JST-NSF-DFG-RCN
Workshop on Distributed Energy Management Systems
- Future Power System Architectures and Control Paradigms –

Program and Schedule

National Science Foundation – Room 375
Conference Web Site: http://curent.utk.edu/research/conferences/jst-nsf-dfg-workshop/general/

On behalf of the Center for Ultra-wide-area Resilient Electric Energy Transmission Networks (CURENT), the Japanese Science and Technology Agency (JST), the National Science Foundation (NSF), the German Research Foundation / Deutsche Forschungsgemeinschaft (DFG) and the Research Council of Norway (RCN), we are pleased to welcome you.

Day 1: April 20, 2015 (Monday)

7:30- 8:30	*Registration, Breakfast and Networking*
8:30- 8:40	*Welcome*: Prof. Kevin Tomsovic, University of Tennessee, and Dr. Kishan Baheti, NSF
8:40-8:50	*Welcome from Japan*: Dr. Shoichiro Tonomura, Executive Director, JST and Mr. Akira Tsugita, Science Counselor, Embassy of Japan
	SESSION 1 - Prof. Kevin Tomsovic, University of Tennessee (Session Chair)
8:50-9:20	*Research Overviews & Objectives of Workshop* Prof. Masayuki Fujita, JST Dr. Grace Wang, NSF Prof. Frank Allgöwer, DFG Mr. Trygve Riis, RCN
9:20-9:50	*Keynote Speech*: *Cybersecurity of Power Grids* Prof. William Sanders, University Of Illinois at Urbana-Champaign
9:50-10:05	*Networking Break*
	SESSION 2 - Dr. Frank Allgower, DFG (Session Chair)
10:05-10:15	*Prior Workshop Recommendations* Prof. Anthony Kuh, University of Hawaii
10:15-11:40	*Review Process / Funding Modalities - Program Director Perspectives* 10:15-10:45 Dr. Franziska Langer, DFG, and Dr. Damian Dudek, DFG 10:45-11:05 Ms. Kana Asano, JST 11:05-11:25 Mr. Trygve Riis, RCN 11:25-11:40 Dr. Kishan Baheti, NSF
11:40-12:10	*Keynote Speech*: *Towards Harmonized Power System Control under Photovoltaic Power Prediction Uncertainty* Prof. Jun-ichi Imura, Tokyo Institute of Technology
12:10-13:15	*Lunch*

Day 1 (Continued)

13:15-14:20	*Poster Session / Networking*
	SESSION 3 – Dr. Dagmar Niebur, Drexel University (Session Chair)
14:20-14:40	*Current Issues in Power System Research* Prof. Istvan Erlich, The University of Duisburg-Essen
14:40-15:00	*Collaborative Industry/University Research at PSERC* Prof. Vijay Vittal, Director, Industry - University Collaborative Research (PSERC) Arizona State University
15:00-15:20	*Next Generation EMS Control Center* Dr. Jay Giri, Alstom Grid
15:20-15:40	*Engineering Research Centers and CURENT* Prof. Kevin Tomsovic, NSF/DOE Engineering Research Center – CURENT University of Tennessee
15:40-16:00	*Networking Break*
	SESSION 4 - Prof. Peter Sauer, UIUC (Session Chair)
16:00-16:20	*Demand Response Using Linear Supply Function Bidding* Prof. Munzer Dahleh, Massachusetts Institute of Technology (MIT)
16:20-16:40	*Prediction and Optimization of EMS Using In-Vehicle Batteries and Their Aggregation* Prof. Tatsuya Suzuki, Nagoya University
16:40-17:00	*Impact of Converter Properties on the System Behavior of Electric Grids* Prof. Axel Mertens, The University of Hannover
17:00-17:20	*Robustness and Cost Efficiency through User Flexibility in the Distribution Network* Dr. Knut Samdal, Research Director SINTEF (Stiftelsen for industriell og teknisk forskning) Energy
17:20	*Adjourn*

Day 2: April 21, 2015 (Tuesday)

