



GREAT LAKES SYMPOSIUM

ON **SMART GRID** AND THE
NEW ENERGY ECONOMY

September 23-25, 2013

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EVENT PROGRAM

Sunday September 22, 2013			
8:30-9:00	Breakfast Session		
9:00-12:00	Short Course 1: Smart Grid Implementations and Lessons Learned		Short Course 2: Cyber-Physical Security for Smart-Grid: Threats, Vulnerabilities, and Mitigations
12:00-1:00	Lunch Break		
1:00-4:00	Short Course 3: Smart Grid Roadmap Creation		Short Course 4: Distribution Automation -- System Modeling and Advanced Applications
Monday September 23, 2013			
8:00-8:30	Breakfast Session		
8:30-9:10	Keynote Speech: An Energy Tsunami: What Can Islands Teach Us On What's Coming if We Don't Change?		
9:15-10:45	Plenary Session: Smart Grid Innovations in Illinois		
10:45-11:00	Coffee Break		
11:00-12:30	Panel Session: Solar Energy Deployment	Panel Session: Driving Demand Response in Commercial Buildings	Panel Session: Impact of EV Charging on Energy and Transportation Systems
12:30-1:30	Lunch Break		
1:30-3:00	Plenary Session: Virgin Islands Solar PV Initiative		
3:00-3:15	Coffee Break		
3:15-5:00	Panel Session: Smart Grid Communications	Panel Session: Will Smart Grid Create New Jobs?	Paper Session: Demand Response and Energy Managements
5:15-6:30	Networking Reception		
Tuesday September 24, 2013			
8:00-8:30	Breakfast Session		
8:30-9:10	Keynote Speech: Microgrid Evolution in Distribution Service Restoration After a Blackout		
9:15-10:45	Plenary Session: Microgrids for Enhancing the Grid Resiliency		
10:45-11:00	Coffee Break		
11:00-12:30	Panel Session: Wind Energy from the Windy City	Panel Session: Grid Modernization for Power System Enhancement	Panel Session: Clean Energy Manufacturing
12:30-1:30	Lunch Break		
1:30-3:00	Plenary Session: Electricity Market and Regulations		
3:00-3:15	Coffee Break		
3:15-5:00	Panel Session: Aging Infrastructure and Asset Management	Panel Session: Smart Grid Consumer Education and Workforce Training	Paper Session: Microgrids
5:15-6:30	Networking Reception		
Wednesday September 25, 2013			
8:00-8:30	Breakfast Session		
8:30-9:10	Keynote Speech: Building Resilience into the Smart Grid		
9:15-10:45	Plenary Session: Increasing Adoption: Intelligent And Trustworthy Smart Grid		
10:45-11:00	Coffee Break		
11:00-12:30	Panel Session: Big Data in Smart Grids	Panel Session: Advanced Electric Vehicle Technology	Paper Session: Power System Operation and Control

8:00-8:30am
Expo.

Breakfast

8:30-9:10am
Ballroom

Keynote Session: An Energy Tsunami: What Can Islands Teach Us On What's Coming if We Don't Change?

Chair: Gerry M. Stokes, Associate Laboratory Director, Brookhaven National Laboratory
Introduction: Michael Garvin, Director, Caribbean Renewable Energy Consortium
Speaker: Steve Johanns, CEO, Veriown Energy

9:15-10:45am
Ballroom

Plenary Session: Smart Grid Innovations in Illinois

Chair: Joshua Milberg, Willdan Energy Solutions
Mary Heger, Ameren
Jason Blumberg, Energy Foundry
Bob Greenlee, Illinois Science and Technology Coalition
Wanda Reder, S&C Electric
Karen Weigert, City of Chicago

10:45-11:00am
Expo

Coffee Break

11:00-12:30pm
Alumni Lg.

Panel Session: Solar Energy Deployment

Chair: Mark Handy, Kenjiva Energy Systems
Sharon Feigon, I-GO Car Sharing
Jeremy Jones, SoCore
Jeff Smith, West Monroe Partners
Bradley Klein, Environmental Law & Policy Center
Harry Ohde, IBEW-NECA Technical Institute

11:00-12:30pm
Ballroom

Panel Session: Driving Demand Response in Commercial Buildings

Chair: Heather Langford, U.S. Green Building Council
Sila Kiliccote, Lawrence Berkeley National Lab
James Fine, Environmental Defense Fund
Michel Kamel, MelRok
Scot Duncan, Enerliance

11:00-12:30pm
Hermann Lg.

