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

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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](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/](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](http://www.commonshotel.com/)); 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](http://z.umn.edu/nsfenergy2017).

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

**Location:** U of M campus in Minneapolis ([http://mac-events.org/rooms/memorial.html](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](http://www.metrotransit.org) (The train stop is only a short distance from the workshop venue.)