

## Department of Electrical and Computer Engineering

**Title:** «*A next generation state estimator for wide area monitoring of power systems*»

**Markos Asprou, PhD Candidate**

ECE Department & KIOS Research Center, University of Cyprus

**Wednesday, 03<sup>th</sup> April 2013, 17:00 – 18:30**

**Room KENTP – A008, Old Campus**

**University of Cyprus**

**Abstract:** The state estimator constitutes the cornerstone of the existing Supervisory Control and Data Acquisition (SCADA) systems providing the operating condition of the power systems in consecutive time intervals. With the advent of Synchronized Measurement Technology (SMT) the performance of the state estimator has been improved considerably, enabling the transition to the state estimator of the next generation. Although in the SCADA systems of the electric utilities the conventional state estimator is still used, the incremental installation of Phasor Measurement Units (PMUs) in the measurement layer of the power systems indicates that an evolutionary state estimator is going to be accommodated in the SCADA systems soon enough. In this presentation, a hybrid state estimator formulation that uses both conventional and synchronized measurements for providing the states of the power system will be presented. Issues that are related to the enhancement of the performance of the developed hybrid state estimator, such as optimal PMU placement and line parameter uncertainties will also be discussed.

**Biography:** Markos Asprou obtained the B.Sc. degree in Electrical Engineering from the University of Cyprus in 2009. Currently he is a Ph.D. student in the Department of Electrical and Computer engineering at the University of Cyprus. He is also working as a researcher in the KIOS Research Center for Intelligent Systems and Networks. His research interests include monitoring and state estimation of power systems using synchronized measurements and fault location detection in power system transmission lines based on synchronized measurements. He is graduate student member of the IEEE and the Chair of the IEEE Power and Energy Society student branch at the University of Cyprus.