

i-PCGRID Workshop 2015

Innovations in Protection & Control for Greater Reliability Infrastructure Development

Integrating Tradition and Innovation for Grid Revitalization and Reliability

2.4 Continuing Education Units (CEU) available this year

To register, please contact Gail Jackson, Mississippi State Univ. - Phone: (662) 325-9088

Program

March 25 – March 27, 2015

245 Market Street, Auditorium, San Francisco, California, USA

You are cordially invited to attend the 12th Annual Workshop in Innovations in Protection and Control for Greater Reliability Infrastructure Development (i-PCGRID) hosted by Pacific Gas and Electric Co. (PG&E) and organized by PG&E, Mississippi State University and Quanta Technology.

The importance of a modern electricity grid for sustainable delivery of reliable, communicative, and high-quality electricity has energized the organizing committee to continue with its tradition of fostering knowledge, sharing of best practices, and information exchange through workshops. As the electrical power and energy industry is in a crucial transition phase as initiatives we take today will affect how the grid is operated for years to come, this gathering of the minds initiative works to develop a shared vision for a modern, efficient grid. The i-PCGRID 2015 Workshop will emphasize both practical lessons learned from managing grid system and equipment assets and innovative and future looking technologies and solutions to continue building a more resilient and efficient grid.

Core Program discussions focus on **Past, Present and Future Power Systems** around the world addressing the evolving energy sector. **IN-DEPTH** featured topics dive into how changes in energy mix and ever-developing technologies could be best utilized and managed to assure global grid resiliency and required levels of performance. Worldwide sustainability roadmaps will be presented to address the energy needs of society and key success factors. Our expert navigators will offer many **lessons learned and winning strategies** to others embarking on new projects or seeking expertise at different stages of modernization undertakings

Supplemental Power System discussions include Grid Reliability, Security, and Communication; Microgrids; Storage; Electric Vehicles; Advanced Monitoring, Protection and Control Technologies; and optimized Asset Management. It will showcase endeavors and findings by utilities, vendors, consultants, regulators and academics, navigating the Frontiers of the Grid, Balancing Operational Readiness, Energy Mix Strategies, and Implementing Advances in Technology.

The PG&E hosted workshops are one way for fostering a vision and to set the foundation for a transition to a Modern Grid. These workshops are a forum to discuss industry trends and challenges, exchange ideas, and to help prioritize directions. Participation in this process will enable stakeholders to shape the direction of this critical program and maximize benefits from the program achievements. The ultimate goal of this effort is to foster best practices and provide a collaborative approach.

On-line Registration: https://www.cavs.msstate.edu/iPCGRID_Registration/registration.htm

To register by phone, please contact Gail Jackson: gail@cavs.msstate.edu

Center for Advanced Vehicular Systems

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200 Research Boulevard
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On-site registration is available during the Event. Partial registration is not available.

Should you have any questions, please feel free to contact us:

