



Poster Titles are listed below for the 2017 DistribuTECH Student Poster Session.

The name highlighted in blue is the student presenter and their email address is included.

Markets and Cyber Security

1. An Io T-based Market Framework for Demand Response in Smart Grids

Mahdi Motalleb, Matsu Thornton, Holm Smidt, Reza Ghorbani – University of Hawaii at Manoa

Contact: motalleb@hawaii.edu

2. Towards Resilient, Cyber-Enabled Electric Energy and Water Infrastructures: Combined Time-Domain Simulations Utilizing Network Optimization and Control

Scott Zuloaga, Puneet Khatavkar, Beibei Liu, Dr. Vijay Vittal, Dr. Junshan Zhang, Dr. Larry Mays - Arizona State University

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3. Resilient Power System Restoration Using Network Science Approach

Prabin Baidya, Wei Sun – University of Central Florida

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Microgrids

4. The Value of Reliability for Microgrids

Ryan Hanna, David Victor, Vahid Raousli Disfani, Jan Kleissl, – University of California, San Diego

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5. Development of Residential Microgrid in Matlab Simulink

Allison Cameron, Dr. Darshit Shah, Dr. Anitha Subburaj – West Texas A&M University

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6. An Integrated PV/Battery for EV Charging in a Microgrid Topology

Laura Novoa, Jack Brouwer, Scott Samuelsen – University of California, Irvine

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7. Real-time Simulation of a Utility Microgrid

Katelyn Riehl, Matt Backes, Prosper Panupabi, Hao Liu – University of Illinois, Urbana-Champaign

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8. Developing a Microgrid Ontology for Cyber Security Assessment

Matt Backes¹, Ken Keefe¹, Al Valdes² – University of Illinois, Urbana-Champaign, 2) Information Trust Institute

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Distributed Automation and Distribution Modeling

9. Optimization-based Residential Load Scheduling to Improve Reliability in the Distribution Grid

Abdulah H. Habib, Elizabeth L Ratnam, Vahid R. Disfani, Jan Kleissl, Raymond A. de Callafon – University of California, San Diego

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10. Distribution System Model Segmentation and Simplification

Andrew Reiman, Dr. Thomas McDermott, Dr. Gregory Reed, Dr. Murat Akcakaya – University of Pittsburgh

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11. OpenDSS Model for Analysis of Photovoltaic Inverter Transients

Santino Graziani, Laura Wieserman, Dr. Thomas McDermott, Dr. Zhi-Hong Mao – University of Pittsburgh

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- 12. Power Distribution System Equipment Failure Identification Using Machine Learning Algorithms**
Milad Doostan, Dr. Badrul Chowdhury – University of North Carolina, Charlotte
 Contact: mdoostan@uncc.edu
- 13. Smart Enterprise Energy Management System Under Real-Time Pricing and Demand Response**
Juan Ospina¹, Alvi Newaj¹, Omar Faruque¹, Rick Meeker², Emmanuel Collins¹, Griffin Francis¹, Nikhil Gupta¹ – 1) Florida State University, 2) Nhu Energy
 Contact: jjospina@fsu.edu
- 14. Analysis of Conservation Voltage Reduction by Var Injection of a Utility, Distribution Feeder in OpenDSS**
Crystal Eppinger – Portland State University
 Contact: crystal.eppinger@gmail.com
- 15. State Estimation for Electric Power Distribution Systems Using AMI Data**
Yuanqi Gao, Nanpeng Yu – University of California, Riverside
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- 16. Dynamic modeling of Distribution Network Systems with Distribution Generator Inverters**
Ramakrishnan Venkatraman – Iowa State University
 Contact: rvenkat@iastate.edu
- 17. Current Sensing with GMR Sensors**
Jonathan Hammer, Yusuf Ozturk, PhD, Sridhar Seshagiri, PhD, Xiaobai Liu, PhD – San Diego State University
 Contact: jhammer619@gmail.com
- 18. An Adaptive Restorative Method for Resilient Power Distribution Networks**
Ranadhir Sarkar, Azwirman Gusrialdi, Dr. Zhihua Qu – University of Central Florida
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- 19. Consideration of 2-150 kHz Disturbances in North American Power Systems**
Elizabeth Devore, Auburn University
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Power System Engineering

- 20. Using Design Based Projects to Help Engineering Students Learn Professionalism**
Tim Gulzow – Portland State University
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- 21. LMP Decomposition with Three-Phase DCOPF for Distribution System**
Wei Wang, Nanpeng Yu – University of California, Riverside
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- 22. Microgrid Protection Student Laboratory: Fault Detection**
Ian Hellman-Wylie, Joey Navarro – California Polytechnic State University, San Luis Obispo
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- 23. Microgrid Protection Student Laboratory: System Integration**
Kenan Pretzer - California Polytechnic State University, San Luis Obispo
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- 24. Lab-Scale Circuit Breaker Module for Power System Laboratories**
Allen Scozzari, Amanda Barley, Joshua Chung - California Polytechnic State University, San Luis Obispo
 Contact: ascozzar@calpoly.edu
- 25. Separatrix analysis of a synchronous machine**
Aristotle Boyd-Martin, Peter Sauer – University of Illinois, Urbana-Champaign
 Contact: arisboydmartin1994@gmail.com
- 26. Multi-phase Distribution Feeder Reduction**
Zachary Pecenak¹, Vahid Disfani¹, Matthew J. Reno², Jan Kleissl¹ – 1) University of California, San Diego, 2) Sandia National Laboratory

