Remotely Accessible Hardware Labs for Education and Research in Power Electronics, Power Systems, and Electric Drives
Virtual Workshop

May 20, 2022

PROGRAM (All Times are Central Time)

9:00 am Welcome: The Importance of Laboratories in Education and Research
Randall Victora, Professor and Head of Department of Electrical and Computer Engineering, University of Minnesota
Aranya Chakrabortty, Program Director, National Science Foundation
Lynn J. Petersen, CAPT USN(Ret) – Program Officer, Office of Naval Research
Al Romig – Executive Officer, National Academy of Engineering

10:30 am ONR-funded Courses and Laboratories at CUSP (https://cusp.umn.edu) – Overview of 19 courses and laboratories – Prof. Ned Mohan, UMN
- As an example, the material for one CUSP course, “Power Generation, Operation & Control” – Prof. Bruce Wollenberg, UMN

11:00 am Open Discussion: Value and accessibility of the CUSP laboratories
- Chaired by - Professor Saifur Rahman, 2022 IEEE President-Elect, with the following panelists:
  o Prof. Prasad Enjeti – Texas A&M
  o Prof. Bill Robbins, UMN, and
  o Dr. Manikanta Pallantla – TI-Dallas who, as a TA, transitioned the lab mid-semester from in-person to online due to covid

Lunchbreak

1:00 pm Demonstration of online labs for the following courses by Prof. Siddharth Raju, and David Maiden Mueller

Freshman and Sophomore-levels (also in high schools and Community Colleges as a pipeline to ECE and STEM)
- Solutions to Climate Crisis (with no prerequisites)
- Sustainable Electricity (with the prerequisite of Engineering Physics)

Senior-level
- Power Electronics
- Electric Drives

Graduate-level
- Power Electronics
- Electric Drives

Power Systems Lab using PSS®E and Python - Dr. Swaroop Guggilam of EPRI
- To accompany the first course on Power Systems to calculate Line Constants, and modeling IBRs, HVDC, STATCOM and OPF

Please click here to register.