:psen@mines.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 [pserc@engr.wisc.edu](mailto:pserc@engr.wisc.edu).