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Smart Inverters & Power Electronics

27. Smart inverter voltage control on distribution feeders

Zachary Pecenak, Jan Kleissl, Vahid R. Disfani – University of California, San Diego

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28. On Smart Functionalities of Decentralized Grid-tied Solar PV Inverter Systems

Hamidreza Jafarian, Dr. Babak Parkhideh – University of North Carolina, Charlotte

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29. Multi-Port Power Electronics Interface for Grid-less Rural Applications

Jingchen Liang, Dr. Babak Fahimi – University of Texas, Dallas

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30. Real-Time Adaptive and Autonomous Volt/Var Smart Inverter Control with high PV penetration

Ankit Singhal¹, V. Ajjarapu¹, Jason Fuller², Jacob Hansen² – 1) Iowa State University, 2) Pacific Northwest Natl Lab

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Renewables Generation & Integration

31. Risk-Based Dynamic Security Assessment in the Future Electricity Grid

Sohom Datta, Dr. Vijay Vittal – Arizona State University

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32. Optimal On-Load Tap Changer Control for Higher PV Hosting Capacity of Distribution Feeders

Changfu Li¹, Elizabeth L. Ratnam², Jan Kleissl¹, Vahid R. Disfani¹, William Torre¹ – 1) University of California, San Diego, 2) University of California, Berkley

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33. Mitigating Impacts of Intermittent Renewable Distributed Generation Using Network Reconfiguration

Masoud Davoudi Ghiafeh¹, Dr. Valentina Cecchi¹, Dr. Julio Romero Agüero² – 1) University of North Carolina, Charlotte, 2) Quanta Technology

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34. Hardware in the Loop Simulation of a Photovoltaic Generator using a Texas Instrument Platform

Sergio Alzate, Edna Rivera, Natalie Rivera, Luis Torres, Dr. Fabio Andrade – University of Puerto Rico, Mayaguez

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35. Sensor less Real-time active power control of PV systems

Shilpa Marti, Turgay Duman, H. Krishnaswami – University of Texas, San Antonio

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36. PV-Powered Cart Suitable for Educational Purposes

Carolyn Majane, Anina Mu, Maimouna Niang, Morteza Rezaee, Ronald G. Harley – Georgia Institute of Technology

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37. Distributed Monitoring and Control of PV Generation

Briana Luckey, Jerrod Wigmore, Dr. Andrea Benigni, Yan Chen – University of South Carolina

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DER Control & Smart Home

38. Using the AllJoyn® Framework for Smart Grid-Based Applications

Anne Clarke – Portland State University

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39. Distributed Control of a Swarm of Buildings Connected to a Smart Grid

Baris Aksanli, Alper S. Akyurek, Madhur Behl, Meghan Clark, Alexandre Donze, Prabal Dutta, Patrick Lazik, Mehdi Maasoumy, Rahul Mangharam, Truong X. Nghiem, Vasumathi Raman, Anthony Rowe, Alberto Sangiovanni-Vincetelli, Sanjit Seshia, Tajana Rosing, Jagannathan Venkatesh – University of California, San Diego
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40. A Computational Modeling Approach of User Behavior for Swarm Control Applications

Dhanesh Pradhan – University of California, San Diego
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41. Residential Energy Simulation and Context-Aware Automation

Christine Chan – University of California, San Diego
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42. A Context-Driven IoT Middleware Architecture For Residential Energy Management

Bekhzod Soliev¹, Nima Mousavi¹, Jagannathan Venkatesh¹, Christine Chan¹, Alper Sinan Akyurek¹, Baris Aksanli², Tajana Šimunić Rosing¹ – 1) University of California, 2) San Diego State University
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43. Context Engine for the Indoor Swarm

Nima Mousavi, Christine Chan Jagannathan Venkatesh, Dhanesh Pradhan, Ivan Huang, Michael Ostertag, Tajana Šimunić Rosing - University of California
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44. How do we Plan Electric Power Grid with Centralized and Distributed Generation?

Shikha Sharma, James D. McCalley, Ian Dobson – Iowa State University
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45. Reduced-Order Modeling of Distributed Energy Resources (DERs) in a Microgrid—Grid Feeding Inverter

Olaolu Ajala, Alejandro Dominguez-Garcia, Peter Sauer – University of Illinois, Urbana-Champaign
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Energy Storage and Electric Vehicles**46. High Efficiency Wireless Charging System for Electric Vehicles**

Devendra R. Patil, Dr. Babak Fahimi – University of Texas, Dallas
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47. Multi-Port Power Electronics Interface for Electrified Vehicles and Intelligent Buildings

Lizon Maharjan, Dr. Babak Fahimi – University of Texas, Dallas
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48. Inverter Exporting Power From a Solar-Powered Battery Charging Station

Vanu Kapoor, Jordan Burrows, Dean Philip, Michael Mitchell – University of South Carolina
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49. Grid-Tied DC Microgrid for PV Recharging of Electric Scooters

Andrew Wunderlich, Tyler Hamby, Harold McGill, James Walkup, Patrick Ford – University of South Carolina
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50. Algorithm for Battery Storage Siting and Sizing on Distribution Feeders

Oytun Babacan, William Torre, Jan Kleissl – University of California, San Diego
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51. Utility Owned Residential Battery Energy Storage Systems for Ancillary Services

Tylor Slay – Portland State University
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52. Fuel Cells as Transmission Integrated Grid Energy Resources

Brendan Shaffer, Kate Forrest, Brian Tarroja, Scott Samuelson – University of California, Irvine
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