



# PRAIRIE VIEW A&M UNIVERSITY

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## **ELECTRICAL AND COMPUTER ENGINEERING SEMINAR SERIES: SPRING 2011**

### **ONE-DAY WORKSHOP: “Introduction to Smart Grid”**

by

Professor Yuan Liao  
Power and Energy Institute of Kentucky  
Department of Electrical & Computer Engineering  
University of Kentucky  
Lexington, KY

**LOCATION:** 3rd floor conference room in the new Electrical Engineering Building

**DATE OF SEMINAR:** April 26 (Tuesday), 2011

#### **ABSTRACT:**

This workshop will cover introduction to smart grid, key enabling technologies in transmission and distribution, and issues related to smart grid technology deployment.

#### **Topics:**

- Introduction to smart grid
- Power transmission and distribution system
- Supervisory control and data acquisition, network management system
- FACTS, PMU, wide area monitoring, protection, control, dynamic line thermal rating
- Power market: structure, real time pricing
- Smart metering
- Demand side management
- Distribution system integrated voltage regulation and reactive power optimization

#### **SHORT BIO OF THE PRESENTER:**

Dr. Yuan Liao is currently an associate professor at the Department of Electrical and Computer Engineering at the University of Kentucky. He is also the Associate Director for the Graduate Program of Power and Energy Institute of Kentucky. Dr. Yuan Liao obtained his Ph.D. in Electrical Engineering from Texas A&M University, College Station, Texas in 2000. He worked as a consulting R&D engineer and then principal consulting R&D engineer at the Corporate Research Center of ABB Inc., Raleigh, North Carolina from 2000 to 2005. His research interests include smart grid and renewable energy.

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## Tentative Agenda

8:30 – 9:00 am	Registration and continental breakfast
9:00 – 10:00 am	Introduction to smart grid Power transmission and distribution system
10:00 – 10:15 am	Break
10:15 – 12:00 pm	Supervisory control and data acquisition Network management system FACTS, PMU, wide area monitoring, protection, control Dynamic line thermal rating
12:00 – 1:00 pm	Lunch
1:00 – 3:00 pm	Power market: structure, real time pricing Smart metering
3:00 – 3:15 pm	Break
3:15 – 5:00 pm	Demand side management Distribution system integrated voltage regulation and reactive power optimization
5:00 pm	Adjourn