CESUN Annual Meeting 2017 Agenda

March 21-22 2017

Hosts: Thayer School of Engineering
&
The Arthur L. Irving Institute of Energy & Society
at Dartmouth College

14 Engineering Drive, Hanover, NH, 03755
Cummings 200

Tuesday, March 21

8:00-8:30	**Registration and Continental Breakfast**
8:30-8:35	**Opening of CESUN Annual Meeting** · *Speaker: CESUN Chair Prof. Larry Head*
8:35-8:55	**Thayer School of Engineering Welcome & Overview** · *Speaker: Dean Joseph Helble*
8:55-9:00	**CESUN Annual Meeting Format** · *Speaker: CESUN Chair-Elect Prof. Amro M. Farid*
9:00-10:30	**Spotlight on Healthcare**: How is the Engineering Systems Field Poised to address Healthcare Delivery Grand Challenges? · *Lead Presentation: Prof. Elliott Fisher (30 minutes)* *Title: Engineering – and the long and winding path to a higher performing health care system.* *Abstract: Dr. Fisher will describe the origins, motivation and current status of the ongoing transition to new payment and delivery models. He will briefly review the research on the relationship between spending and quality and the opportunities that are now well-recognized to improve the performance of the US healthcare system. He will describe the rationale for new payment models and what progress is being made and the challenges that remain. Finally, he will review the opportunities proposed by the President's Council of Advisors on Science and Technology for how systems engineering can contribute to improving the performance of the US healthcare system.* · *Moderator: Prof. Inas Khayal*

	· *Panelists: Prof. Elliott Fisher, Prof. Bill Rouse, Prof. Ken Harmon* · *Discussion: 30-60 minutes*
10:30-11:00	Break
11:00-12:30	**CESUN New Member Spotlight**: New CESUN Members can make 5-10 minute presentations of their programs/departments.
12:30-1:30	Lunch: CESUN University Introductions Part I
1:30-3:00	**Spotlight on Social Data**: How is the Engineering Systems Field Poised to address Social Data Grand Challenges? · *Lead Presentation: Prof. Hany Farid (30 minutes)* *Title: Reining in Online Abuses* *Abstract: Online platforms today are being used in deplorably diverse ways: recruiting and radicalizing terrorists, buying and selling illegal weapons and underage prostitutes, cyberbullying and cyberstalking, revenge pornography, theft of personal and financial data, propagating fake and hateful news, and much more. Technology companies have been and continue to be frustratingly slow in responding to these very real threats with very real consequences.* *I advocate for the development and deployment of new technologies that allow for the free flow of ideas while reining in abuses. As a case study, I will describe one such technology—photoDNA—that is currently being used in the global fight against child exploitation. I will also describe the technological, legal, and policy obstacles that we faced prior to deployment and how lessons from this work can inform future efforts. I will also describe ongoing efforts in countering extremism on-line.* · *Moderator: Prof. David Broniatowski* · *Panelists: Prof. Hany Farid, Prof. Deborah Hurley* · *Discussion: 30-60 minutes*
3:00-3:30	Break
3:30-5:00	**Spotlight on Energy**: How is the Engineering Systems Field Poised to address Energy Grand Challenges? · *Lead Presentation: Prof. Bob Hansen* *Abstract: What are the "great issues in energy"? It would be easy to compose a laundry list of issues and possible solutions or approaches to*

	solutions. It is usually a good idea, though, to have a specific decision or potential action in mind when posing a question. Accordingly, I propose the following practical questions around the topic of "great issues in energy." Suppose that one had the opportunity to create a new university-based institute to focus on the topic of "energy and society." What are the great issues in the energy field that affect society, and how would one structure and organize a new institute to have impact in this area? What does "energy and society" actually mean? What topics might one focus on and what disciplines and scholarly areas should be included and emphasized? What organizational structures would be effective? Or in a nutshell, what should be the new institute's strategy? What information, ideas or theories could be used to help devise this strategy? History of the industry – lessons learned from the past? Future scenarios? Does the academic management and strategy literature have anything to say about such things (after all, that literature is meant to help companies deal with similar strategic issues)? · *Moderator: Prof. Amro M. Farid* · *Panelists: Prof. Bob Hansen, Prof. Massoud Amin, Prof. Lee Lynd* · *Discussion: 30-60 minutes*
6:00 pm	Dinner at Hanover Inn, Hamilton Room Presentation: Brooklyn Community Microgrid. Mr Scott Kessler CESUN University Introductions Part II

Wednesday, March 22

8:30-9:00	**Registration and Continental Breakfast**
9:00-10:30	**Spotlight on Engineering Systems Education**: What are the key challenges to Engineering Systems Education? · *Lead Presentation: Prof. Geoff Parker* *Abstract: Joint business/engineering programs such as Dartmouth's Master of Engineering Management program are designed to develop managers who understand both the engineering and business aspects of technology. In practice, this implies that students who studied a specific technical discipline, such as electrical or mechanical engineering, engage in a course of study that is inherently more integrative. One major goal is to help students learn to translate across the "the language of things" spoken by engineering functions and "the language of money" spoken by business functions. Such translation can create significant value as business objectives can be better incorporated into technical development programs while technical opportunities and feasibility can inform business objectives. However, the challenge for faculty who design and manage such programs is to ensure the rigor that is required*

	by engineering departments while simultaneously ensuring that students learn to work across the disciplines. One solution is to more explicitly adopt systems engineering as an organizing framework for interdisciplinary engineering education. Systems engineering has emerged as a discipline that is designed to manage complex systems and projects. The Bell Telephone system (Arthur Hall, 1962) and complex aerospace projects provided early environments in which to develop and apply systems engineering. More recently, the rise of cyber/physical systems such as "the internet of things" suggests that there will be increasing demand for scholarship and practitioners who can manage increasingly complex projects and interconnected systems and make progress toward solving grand challenges such as energy storage, healthcare informatics, and securing cyberspace (Roy Kalawsky, 2013). · *Moderator: Mr. Ross Gortner* · *Panelists: Prof. Geoff Parker, Prof. Bill Crossley, Joan Rubin, Naohiko Kohtake* · *Discussion: 30-60 minutes*
10:30-11:00	Break
11:00-12:00	**Development Opportunities for CESUN: What's New and Where Do We Go from Here?** · *Lead Presentation: Prof. Larry Head (10 minutes)* · *Moderator: Prof. Amro M. Farid* · *Panelists: Larry Head, Darryl Farber* · *Guided Discussion on CESUN's Development Opportunities*
12:00-1:00	**Closing Lunch** · *Closing Remarks: Prof. Amro M. Farid CESUN Chair-Elect* · *Closing Remarks: Dean Joseph Helble*