SMART GRID CENTER
TEXAS A&M ENGINEERING EXPERIMENT STATION

NSF WORKSHOP

Using Smart Grids Big Data

Memorial Student Center, Texas A&M University

April 18, 2017

Program

7:30 **Registration, Breakfast, Coffee and Tea available (Room 2400)**

8:00 **Welcome:** Glen A. Laine, Vice President for Research, Texas A&M University

8:05 **Opening Remarks**: Mladen Kezunovic, PI, NSF Smart Grids Big Data SPOKE Grant, Texas A&M University, "Workshop Goals and Objectives" Slides >

8:25 **Keynote**: Todd Horsman, Senior Director, Strategy and Product Development, CPS Energy, "Data and the Evolving Utility Business Model"

8:55 **Panel 1**: "Big Data Availability and Management"

Chair: John McDonald, GE Grid Solutions
Co-Chair: Miroslav Begovic, Texas A&M University
Panelists:
Gary Hayes, CenterPoint Energy, "Learning to Live with and Leverage Big Data: Challenges, Opportunities and Transformation" Slides >
Mark Rice, PNLL, "Open Ecosystem and Distribution of Power Grid Data Sets"
Keith Brewster, University of Oklahoma, "High Resolution Ensemble Weather Forecasts for Power Generation, Transmission & Load" Slides >
Ryan Said, Vaisala Inc., "Use of Lightning Data in Energy Applications"

9:50 **Break (Room 2400) and Posters (Room 2401)**

10:10 **Panel 2**: "International Experiences: Synchrophasors BD"

Chair: Glauco Taranto, Federal University of Rio de Janeiro, Brazil
Co-Chair: Mark Weichold, Texas A&M University
Panelists:
Luigi Vanfretti, KTH, Sweden, "Open Source Tools for Synchrophasor Applications" Slides >
Biplab Sikdar, National University of Singapore, Singapore, "Security for Synchrophasor data" Slides >
Diego Issicaba, Federal University of Technology – Paraná, Brazil, "The MedFasee Project: Current Applications and Future Plans" Slides >
Zhiwei Wang, President, GEIRI North America, "Smart Grid and Synchrophasor Applications in China" Slides >

11:05 **Focus Group Sessions**:

"Tools for BD Analytics" Slides >	"Smart Grid BD Types and Sources" Slides >	"Smart Grid BD Education"
Rm 2400	**Rm 2500**	**Rm 2501**
Chair: Ilkay Altintas, UC San Diego Supercomputer Center	*Chair*: Arcot Rajasekar, UNC-Chapel Hill	*Chair*: Ram Rajagopal, Stanford University
Co-Chair: Nick Duffield, Texas A&M University	*Co-Chair*: Kate Davis, University of Illinois Urbana-Champaign	*Co-Chair*: Le Xie, Texas A&M University

12:00 **Lunch (Room 2300 A&B) and Posters (Room 2401)**

Welcome: Narasimha Reddy, Texas A&M Engineering Experiment Station; Texas A&M University

Featured Speaker: Kevin Nowka, IBM, "Big Data Landscape: Challenges and Opportunities"

13:15 **Focus Group Sessions**

"Uses of Synchrophasor BD" Slides >	"Uses of Smart Meters BD"	"Uses of Renewables BD" Slides >
Rm 2400	**Rm 2500**	**Rm 2501**
Chair: Bill Blevins, ERCOT	Chair: Santiago Grijalva, GaTech	*Chair*: Bri-Mathias Hodge, NREL
Co-Chair: Mladen Kezunovic, Texas A&M University	*Co-Chair*: Yu Ding, Texas A&M University	*Co-Chair*: P.R. Kumar, Texas A&M University

14:10 **Plenary Session:** Report-out by Focus Groups (Room 2400)

14:45 **Break (Room 2400) and Posters (Room 2401)**

15:00 **Panel 3**: "Data Analytics and Tools"

Chair: Jim O'Rourke, OsiSoft, Slides >
Co-Chair: Dilma Da Silva, Texas A&M University
Panelists
Zoran Obradovic, Temple University, "Predictive Analytics Tools for Improving the Electricity Grid Resilience" Slides >
K. Selcuk Candan, Arizona State University, "Data-driven Decision Making for Energy Management in Smart Buildings" Slides >
Brad Williams, Oracle, "Big Data Analytics that drive utility operational performance" Slides >
Ankush Agarwal, Exelon, "Grid Analytics Journey: Developing a Solid Strategy and Game Plan" Slides >