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Day 1 - Wednesday, March 25, 2015		
Time	Item	Presenter
7:15 AM	Registration & Refreshments -Vahid Madani-PG&E	<i>Session Coordinator: Chase Sun – PG&E & Trevor Hall – QT</i>
7:55 AM	Introductions and Welcome	Cheryl Gessner, Vahid Madani – PG&E
*8:00 AM	Deploying Innovative Solutions for Improved Grids	Kevin Dasso – PG&E
*8:25 AM	The Future of Grid R&D	David Ortiz – Department of Energy
*8:50 AM	Regional Markets	Steve Whitley - NYISO
*9:15AM	Grid Revitalization in Ecuador	Gabriel Arguello – Cenace, Ecuador
9:40 AM	DOE and IEEE Quadrennial Energy Review	Bill Hederman-DOE, Damir Novosel - QT
10:10 AM	Break <i>Session Coordinators:</i>	<i>Mike Jensen & Lise Phan – PG&E</i>
*10:25 AM	Microgrid Deployment and Vision	Joe Svachula - ComEd Shay Bahramirad - ComEd
10:50 AM	Genesis of Storm Outage Modeling	Mike Voss – PG&E
11:10 AM	Distribution Grid Readiness and EPIC Initiatives	Erik Takayesu - SCE
11:30 AM	NASA Mission to Mars Program - Innovative DC Microgrid Proof of Concept for Spacecraft	Robert Stuart – Battelle Consultant Masoud H. Nazari - Georgia Tech
11:50 AM	Power Plant Model Validation and Compliance with NERC MOD-026 & 027 Reliability Standards	Steve Yang - BPA Sherman Chen – PG&E
12:10 PM	Lunch <i>Session Coordinators:</i>	<i>Sandra Ellis & Michael Zhang - PG&E</i>
12:50 PM	Lunch Time Review: Education & Industry Partnership Santa Clara University	Maryam Khanbaghi & Samiha Mourad
1:20 PM	Big Data Strategies and Analysis Moderator : Roger King – MSU	Tony Faris – BPA Shinji Fujiwara – Japan Gert Rietveld – VSL - Netherlands
2:20 PM	Training – NSF Vision	Kumar Venayagamoorthy – Clemson
2:40 PM	IEEE-1588 Precision Time Protocol and Power Profile	Bill Dickerson – Arbiter
3:00 PM	NIST Framework & Roadmap for Smart Grid Interoperability Standards Update	Gerald FitzPatrick – NIST
3:15 PM	Break <i>Session Coordinator:</i>	<i>Reza Nasri – QT, Tariq Rahman – SDG&E</i>
3:30 PM	Project Initiatives in California Review: Moderator: Patricia Arons - SCE	1. John Ku - PG&E 2. Frank Goodman – SDG&E 3. Chuck Wells – OSISoft
4:10 PM	NASPI Updates 2015 & Beyond	A. Silverstein - NASPI, J. Dagle - PNNL
4:30 PM	Distribution System Proof of Concept - Smart Inverters for Secondary Voltage Mitigation	John Mead – PG&E
4:50 PM	Solutions for Intermittent Renewable Energy – Use of HPC in Stochastic Power System Operation	Yong Fu - MSU
5:10 PM	Day 1 Closeout – Adjourn	<i>Vahid Madani, Damir Novosel, Roger King</i>

* Keynote Speaker

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Day 2 - Thursday, March 26, 2015

Time	Item	Presenter
7:30 AM 7:55	Registration & Refreshments <i>Session Coordinator</i> Introduction	<i>Tommy Morris - MSU, Matt Gardner-Dominion</i> Jonathan Sykes – PG&E
*8:00AM	Integrating Tradition & Innovation – The Grid of Things	Gregg Lemler – PG&E
*8:25AM	Reliable, Controllable, and Resilient Grid	Terry Boston - PJM
*8:50AM	Evolution of “Systeme International” - Quantum Based Standards Basis for Electrical Measurements	Carl Williams - NIST
*9:15AM	Remodeling the Grid Infrastructure with Controls	Juan de Bedout - GE
9:40 AM	Power System Resiliency and Technology Role	Vahid Madani / Lyle Dixson - PG&E
10:00 AM	Break <i>Session Coordinators:</i>	<i>Jenny Rios, James Barich – PG&E</i> <i>Frankie Au-Yeung – Photo - PG&E</i>
*10:15AM	Unmanned Aircraft Systems – Utility Industry Challenges & Strategies Across the Spectrum	Robert Moorhead – MSU NOAA and Geo Systems Research Institute
*10:40AM	Substation Resiliency and Security Measures to Date	Dave Roop – Dominion
*11:00AM	Cyber Security for Substation Automation - drawing the jagged line between the utility and vendor	Steven A. Kunsman – ABB
11:20 AM	WAM network: Experiences and Challenges Under National and Regional Interconnections	Erick Zbinden – SING (Chilean ISO)
11:40 AM	Overview of CURENT – NSF/DOE Program	Yilu Liu & Tom King – Univ. of Tennessee-Knoxville & Oakridge National Lab
12:00 PM	Lunch <i>Session Coordinators:</i>	<i>Shirin Tabatabai - PG&E, Rahul Anilkumar-QT</i>
12:50 PM	Dynamic (Post Transient) Stability Management Moderator: Chifong Thomas – Smart Wires 1. NYISO Experience 2. Grid Modelling 3. Integrated Grid Monitoring and P&C 4. Predictive long-term voltage instability control	1. Dejan Sobajic – NYISO 2. Ron Markham – PG&E 3. Manu Parashar – ALSTOM 4. Damir Novosel– QT
2:05 PM	Synchrophasors Certification Program	Lloyd Green – IEEE Standards Association
2:20 PM	Diagnostic Tool & Modeling for Grid Peak Performance	Farid Katiraei & Juergen Holbach - QT
2:40 PM	Large Scale Battery Storage Project	Yutaka Kokai – Hitachi - Japan
3:00 PM	Break <i>Session Coordinators:</i>	<i>Patrick Sorrells –SMUD, Scott Hayes -PG&E</i>
3:15 PM	Innovations in power line fault locating using line protective relays	Armando Guzman – SEL
3:40 PM	Strategic Implementation of Protection Upgrades to Support Grid Modernization	Jeff Shiles – SCE, Farid Katiraei - QT
4:00 PM	Interactions of forced oscillations and inter-area modes in western American power system	Mani Venkatasubramanian - WSU
4:20 PM	Automating the Relay Settings Process	Tommy Morris–MSU
4:40 PM	Pilot Project on 50kV Cable Ring with PMU Cyber-secure Data and Control Cloud	Arjen Jongepier - Delta
5:00 PM	Settingless Protection: Basic Bld’g Block for CPC	Sakis Meliopoulos – GT & Paul Myrda - EPRI
5:20 PM	Day 2 Closeout – Adjourn	<i>Vahid Madani, Damir Novosel, Roger King</i>