Panel Session: Impact of EV Charging on Energy and Transportation Systems

Chair: Kuilin Zhang, Michigan Technological University
On Distributed Charging Control of EVs at Residence with Power Network Constraints
Wann-Jiun Ma and Vijay Gupta, University of Notre Dame
Ufuk Topcu, University of Pennsylvania
A Corridor-Centric Approach to Planning Electric Vehicle Charging Infrastructure
Yu (Marco) Nie and Mehrnaz Ghamami, Northwestern University
A Framework for Investigating the Impact of EV Charging on Distribution Systems with the Integrated Modeling and Simulation of Transportation Network
Wencong Su, University of Michigan-Dearborn
Modeling PEV Charging Behavior in an Integrated Activity-Based Demand and Dynamic Network Modeling Framework
Kuilin Zhang, Michigan Technological University

12:30-1:30 pm
Expo.

Lunch Break

1:30-3:00 pm
Ballroom

Plenary Session: Virgin Islands Solar PV Initiative

Chair: Phil Fisher, New Generation Power
Senator Craig W. Barshinger, Committee on Energy and Environmental Protection
Heru Oforii-Atta, University of the Virgin Islands
Courtney Mayes, University of the Virgin Islands
Michael Garvin, Caribbean Renewable Energy Consortium

3:00-3:15pm
Expo

Coffee Break

3:15-5:00 pm
Ballroom

Panel Session: Smart Grid Communication

Chair: Jim McClanahan, West Monroe Partners
Deb Burton, Verizon
Tony Burge, Siemens
Craig Newman, Airspan Networks
Dan Frein, West Monroe Partners
Tim Valin, West Monroe Partners

3:15-5:00 pm
Hermann Lg.

Panel Session: Will Smart Grid Create New Jobs?

Chair: Marcia Lochmann, College Partnerships, Illinois Green Economy Network
Michael Abba, Ameren
Kathleen Thigpen, ComEd
Christopher Reese, Lewis and Clark Community College
Jeff Oder, Lake Land Community College

3:15-5:00pm
Alumni Lg.

Paper Session: Demand Response and Energy Management

Chair: Michael I. Henderson, ISO New England
Demand Shaping Through Load Shedding and Shifting Using Day-Ahead and Real-Time Prices
Rodrigo Carrasco, Columbia University
Ioannis Akrotirianakis and Amit Chakraborty, Siemens
Multistage Stochastic Optimal Operation of Energy-Efficiency Building with CHP System
Ping Liu and Yong Fu, Mississippi State University
Evolving Integration of Demand Response
Jeremy Laundergan, EnerNex
Modeling and Stability Analysis of Multi-Energy Complementary Small Power System
Chen Shuyong, China Electric Power Research Institute, and Ji Xiaodong, Northeast Dianli University

8:00-8:30am
Expo. **Breakfast**

8:30-9:10am
Ballroom **Keynote Session: Microgrid Evolution in Distribution Service Restoration After a Blackout**
Chair: Jianhui Wang, Argonne National Laboratory
Speaker: Steve Pullins, President, Horizon Energy Group

9:15-10:45am
Ballroom **Plenary Session: Microgrids for Enhancing the Grid Resiliency**
Chair: Shay Bahramirad, S&C Electric
Math Bollen, University of Luleo Sweden
Mark McGranaghan, EPRI
Anuradha Annaswamy, MIT
Steve Pullins, Horizon Energy Group
Thomas Basso, National Renewable Energy Laboratory (NREL)

10:45-11:00am
Expo **Coffee Break**

11:00-12:30pm
Alumni Lg. **Panel Session: Wind Energy from the Windy City**
Chair: Harry L. Holtz III, Chicagoland Wind Council
Joseph Reisinger, Broadwind Energy
Nicolai Schousboe, Jeff Smith, Nate Kipnis, Jonathan Nieuwsma, Citizens' Greener Evanston
Dan McDevitt, Nordex
Steve Spethmann, Suzlon Wind Energy Corporation