15:55 **Panel 4**: "Future Efforts"

Chair: Igor Alvarado, National Instruments Slides >
Co-Chair: Karen Butler-Purry, Texas A&M University
Panelists
Philip L. Top, Lawrence Livermore National Laboratory, "Grid Modernization: A DOE Roadmap for Data Management and Analytics" Slide >
Tom Overbye, Texas A&M University, "Synthetic Power Grid Models: What are They, How They're Made, and Why They Matter" Slides >
Jane Greenberg, Drexel University, "A Licensing Model and Ecosystem for Data Sharing" Slides >
Auroop Ganguly, Northeastern University, "Resilience and the Smart Grid with Big Data" Slides >

16:50 **Closing Remarks and Action Items**: Mladen Kezunovic, PI, NSF Smart Grids Big Data SPOKE Grant

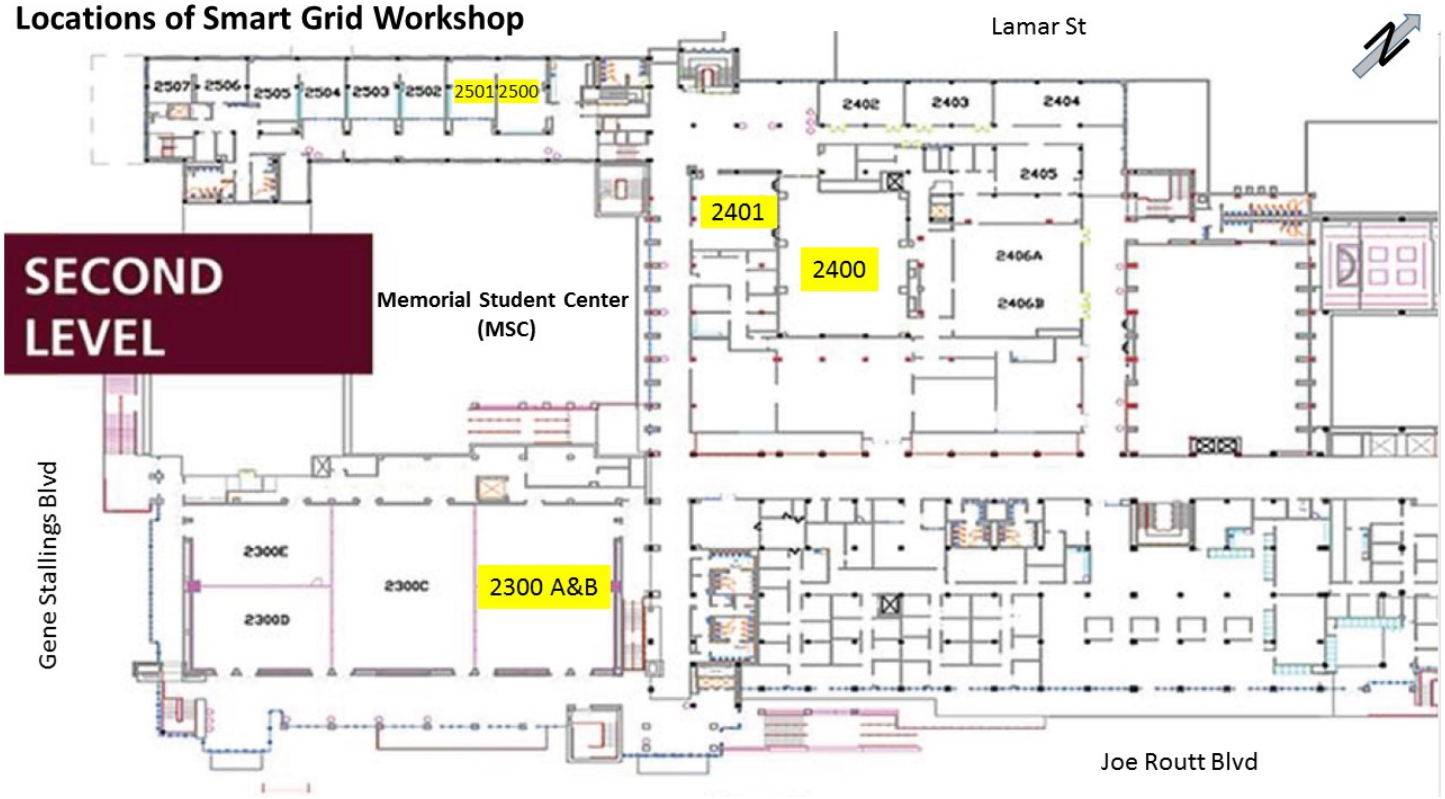
17:00 **Post-Workshop Reception and Posters (Room 2401)**

