IEEE CSS Technical Committee on Control Education
Meeting Minutes
May 27, 2021

Agenda: https://apm.byu.edu/prism/index.php/Projects/ControlEducation

In attendance:
Molly Shor, E8 Angels, located in Seattle USA, invests in US/Canada
Daniel E. Rivera, Arizona State University
Bozenna Pasik-Duncan, University of Kansas
John Anthony Rossiter, University of Sheffield
John Hedengren, Brigham Young University
Brian Douglas, Engineering Media
Steve Brunton, UW Seattle
Bonnie Ferri, Georgia Tech
Sinan Bank, California State University, Chico/ CEO Craftnetics Inc.
Danilo Oliveira Martins, University of São Paulo.
Arian Panah, US Territory Manager, Quanser
Peter Martin, Senior R&D Manager of Academic at Quanser
Jeffrey Kantor, University of Notre Dame
Antonio Visioli, University of Brescia
Ahmad Al-Dabbagh, University of British Columbia
Danny Abramovitch, Agilent Technologies
Ernesto Arzabala, Universidad Tecnológica de Chihuahua
Noor Nabi, TU Delft, The Netherlands and Politecnico di Milano, Italy
Elena Zattoni, University of Bologna
Helon Vicente H. Ayala, Pontifical Catholic University of Rio de Janeiro, Brazil
Jacob Marshall - HollyFrontier
Taleb BOU HAMDAN- Université Grenoble Alpes
Salvador C. Cardona, Universidad Politécnica de Valencia (Spain)
Ebrahim Mattar, IEEE SM, University of Bahrain
Ben Sweet, MathWorks, Developing Control Systems Course

Anthony: Apologies I can only stay until 8.15, but I am quite interested from a personal point of view in take home labs and in particular something cheap and simple like Johns heat exchanger but with more interesting/challenging dynamics. I have some weak ideas but happy to talk at another time.

Take-Home Experiments
Bonnie Ferri: **Bring your own experiments** / resource constrained
Helon: Multiply the types of experiments - Mechanical / Electrical
- Quanser: https://www.quanser.com/digital/quanser-interactive-labs/
- Electromechanical Sample: https://simplefoc.com/
- Low-fidelity simulation: CoppeliaSim (Free for educational institutions)

- Software for take-home-experimentation: https://github.com/jckantor/TCLab

The paper that has the thirteen objectives of labs:
https://www.researchgate.net/publication/237536331_The_Role_of_the_Laboratory_in_Undergraduate_Engineering_Education

Invited Sessions / Special Sessions / Workshops

Invited sessions - papers go through review
Special sessions - papers do not go through review (higher quality?) - nothing in the proceedings from the special session

Thoughts on Special Sessions for ACC 2022, per Bonnie's request.
Possible collaboration with ACE 2022 - upcoming IFAC education meeting

Session idea: Bring your own experiments

Session idea: using data science in control systems; incorporating data analytics in control education

Session idea: MATLAB livescripts and other exercises generated from pandemic teaching.

Session idea(s): Diversity and inclusion in control education

Universal access to technology and ethics; addressing security and privacy

Resource Curation

Resourcium
https://resourcium.org/
Brian: How to differentiate to search?
Structured lists into "journeys"
Needs feedback / help on how to design this appropriately
Email Brian through the contact link on resourcium if you have thoughts on resource metadata and labeling

Brian: when I recover from this ACC, we should connect. Danny
Molly: work with startup companies that are using control

Survey on Control Education Resources
https://tinyurl.com/control-resources