



## NSF-Sponsored Faculty/Industry Workshop

(Approved by the NAE; Organized by the University of Minnesota)

# Reinventing Electric Power Curriculum with Sustainability Focus

June 15-17, 2017 [University of Minnesota](#), Minneapolis, Minnesota

### Workshop Objectives:

Discuss the Electric Power/Energy Systems Curriculum with emphasis on Sustainability

- Describe and disseminate undergraduate/graduate curriculum developed through ONR funding
- Grand challenge on inspiring and training students to solve global problems in sustainability
- Discuss challenges facing ECE departments in identifying national needs and attracting students
- Create a large and vibrant community of teaching/learning scholars

### Friday June 16, 2017

- 8:00-10:15 Welcome Remarks and Importance of Reform in Electric Energy Education:
- [Prof. Randall Victora](#), Head of ECE Dept (UMN)
  - [Dr. Al Romig](#), Executive Officer, National Academy of Engineering ([NAE](#))
  - [CAPT Lynn Petersen](#), Program Officer, Office of Naval Research ([ONR](#)) and Professor [Anant Agarwal](#), The Ohio State University
  - [Dr. Anthony Kuh](#), Program Director, National Science Foundation ([NSF](#))
  - [Dr. Gavin Schmidt](#) on Climate Change; Director of [NASA Goddard](#) Institute for Space Studies
- 10:15-10:45 Networking; coffee
- 10:45-11:30 Power-Related CUSP™ Curriculum – Prof. [Ned Mohan](#), UMN and Prof. [Michael Giesselmann](#), Texas Tech University
- 11:30-1:00 p.m. Lunch (provided)
- Working Group Meeting of Engineering Deans, ECE Dept Heads, and Industry/Utility Representatives (Chair: [Dr. Sarah Rajala](#), Dean of Engineering, Iowa State University): “What are the pressing issues facing education in “Electric Power” and can a holistic and realistic (beyond-the-hype) view of it meet some of the challenges?”
- 1:00-1:30 UMN Driving Tomorrow Research Initiatives – UMN Provost [Prof. Karen Hanson](#)
- 1:30-3:00 Session on Success with Distance Learning:
- Online Courses - [Dr. Deanna Raineri](#), VP of Partnerships at [Coursera](#)
  - Online Undergraduate Engineering Education - [Prof. Stephen M. Phillips](#), Director of the School of ECEE - Arizona State University
  - Online Master's Degree in Computer Science at Georgia Tech - [Dr. Nelson Baker](#), Dean of Professional Education, Georgia Tech
- 3:00-3:30 Networking; refreshments
- 3:30-4:00 How much renewables can our grid take? – [Mark Lauby](#), Senior Vice President and Chief Reliability Officer, North American Electric Reliability Corporation ([NERC](#))
- 4:00-5:00 Report from the Chair of the Working Group Dr. Rajala and Open Discussion
- 5:00-6:00 Networking; Social Hour
- 6:00-7:00 Banquet

7:00-8:00

Banquet Presentation: The Nature of the Cosmos: *There is No Planet B!* - [Prof. Chick Woodward](#), Professor, Minnesota Institute for Astrophysics, UMN

## **Saturday June 17, 2017**

8:00-11:00

1. Demonstration of experiments in Power Electronics and Electric Drives Laboratories
2. Demos prepared for the course EE1701 “Energy, Environment and Society” described on <http://z.umn.edu/ee1701> , [to be promoted in high schools](#).
3. Demonstration of an “Extremely Low-Cost Embedded Controller, Programmed through a Model-Based Simulation Platform,” being developed through our ONR Funding, and
4. Research Lab on grid interface of utility-scale renewables (wind and solar) and storage

### **Accommodations**

A block of rooms has been reserved at a hotel (<http://www.commonshotel.com/>) adjacent to the event location. Our NSF grant will pay for two nights of lodging of the faculty in the U.S. universities: Engineering Deans, ECE Department Heads, and “Power Faculty” (tenured and tenure-track), on a first-come basis. Participants are responsible for making their own reservation with the hotel ([click](#) here); we will supply names of the eligible faculty to the hotel so they are not charged for these two nights of lodging.

### **Industry and Other Participants**

The procedure for industry and other participants to register is the same as that for the faculty. Please note that our grant will not be able to cover your lodging.

**Registration:** This workshop is open to everyone interested in this field. The Registration Fee is \$195 through <http://z.umn.edu/nsfenergy2017>.

**Contact:** Prof. Ned Mohan ([www.ece.umn.edu/~mohan](http://www.ece.umn.edu/~mohan)); Email: [mohan@umn.edu](mailto:mohan@umn.edu)

**Location:** U of M campus in Minneapolis (<http://mac-events.org/rooms/memorial.html>)

### **Transit:**

Transit from the MSP airport or any of the hotels along the Light Rail Line:

<http://www.metrotransit.org> (The train stop is only a short distance from the workshop venue.)