11:00-12:30pm
Ballroom **Panel Session: Grid Modernization for Power System Enhancement**
Chair: Dan Gabel, ComEd
Michelle Blaise, ComEd
Mike McMahan, ComEd
Carol Bartucci, ComEd

11:00-12:30pm
Hermann Lg. **Panel Session: Clean Energy Manufacturing**
Chair: Lin Li, University of Illinois at Chicago
Just-For-Peak: Buffer Inventory For Peak Electricity Demand Reduction of Manufacturing Systems
Lin Li, University of Illinois at Chicago
Manufacturing Scheduling for Electricity Cost and Peak Demand Reduction in a Smart Grid Scenario
Fu Zhao, Purdue University
Cost Benefit Analysis of Solar and Wind Local Power Generations for Greenhouse Gas Emission Mitigation
Chris Yuan, University of Wisconsin-Milwaukee
Smart Grid Vision for Computing
Dan McCaugherty, Athena Sciences Corporation

12:30-1:30 pm
Expo. **Lunch Break**

1:30-3:00 pm
Ballroom **Plenary Session: Electricity Market and Regulations**
Chair: Luciano de Castro, Northwestern University
Jeff Orcutt, Illinois Commerce Commission
Evelyn Robinson, PJM Interconnection
Joseph Paladino, US Department of Energy
Paul Alvarez, Wired Group

3:00-3:15pm
Expo **Coffee Break**

3:15-5:00 pm
Alumni Lg. **Panel Session: Aging Infrastructure and Asset Management**
Chair: Amin Khodaei, University of Denver
Ernst Camm, Consulting and Analytical Studies, S&C Electric
Daniel Lindenmeyer, Infineon Technologies
Kenneth Elkinson, Doble
Peter Tyschenko, ComEd
Dan Brotzman, ComEd

3:15-5:00 pm
Hermann Lg. **Panel Session: Smart Grid Consumer Education and Workforce Training**
Chair: Deborah J. Buterbaugh, US Department of Energy
Jo Winger de Rondon, Council for Adult and Experiential Learning (CAEL)
Victoria Busch, Ameren
Clare Butterfield, Illinois Science & Energy Innovation Foundation (ISEIF)
David Kolata, Illinois Citizens Utility Board (CUB)
Kathleen Thigpen, Exelon

3:15-5:00pm
Ballroom **Paper Session: Microgrids**
Chair: Doug Houseman, EnerNex
Microgrid as a Platform: A Holistic Approach to Campus Energy Solution Design
Stephen F. Schneider, SAIC
An Examination of Microgrids as a Form of Energy Generation Decentralization
Paul Rodriguez and Ryan Franks, National Electrical Manufacturers Association (NEMA)
Still Plenty of Room at the Bottom: Development of a Mesh Microgrid Network and Microclimate for Nalanda University
Jeffrey Boyer and Sachin Anand, dbHMS
Dichotomous Markov Noise Technique to Model Wind Power Uncertainty in Microgrid Operation
A. Kargarian, S. Yarahmadian, M. Sepehrifar, and Y. Fu, Mississippi State University
Local False Data Injection Attacks Against Power Grid,
Xuan Liu and Zuyi Li, Illinois Institute of Technology

8:00-8:30am
Expo.

Breakfast

8:30-9:10am
Ballroom

Keynote Session: Building Resilience into the Smart Grid

Chair: Peter Sauer, Grainger Chair in Electrical Engineering

Speaker: William H. Sanders
Interim Department Head, Electrical and Computer Engineering, and Director, Coordinator Science Laboratory, University of Illinois

9:15-10:45am
Ballroom

Plenary Session: Increasing Adoption: Intelligent And Trustworthy Smart Grid

Chair: Tim Yardley, University of Illinois
Ralph Muehleisen, Argonne National Laboratory
Jim Eber, ComEd
Brian Deal, University of Illinois
Tom Glennon, Honeywell Building Solutions

10:45-11:00am
Expo

Coffee Break

11:00-12:30pm
Ballroom

Panel Session: Big Data in Smart Grids

Chair: Spencer Zirkelbach, S&C Electric
Mel Gehrs, Silver Spring Networks
Dan Rosanova, West Monroe Partners
Jessica Bian, NERC
Paul Myrda, Electric Power Research Institute

11:00-12:30pm
Alumni Lg.

