



Crisis in Power Engineering Education: A National Security Concern



Minneapolis, MN October 21-22, 2022

[Graduate Hotel](#)

Workshop Agenda

Friday, Oct 21, 2022

- 8:00 am Welcome and the Urgency of this topic:
Amy Klobuchar (recoded video) – US Senator from Minnesota, [US Senate](#)
Andrew Alleyne – Dean, [College of Science and Engineering](#), Univ. of Minnesota
Aranya Chakraborty - Program Director, [National Science Foundation](#)
Lynn J. Petersen, CAPT USN(Ret) – Program Officer, [Office of Naval Research \(ONR\)](#)
Guru Madhavan –Senior Director of programs and Senior Scholar, [National Academy of Engineering](#)
Mingyan Liu – Chair of [ECE, University of Michigan-Ann Arbor](#), and Treasurer, [ECE Department Heads Association \(ECEDHA\)](#)
- 9:45 am Workforce needed for the country to benefit from the opportunities offered by new federal budget appropriations – Isik Kizilyalli, Associate Director, [ARPA-E](#)
- 10:15 am Coffee break
- 10:30 am Enrollment in EE Program at Howard University – Ahmed Rubaai, Professor and Chair, [Department of Electrical Engineering and Computer Science, Howard University](#)
- 10:50 am Role of Community and Technical Colleges – Larry Lundblad, Executive Director of Workforce and Economic Development, [Minnesota State Colleges, and Universities](#)
- 11:10 am Creating a Pipeline of Students from High Schools into Power Engineering – Joe Gothard, Superintendent and Anna Morawiecki, Career Pathways Supervisor, [Saint Paul Public Schools](#)
- 11:30 am Lunch; Luncheon speaker on “The Mission of Public Land Grant Universities”: David McMillan, Chancellor, [University of Minnesota, Duluth](#)
- 12:30 pm Proposed Multiple Pathways to a Robust Power Engineering Education (please see the figure on the previous page) – UMN Team*
- [Pipeline Course](#) and Lab that can be taught in High Schools
 - Proposed Three Courses and Labs that Community and Technical Colleges can offer for a Certificate in “Power” Engineering
 - Overview of [Courses and Labs](#) for BS/MS/PhD degrees to be discussed on Saturday
- 1:30 pm Lightning Talks: Combining Personal Passion with Secure and Financially Rewarding Careers in “Power” Engineering
- Electric Utilities –
 - o John Reinhart, [Great River Energy](#)
 - Developing Renewables/Storage Plants
 - o Jim Greer, [ACES Delta \(aces-delta.com\)](#)
 - o Anushree Ramanath, [Form Energy](#)

- Future of EVs: Jukka Kukkonen, [Author: 12 EV Trends to Watch](#)
- 3:00 pm Coffee break
- 3:15 pm Lightning Talks (Continued.....)
 - Automotive: EVs, EV Charging – Kartik Iyer, [Tesla](#)
 - Industrial Manufacturing –
 - o Brad Palmer, [Cummins Power Generation](#)
 - o Brij Singh, [John Deere](#)
 - o Mukul Rastogi, [Siemens USA](#)
 - Microchip-related manufacturing – Sameer Shekhar, [Intel](#)
 - Defense – Roger Brewer, [Lockheed Martin](#)
- 5:00 pm Open Discussion and Developing Action Items
- 6:00 pm Poster Presentations along with Hearty(!) Appetizers

Saturday, Oct 22, 2022

- 8:30 am **Descriptions and Demonstration** of courses ([here](#)) and online labs ([here](#), [here](#)) by UMN Team*:
 - Freshman and Sophomore-level** (also in high schools and Community Colleges)
 - Solutions to Climate Crisis (no prerequisites)
 - Sustainable Electricity Supply (prerequisite: Physics)
 - Senior- and Graduate-level**
 - Power Systems
 - Power Electronics
 - Electric Machines/Drives and their Control
 - Energy Conversion and Storage
- 11:30 am Adjourn

*UMN Team: Ned Mohan, Bill Robbins, Siddharth Raju, David Maiden Mueller, Madhukar Rao Airineni, Swaroop Guggilam

Registration: Please click [here](#) to register. There is no registration fee.

Location: The workshop would take place at the [Graduate Hotel](#) near our ECE Building.

Lodging: There are no more rooms at the Graduate Hotel. However, there are several hotels nearby within walking distance.