19:00 **Adjourn**

Posters (Room 2401)

1.	Becejac, Tamara; Payman Dehghanian, Mladen Kezunovic	Synchrophasor Technology: Powerful Tool That Increases Grid Reliability and Advances Electrical Safety
2.	Chen, Po-Chen; Tatjana Dokic, and Mladen Kezunovic	Risk Analysis of Weather Impacts on Outage Management in Distribution Systems
3.	Dokic, Tatjana; Po-Chen Chen, Mladen Kezunovic	Placement of Transmission Line Surge Arresters Based on Risk Analysis
4.	Esmaeilian, Ahad; Mladen Kezunovic	Prevention of Major Blackouts Using Controlled Islanding Scheme
5.	Ezzat, Aziz; Ahmed; Mikyoung Jun, Yu Ding	Spatial-Temporal Asymmetry in Local Wind Fields
6.	Grabus, Sam; Jane Greenberg, Sam Madden, Tim Kraska, and Danny Weitzner	ShareDB: A Licensing Model and Ecosystem for Data Sharing
7.	Hwangbo, Hoon; Yu Ding	Performance Evaluation of Wind Power Systems
8.	Idehen, Ikponmwosa; Tom Overbye	Windowing Technique for the Detection of PMU Data Errors
9.	Kezunovic, Mladen; Dilma Da Silva, P.R. Kumar, Le Xie, Santiago Grijalva, Zoran Obradovic	Smart Grids Big Data Spoke
10.	Liu, Yilu; Ling Wu, Dao Zhou, Weikang Wang, Jiecheng Zhao, Yi Cui, Wenpeng Yu, Yong Liu, and Micah J. Till	FNET/GridEye Web Display
11.	Ming, Hao; M. Sadegh Modarresi; Tong Huang; Le Xie	Robust Phase Detection in Distribution System
12.	Nechifor, Alexandru ; Vladimir Terzija	An enterprise platform for estimating dynamic load model parameters in real time using SMT
13.	Qian, Cheng; Mladen Kezunovic	Synchrophasor reference algorithm for PMU calibration
14.	Rahimnejad, Abolfazl; Payam Niknejad, Tanushree Agarwal, Reza Barzegaran	Open Source Synchrophasor Implementation on Microgrid Using Microprocessor in the Loop System
15.	Rogers, Austin; Bryan Rasmussen	Developing and testing smarter load shifting strategies using 15 minute demand database: applications for both peak demand penalties and real-time retail pricing.
16.	Tasdighi, Mohammad; Mladen Kezunovic	Distance Relay Settings Assessment for an Evolving Network Topology
17.	Torabi, Niloofar; Hamid. A. Toliyat	Real Time PMU-Based Fault Isolation In Partially Observable Transmission Networks Using Semi-supervised Learning Algorithms
18.	Vanfretti, Luigi; Maxime Baudette, Francisco Jose Gomez	Open Source Software Tools for Smart Grid Modeling- Simulation and Model Validation
19.	Bogodorova, T. ; L. Vanfretti	Estimation of Power System Model Parameters- Uncertainty Distributions and Confidence Intervals
20	Wu, Chih-Peng; Dilma Da Silva	Data Placement in Edge Computing for Smart Grids
21.	Yan, Qin; Tatjana Dokic, Mladen Kezunovic	Predicting Impact of Weather Caused Blackouts on Electricity Customers Based on Risk Assessment
22.	Zhang, Bei; Payman Dehghanian, Mladen Kezunovic	Spatial-Temporal Solar Power Forecast through Use of Gaussian Conditional Random Fields
23.	Zhang, Xiaochen; Santiago Grijalva	Customer Behavior Mining through Smart Meter Measurements

Locations of Smart Grid Workshop



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