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TomKat Center for Sustainable Energy
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Stanford SmartGrid Seminar

A PMU in every household?

GPS Time Synchronized Wide-Area Power Grid Monitoring

Yilu Liu

University of Tennessee and Oak Ridge National Laboratory



1pm-2pm, Thursday, Sep 25th, Y2E2 101

Abstract: This talk will introduce the research activities of power grid wide-area monitoring and some fascinating observations that have been revealed for the first time. The critical roles of wide-area phasor measurement in situation awareness, operation, and control will be discussed. The concept of electromechanical wave propagation in a power grid will be demonstrated using measurement data collected from the actual US grid. Finally we will briefly introduce the forensic value of synchronphasor measurements in digital audio/video authentication, a surprising by-products of this technology.

Bio: Dr. Yilu Liu is currently the Governor's Chair at the University of Tennessee, Knoxville (UTK) and Oak Ridge National Laboratory (ORNL). She is the deputy director of the NSF/DOE Engineering Research Center, CURENT. Prior to joining UTK/ORNL, she was a Professor at Virginia Tech. She led the effort to develop the North America power grid monitoring network (FNET) at Virginia Tech which is now operating at UTK and ORNL as FNET/GridEye. Her current research interests include power system wide-area monitoring and control, large

interconnection level dynamic modeling and simulations. Dr. Liu is a fellow of IEEE and the recipient of the Presidential Faculty Fellows Award.