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Day 3 - Friday, March 27, 2015

Time	Item	Presenter
7:30 AM	Registration and Refreshments	<i>Session Coordinator Greg Langan, Steven Ng-PG&E</i>
7:45 AM	Applied Technology and Proof of Concept Facility	Dave Bradley & Jonathan Sykes - PG&E
*8:05AM	Modern Grid Controls	Nohemi Arboleda - XM Columbia Maria Elena Ruiz Arroyave – XM Columbia
*8:25AM	Vision of Euro TSO - Next Gen SCADA and Role of Phasor Measurements	Jan Vorrink – Tennet - Netherlands
8:45 AM	Elimination of Tele-protection Copper Circuits Protection Over Packet Networks & Deployment	Dewey Day – PG&E Motty Anavi – RFL
9:05 AM	Geomagnetic Induced Currents Moderator – Jonathan Sykes – PG&E	Pat Donohoe – MSU Sakis Meliopoulos – Georgia Tech Mark McVey – Dominion Ali Daneshpooy - QT
10:20 AM	Break <i>Session Coordinator:</i>	<i>S. Bahramirad - ConnEd , G. Henneberg – NV Energy</i>
10:35 AM	PMU Standards and Testing Moderator – Arun Phadke – Virginia Tech.	Tom Nelson & Allen Goldstein – NIST
10:55 AM	High-availability/Low Latency Wireless Communication for Protection, Control, & SCADA	Mark Adamiak – GE
11:15 AM	Non-Iterative Nonlinear State Estimator and requirements for a Next Generation EMS	Bruce Fardenesh – NY Power Authority
11:35 AM	Low Impact BES Cyber Systems & Electronic Protection Requirements – Diff. w/ Medium Impact	Scott Mix – NERC
12:05 PM	Lunch <i>Session Coordinator:</i>	<i>A. Boardingham-CDW, Musa Kamara – PG&E</i>
12:45 PM	Trends, Lessons & Benchmarks Worldwide	Alex Apostolov – Omicron / PACWorld
1:10 PM	Human Performance	Jerry Timiraos & Aaron Feathers – PG&E
1:35 PM	Linear State Estimation & Modern Control Centers	Anil Jampala & Jay Giri – Alstom Grid
1:55 PM	Dynamic Transfers Capability for Variable Generation & Energy Imbalance Markets	Dmitry Kosterev – BPA
2:20 PM	The Impact of Distributed Generation and Microgrids on the Distribution Network	Ron Chebra - Schneider Electric
2:40 PM	Fault Location Practices	Scott Hayes – PG&E
3:00 PM	Break <i>Session Coordinator:</i>	<i>Alfredo De La Quintana, Conecta, Carmen Contreras – PG&E</i>
3:15 PM	Disturbance Monitoring for Power System	Kalki Tech – India
3:35 PM	DG interconnection standard updates. (Rule 21, UL-11741 SA, and IEEE-1547)	Chase Sun – PG&E
3:55 PM	Monitoring of Distribution Networks Using PMU in EFPL Campus	Herman Bontius–Liandon Consulting-Netherlands Paolo Romano – Federal Institute of Technology of Lausanne (EPFL) - Switzerland
4:15 PM	Phasor Measurement Technology and requirements for new Algorithms for Control	Joseph Rebboh –Vizimax
4:35 PM	Wrap-up / Topics for 2015 - Adjourn	<i>Vahid Madani, Damir Novosel, Roger King</i>