

DAY 1: INDUSTRY CONFERENCE

Wednesday, April 11, 2012

Knoxville Convention Center Lecture Hall

7:00-8:00	Registration and Continental Breakfast
8:00-8:05	Welcome
8:05-8:30	Center Overview Kevin Tomsovic, CURENT Director UTK
8:30-11:00	Invited Presentations
8:30-9:15	Renewable Energy at Scale James Lyons, Novus Energy Partners CTO, former Chief Engineer of Electrical Systems at GE Global Research
9:15-10:00	Phasor Technology History and Applications Arun Phadke, Research University Distinguished Professor, Virginia Tech
10:00-10:15	Break
10:15-11:00	Architecting Future Grid Eugene Litvinov, Senior Director, Business Architecture & Technology, ISO-New England
11:00-12:10	Technical Paper Session 1: Modeling, Estimation, and Analysis
11:00-11:10	Overview Ali Abur (NEU)
11:10-11:30	Synchrophasor State Estimation with Error Correction Scott Ghiocel, Joe Chow (RPI) George Stefanopoulos, Bruce Fardanesh, Deepak Maragal, Brent Blanchard (New York Power Authority)
11:30-11:50	Estimating Electricity Generator Emission and Heat Rate Functions, and an Illustrative Estimate of the Effect of a Unit's Output Variation on its Emissions Andrew Kindle, Daniel Shawhan (RPI)
11:50-12:10	Customizable Frequency Selective Filter Banks for Robust Dynamic Time Frequency Analysis Paraskevas Argyropoulos, Hanoch Lev-Ari (NEU) Aleksander M. Stankovic (TUFTS)
12:10-1:10	Lunch
1:10-2:20	Technical Paper Session 2: Monitoring and Measurement
1:10-1:20	Overview Yilu Liu (UTK)
1:20-1:40	Machine Learning and Data Mining Applications for Wide-Area Measurement Data Penn Markham, Yilu Liu (UTK)

1:40-2:00 **Measurement-Based Power System Model for Dynamic Response Estimation**
Yong Liu, Yilu Liu (UTK)
Kai Sun (EPRI)

2:00-2:20 **Embedded Zerotree Wavelet Based Data Compression for Smart Grid**
Morgan Arline, Jesmin Khan (TU)

2:20-3:30 **Technical Paper Session 3: Control, Planning, and Market**

2:20-2:30 **Overview**
Joe Chow (RPI)

2:30-2:50 **Flatness-Based Automatic Generation Control with Wind Units**
Maryam Hassani Variani, Kevin Tomsovic (UTK)

2:50-3:10 **Decentralized Residential Response Management Considering Distribution System Operational Constraints**
Benyamin Moradzadeh, Kevin Tomsovic (UTK)

3:10-3:30 **A Probability-Driven Multilayer Framework for Scheduling Variable Renewable Energy**
Yanli Wei, Fangxing Li (UTK)

3:30-3:50 Break

3:50-5:00 **Technical Paper Session 4: Power Electronics and Actuation**

3:50-4:00 **Overview**
Fred Wang, Leon Tolbert (UTK)

4:00-4:20 **Design and Performance of an All-SiC Three-Phase Buck Rectifier for High Efficiency Data Center Power Supplies**
Fan Xu, Ben Guo, Fred Wang, Leon Tolbert, Ben Blalock (UTK)

4:20-4:40 **Grid Control and Actuation Emulator Using Regenerative Power Converters**
Jing Wang, Liu Yang, Yiwei Ma, Xiaojie Shi, Xiaohu Zhang, Keman Lin, Leon Tolbert, Fred Wang, Kevin Tomsovic (UTK)

4:40-5:00 **Development of Si IGBT Phase-Leg Modules for Operation at 200°C in Hybrid Electrical Vehicle Applications**
Zhuxian Xu, Fred Wang (UTK)
Dong Jiang, Ming Li (United Technologies Research Center)
Puqi Ning, Zhenxian Liang (Oak Ridge National Lab)

6:00-9:00 **Industry, Faculty Dinner and Meeting (Four Points Hotel)**

DAY 2: NSF/DOE ANNUAL SITE VISIT

Thursday, April 12, 2012

Knoxville Convention Center Lecture Hall

7:00-8:00	Registration and Continental Breakfast	
8:00 – 8:15	Welcome	
	<i>Dr. Gregory Reed, Associate Vice Chancellor, UTK; Deans from UTK, NEU, RPI and TUs</i>	
8:15-8:45	CURRENT Overview	
	<i>Kevin Tomsovic, CURENT Center Director, UTK</i>	
8:45-11:00	Research Thrust Overviews	
	8:45-9:30	Monitoring and Modeling Thrust Overview <i>Yilu Liu, Deputy Director and Thrust Leader & Ali Abur, NEU Campus Director and Thrust Leader</i>
	9:30-9:45	Break
	9:45-10:30	Control and Actuation Thrust Overview <i>Joe Chow, RPI Campus Director and Thrust Leader & Fred Wang, Technical Director and Thrust Leader</i>
	10:30-11:00	CURENT Engineered Systems Overview <i>Leon Tolbert, UTK Campus Director and Thrust Leader</i>
11:00-11:45	Site Visit Team Private Session (Convention Center Board Room)	Industry Feedback Session (Lecture Hall)
11:45-12:45	Lunch	
12:45-1:15	Innovation and Industry Collaboration Program Overview	
1:15-2:00	SVT Private Session with Industry	
2:00-3:45	Lab Tour and Poster Session (MHK 4 th and 5 th ; SERF 213)	
3:45-4:15	Education and Outreach Program Overview (MHK 404)	
4:15-5:00	SVT Private Session with Students (MHK 404)	
5:00-6:00	SVT Private Meeting (MHK 435)	
6:00-6:15	SVT Questions Presentation to ERC Team (MHK 404)	

DAY 3: ANNUAL SITE VISIT

Friday, April 13, 2012

Knoxville Four Points Hotel

7:00-8:00	Breakfast – SVT, Director, Deputy Director, and invited university officials	
8:00-10:00	ERC Team Response to SVT Questions	
10:00-4:30	SVT Report Writing	
