# The Grid of the Future Workshop

**Wednesday, August 22, 2018**

**Sponsored by:** Sandia National Laboratories, IEEE, the University of New Mexico, New Mexico State University, and the Santa Fe Institute

The Centennial Engineering Center at the University of New Mexico  
300 Redondo W Dr., Albuquerque, NM 87106

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<th>Time</th>
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<td>8:00 – 8:30 am</td>
<td>Registration, coffee and continental breakfast</td>
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| 8:30 – 8:40 am | **Welcome – Dr. Christos Christodoulou**  
*Jim and Ellen King Dean of Engineering and Computing, The University of New Mexico* |
| 8:40 – 8:50 am | **Introductory Remarks – Dr. Carol Adkins**  
*Director, Energy, Earth, and Complex Systems, Sandia National Laboratories* |
| 8:50 – 9:20 am | **Keynote Speaker – Mr. Robert Cummings**  
*North American Electric Reliability Corporation (NERC), Grid Reliability* |
| 9:20 – 10:35 am | **Grid Interdependencies with Critical Infrastructure**  
Moderator: Dr. Brian Pierre  
Dr. Russell Bent; Los Alamos National Laboratory; Gas-Grid Resilient Design  
Dr. Seth Blumstack; Penn State University; Identifying Vulnerable Critical Infrastructure  
Dr. Charles Macal; Argonne National Laboratory; Grid-Critical Infrastructure Interdependencies |
| 10:35 – 10:45 am | Break |
| 10:45 – 12:00 pm | **Resilient Distribution Systems**  
Moderator: Dr. Matthew Reno  
Dr. Sukumar Brahma; New Mexico State University, Power System Protection in the Era of Smart Grid  
Dr. Satishkumar Ranade; New Mexico State University; R2- Risk Aware, Resilience Aware Management of Energy Delivery  
Dr. Chen-Ching Liu; Virginia Tech University; Resilient Distribution Systems |
| 12:00 – 1:00 pm | Lunch |
| 1:00 – 2:15 pm | **Evolution of Control Centers and Integrating Renewables**  
Moderator: Dr. Ali Bidram  
Dr. Reinaldo Tonkoski; South Dakota State University; Voltage Control Strategies for Distribution Systems with High Penetration of Photovoltaics  
Dr. Anjan Bose; Washington State University; Evolution of Control Centers for the Future Grid  
Dr. Babak Enayati; National Grid; DER Interconnection Requirements in Islanded Distribution Systems |
| 2:15 – 2:30 pm | Break |
| 2:30 – 3:45 pm | **EMP Resilience**  
Moderator: Dr. Jason Neely  
Dr. Olga Lavrova; Sandia National Laboratories; EMP Grand Challenge  
Dr. Jane Lehr; The University of New Mexico; EMP Resilience at the Grid of the Future  
Mr. Charles Bayless; The Climate Institute; The North American Super Grid Project |
| 3:45 – 4:00 pm | Break |
| 4:00 – 5:15 pm | **Grid Stability**  
Moderator: Dr. David Schoenwald  
Dr. Daniel Trudnowski; Montana Tech University; Passive versus Active Grid Reliability  
Dr. John Undrill; Arizona State University; Power and Frequency Control in the Grid of 2050  
Mr. Ross Gut tromson; Sandia National Laboratories; Mapping Power System Stability Using Machine Learning |
| 5:15 – 5:20 pm | **Closing Remarks – Mr. Charles Hanley**  
*Senior Manager, Grid Modernization & Resilient Infrastructure, Sandia National Laboratories* |
| 5:20 – 7:30 pm | Reception @ The University of New Mexico Hodgin Hall |