7:30- 8:30	*Registration, Breakfast and Networking*
	SESSION 5 - Dr. El-Ghazaly, NSF (Session Chair)
8:30-8:50	*The Vision and Pathway for Grid, Microgrid and Emerging Grid Development* Prof. Mani Venkata, Alstom/University of Washington
8:50-9:10	*Cybersecurity of Power Grids* Prof. Chen-Ching Liu, Washington State University
9:10-9:30	*Our Energy Informations Research Agenda: Putting Bits in Energy* Prof. Hans-Arno Jacobsen, Technical University of Munich
9:30-9:50	*Demand Response: Architecture, Privacy and Economics for Integrating Stochastic Renewables* Prof. P.R. Kumar, Texas A&M University
9:50-10:05	*Networking Break*
	SESSION 6 - Dr. Eyad Abed, NSF (Session Chair)
10:05-10:25	*Real-Time Auction Models for Optimal Operation and Control of Power Networks* Prof. Kenko Uchida, Waseda University
10:25-10:55	*Keynote Speech*: *The Norwegian Move to Smartgrid – Opportunities and Challenges in a European Context* Prof. Olav B. Fosso, Director, Strategic Research Area Energy Norwegian University of Science and Technology
10:55-12:15	*Junior Researcher Session Panel*
	Can we build the grid from the bottom up? Prof. Ram Rajgopal, Stanford University
	Distributed Optimization Algorithms for Wide-area Monitoring of Power Systems Prof. Aranya Chakrabortty, University of North Carolina Chapel Hill
	Estimating and Mitigating Cascading Failure Risk Prof. Paul Hines, University of Vermont
	Nonlinear Oscillators and Low-inertia Power Systems Prof. Sairaj Dople, University of Minnesota
	Transitioning to a Modern Power System: the Role of Control, Optimization and Consumer Behavior Prof. Eilyan Bitar, Cornell University
12:15-13:15	*Lunch*

Day 2 (Continued)

SESSION 7 – Prof. Anuradha Annaswamy, MIT (Session Chair)

13:15-13:35 *Nonlinear Control of Power Converters for HVDC Applications*
Prof. Morten Hovd, NTNU

13:35-13:55 *Specifications for Power Grid Simulation*
Prof. Anjan Bose, Washington State University

13:55-14:15 *Stability and Control of Systems with High Penetration of Converter Interfaced Generation*
Prof. Sakis Meliopoulos, Georgia Tech. University

14:15-14:30 *Networking Break*

SESSION 8 - Prof. Masayuki Fujita, JST (Session Chair)

14:30-15:45 *International Junior Researcher Session Panel*

Data-driven Analysis of Power System Dynamic Performances based Nonlinear Koopman Modes
Prof. Yoshihiko Susuki, Kyoto University

Welfare Comparison of FIT and RPS
Dr. Yukihide Kurakawa, Waseda University

Power System Operation with Battery Energy Storage System Based on Forecasted Photovoltaic Power Output
Chief Researcher Taisuke Masuta, The Institute of Applied Energy

Quasi real-time Analysis of Solar Radiation Budget using Geostationary Satellites with Monitoring of Solar Thermal and Photovoltaic Power Generation
Dr. Hideaki Takenaka, Japan Aerospace Exploration Agency

Multiple Scenario Forecast for Residential Energy Demands
Prof. Yu Fujimoto, Waseda University

Virtual Synchronous Machines for Supporting Flexible Operation of Distribution Systems
Dr. Jon Are Suul, NTNU

15:45-16:05 *Planning and Operation Methods for Smart Distribution Grids*
Prof. Christian Rehtanz, Technical University of Dortmund

16:05-16:20 *Networking Break*

SESSION 9 - Prof. Mariesa Crow, Missouri S&T (Session Chair)

16:20-16:40 *Balancing New Renewables in Europe - Norwegian Contributions and Research Challenges*
Dr. Birger Mo, SINTEF Energy

16:40-17:00 *Estimation of Renewable Energy by Geophysical Approach and Future Collaboration with Demand Sciences*
Prof. Takashi Y. Nakajima, Tokai University

17:00-17:20 *Opportunities of Smart Buildings in Smart Urban Grids*
Prof. Johanna Myrzik, Technical University of Dortmund

17:20 *Adjourn*

Day 3: Wednesday, April 22, 2015

7:30- 8:30	*Registration, Breakfast and Networking*
	SESSION 10 - Dr. Damian Dudek, DFG (Session Chair)
8:30- 9:00	*Keynote Speech*: *Development of Methodologies for Collaborative Energy Management System Using Simulation Model and Distribution NW Simulator* Prof. Yasuhiro Hayashi, Waseda University
9:00-9:20	*Collaborative and Interdisciplinary Test Beds for Smart Energy Systems* Prof. Sebastian Lehnhoff, The Carl von Ossietzky University of Oldenburg
9:20-9:40	*CPS Security Test Bed for the Smart Grid* Prof. Manimaran Govindrasu, Iowa State University
9:40-10:00	*A New Unifying Modeling for Scalable Simulation-based Test Beds of Future Electric Energy Systems: Smart Grid in a Room Simulator at Carnegie Mellon University* Prof. Marija Ilic, Carnegie Mellon University
10:00-1015	*Networking Break*
	SESSION 11 - Dr. Kishan Baheti, NSF (Session Chair)
10:15-10:25	*International Science and Engineering* Ms. Anne Emig, NSF
10:25-10:45	*Examples of Successful International Collaborations in Neuroscience* Dr. Kenneth Whang, NSF
10:45-11:15	*Closing Session* Prof. Masayuki Fujita, JST Dr. Pramod Khargonekar, NSF Prof. Frank Allgöwer, DGF Mr. Trygve Riis, RCN
11:15	*Adjourn*