Panel Session: Advanced Electric Vehicle Technology

Chair: Wencong Su, University of Michigan-Dearborn
Power Electronics with Electrified Automobile Systems
Kevin Bai, Kettering University
Unplugging the Electric Car
Chris Mi, University of Michigan-Dearborn
Impacts of EV's on Distribution Reliability and Mitigation Techniques
Visvakumar Aravinthan, Wichita State University
Model Predictive Control-based Power Dispatch for Distribution Systems Considering Plug-in Electric Vehicle Charging Uncertainty
Wencong Su, University of Michigan-Dearborn

11:00-12:30pm
Hermann Lg.

Paper Session: Power System Operation and Control

Chair: Mohammad Khodayar, Southern Methodist University
Enabling Efficient, Responsive and Resilient Buildings: A Collaboration Between the United States and India
Chandrayee Basu and Girish Ghatikar, Lawrence Berkeley National Lab
Prateek Bansal, Johns Hopkins University
Unit Commitment with Variable Wind Generation: A Game Theoretical Approach
Wei Wei, Shengwei Mei, and Feng Liu, Tsinghua University, China
A New Probabilistic Production Simulation Method of Renewable Energy Generator Farm integrated with ESS
Jinhwan Jang, Jintaek Lim, Sunghun Lee, Yeoncha Lee, and Jaeseok Choi, Gyeongsang National University, South Korea
Development of Real Time Radar Visual Style Information System of Power System Integrated Health Index
Jintaek Lim, Jinhwan Jang, Jaeseok Choi, Gyeongsang National University, South Korea
Hongseok Choi, Korea Power Exchange, South Korea
Mahmud Fotuhi-Firuzabad, Sharif University of Technology, Iran
Post-Hurricane Transmission Network Outage Management
Ali Arab, University of Houston
Amin Khodaei, University of Denver
Suresh K. Khator, University of Houston
Kevin Ding, CenterPoint Energy
Zhu Han, University of Houston
Robust Look-ahead Economic Dispatch In Real-Time Market
Hongxing Ye and Zuyi Li, Illinois Institute of Technology



Short Courses, Sunday September 22, 2013

Smart Grid Implementations and Lessons Learned, 9:00 am - 12:00 noon

Cyber-Physical Security for Smart-Grid: Threats, Vulnerabilities, and Mitigations, 9:00 am - 12:00 noon

Smart Grid Roadmap Creation, 1:00 pm – 4:00 pm

Distribution Automation -- System Modeling and Advanced Applications, 1:00 pm – 4:00 pm

Symposium Planning and Organization

General Chair, 2013 Symposium

Mohammad Shahidehpour

Robert W. Galvin Center for Electricity Innovation

Illinois Institute of Technology

Symposium Planning Committee

Hamid Arastoopour, IIT

Mohammad Shahidehpour, IIT

Jianhui Wang, Argonne National Laboratory

Shay Bahramirad, S&C Electric

Symposium Technical Committee

Wanda Reder, S&C Electric

Luciano de Castro, Northwestern University

Dan Gabel, ComEd

Zuyi Li, Illinois Institute of Technology

Steve Pullins, Horizon Energy Group

Amin Khodaei, University of Denver

Josh Milberg, Willdan Energy

Michael I. Henderson, ISO New England

Lin Li, University of Illinois at Chicago

Steve Johanns, Veriown

Mohammad Khodayar, Southern Methodist University

Mark Handy, Kenjiva Energy Systems

Symposium Local Organizing Committee (Galvin Center, IIT)

Annette Lauderdale, Finances

Margaret M. Murphy, Scheduling

Wei Tian, Web Master

Mehdi Ganji, Registration

Yong Fu, Mississippi State University

Heather Langford, LEED, U.S. Green Building Council

Kuilin Zhang, Michigan Technological University

Phil Fisher, New Generation Power, U.S. Virgin Islands

Marcia Lochmann, Illinois Green Economy Network

John Shen, Illinois Institute of Technology

Farrokh Aminifar, University of Tehran

Harry L. Holtz III, Chicagoland Wind Council

Lei Wu, Clarkson University

Tim Yardley, University of Illinois

Wencong Su, University of Michigan-Dearborn

Bruce Hamilton, Smart Grid Network

Mike Abba, Ameren, Illinois

IIT Microgrid

