# ICEPAG 2019 Microgrid Global Summit

The Pathway to Electrification: The Smart Grid | Electricity | Mobility

### Program Day 1: Tuesday, March 26, 2019

| 9:00 – 10:00 am  | FIRST DAY OPENING  |
|------------------|--|
|                  | Introduction to ICEPAG2019   |
|                  | Scott Samuelsen  |
|                  | UCI Advanced Power and Energy Program (APEP)   |
|                  | Keynote: Microgrid State of the World  Lori Schell   |
|                  | Empowered Energy   |
| 10:00 – 10:30 am | BREAK  |
| 10:30 – 12:00 pm | MICROGRIDS: Testbeds   |
|                  | Port Hueneme Microgrid Test Bed     Daniel Scott Cohee     PDE Total Energy Solutions  |
|                  | UCI Microgrid TestBed     Brendan Shaffer     APEP   |
|                  | Stone Edge Farm Microgrid Test Bed Ryan Stoltenberg, Jorge Martinez Wooster Engineering  |
| 12:00 – 1:00 pm  | LUNCH  |
| 1:00 – 2:30 pm   | MICROGRIDS: Emerging Distributed Energy Resources  |
|                  | <ul> <li>Flow Batteries</li> <li>Brian Tarroja</li> <li>APEP</li> </ul>  |
|                  | Plug-In and Hydrogen Light-Duty Vehicles Blake Lane APEP   |
|                  | Plug-In and Hydrogen Electric Buses     Analy Munoz     APEP   |
| 2:30 – 3:00 pm   | BREAK  |
| 3:00 – 5:00 pm   | MICROGRID: Powering Microgrids   |
|                  | Clean, Always On Microgrids: Concept to Reality     Preeti Pande     Bloom Energy  |
|                  | <ul> <li>Clean Power for Microgrids; Balancing Reliability, Environmental and Economic Factors<br/>Frank Wolak<br/>FuelCell Energy</li> </ul>                                |
|                  | <ul> <li>Advances and Insights on Solid Oxide Fuel Cells</li> <li>Steven Ross</li> <li>U.S. Department of Energy, Advanced Energy Systems, Office of Fossil Fuels</li> </ul> |
|                  | <ul> <li>Research and Development of Liquid Sb Anode Direct Carbon Fuel Cell<br/>Tianyu Cao<br/>Tsinghua University</li> </ul>   |
| 5:00 pm          | DAY 1 RECEPTION & TOUR OPTIONS   |

# ICEPAG 2019 Microgrid Global Summit

The Pathway to Electrification: The Smart Grid | Electricity | Mobility

### Program Day 2: Wednesday, March 27, 2019

| 9:00 – 10:00 am  | SECOND DAY OPENING   |
|------------------|--|
|                  | ICEPAG 2019 Perspective  |
|                  | Scott Samuelsen  |
|                  | UCI Advanced Power and Energy Program (APEP)   |
|                  | Keynote: The Role of Microgrids in Grid Modernization     Percy Haralson   |
|                  | Southern California Edison   |
| 10:00 – 10:30 am | BREAK  |
| 10:30 – 12:00 pm | MICROGRIDS: Resilient Communities  |
|                  | <ul> <li>Rural and Urban Energy Resilience - A North-South Collaboration Opportunity<br/>George M. Roe<br/>Alaska Center for Energy and Power<br/>University of Alaska Fairbanks</li> </ul>  |
|                  | Resilient Distribution Systems     Chen-Ching Liu     Virginia Tech  |
|                  | Resilient and Secure Microgrid communications Based on Software Defined Networking     Paul Myer     Veracity Industrial Networks  |
| 12:00 – 1:00 pm  | LUNCH  |
| 1:00 – 2:30 pm   | MICROGRIDS: Control  |
|                  | Local Level Grid Controls  |
|                  | Jim Cushman, Fred Huff, Rick Kephart<br>Emerson Automation Solution – Water and Power  |
|                  | <ul> <li>Testing Microgrid Controllers Based on Multi Agent Systems</li> <li>Syed Qaseem Ali, Jean-Nicolas Paquin, Amine Yamane</li> <li>OPAL-RT Technologies</li> </ul>   |
|                  | Effective Microgrid Control Solutions     Peter Dai     Schweitzer Engineering Laboratories, Inc.  |
| 2:30 – 3:00 pm   | BREAK  |
| 3:00 – 5:00 pm   | MICROGRIDS: Design and Operation   |
|                  | <ul> <li>The RU – LESS Energy Modeling and Optimization Platform<br/>Mohsen A Jafari<br/>Rutgers University</li> </ul>   |
|                  | <ul> <li>Algorithms for Resilience and Optimal Placement, Sizing and Operation of<br/>Distributed Energy Sources in Microgrid<br/>Harsha Nagarajan<br/>Los Alamos National Laboratory</li> </ul>                                     |
|                  | <ul> <li>Integrated Modeling Tool for Electricity Rate Design in Systems with High Penetration of<br/>DERS and Microgrids</li> <li>Nicholas Xavier DeForest, Miguel Heleno</li> <li>Lawrence Berkeley National Laboratory</li> </ul> |
|                  | Residential Fuel Cell Nanogrid     Michael Lee     Southern California Gas   |

#### **DAY 2 RECEPTION & TOUR OPTIONS**

# ICEPAG 2019 Microgrid Global Summit

The Pathway to Electrification: The Smart Grid | Electricity | Mobility

| Program Day 3: Thursday, March 28, 20 |
|---------------------------------------|
|---------------------------------------|

| 9:00 – 10:00 am  | <ul> <li>MICROGRIDS: Emerging Applications and Impacts (I/II)</li> <li>The Role of Microgrids in Environmental Quality<br/>Michael Mac Kinnon<br/>UCI Advanced Power and Energy (APEP)</li> </ul> |
|------------------|---|
|                  | <ul> <li>Maritime Microgrids: Land-Based Microgrids Technologies Applied to Electric Ships<br/>Josep M. Guerrero<br/>Aalborg University</li> </ul>  |
| 10:00 – 10:30 am | BREAK   |
| 10:30 – 12:00 pm | MICROGRIDS: Emerging Applications and Impacts (II/II)   |
|                  | Operating Utility Substation Circuits as Microgrids     Jennifer Lee     APEP   |
|                  | <ul> <li>Smart City Solutions, The Microgrid Business Case Missing Component<br/>Mehdi Ganji</li> <li>Willdan Group</li> </ul>  |
|                  | <ul> <li>Autonomous Vehicle Microgrids</li> <li>Van Wifat</li> <li>APEP</li> </ul>  |
| 12:00 pm         | CLOSURE   |