

**Agenda for the Annual Meeting of the  
Technology, Management and Policy Graduate Consortium**

**SINGLETON ROOM/ATRIUM, ROBERTS ENGINEERING HALL  
FREW STREET  
Carnegie Mellon University**

**JUNE 21 – 24, 2015**

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**Sunday, June 21:**

- 11:00 – 14:30 Organized excursion during the day (*departs Wyndham Pittsburgh University Center Hotel at 11:00am and will provide drop-off and pick-up at Heinz History Center*). *Hotel address 100 Lytton Avenue, Pittsburgh, PA 15213 (412-682-6200)*
- 11:00 – 12:00, City Tour
  - 12:00 – 14:30pm, Lunch and Tour of Senator John Heinz History Center (<http://www.heinzhistorycenter.org/>)
  - 14:30, return to Wyndham Pittsburgh University Center Hotel
- 18:00 – 20:00 Welcome reception (Outside Patio, Wyndham Pittsburgh University Center Hotel)

**Monday, June 22:**

- 07:45 Shuttle will depart hotel for Singleton Room, Roberts Engineering Hall (*Harper Transportation will provide shuttle trips. Sign on Van will say "TMP." Front desk at hotel will have driver's phone number. If you walk, allow 15-20 minutes*)
- 08:00 – 8:30 Coffee, tea, juice and continental breakfast
- 08:30 – 8:45 Welcome presentation and orientation to Carnegie Mellon and Department of Engineering and Public Policy
- 08:45 – 10:00 **Session 1: Electric Power (Chair – Jay Apt, Carnegie Mellon)**  
(all talks 12-minutes w/3 minutes Q&A)
- Jeffrey Anderson (Carnegie Mellon), "Operations of Coal-fired Plants in a Carbon-constrained world"*
- Iika De Luque (George Washington), "Power Systems Planning with Recourse: Electricity Capacity"*

- Duo (Rick) Shang (Stony Brook), "Pricing the Emergency Service of Dynamic Microgrid as Measure to Improve Grid Resilience"*
- Sunhee Baik (Carnegie Mellon), "Improving Estimates of the Value of Reliable Electric Supply"*
- Mohammed Osman (Stony Brook), "Regulated vs. Deregulated Electricity Markets: Which leads to lower costs and greater uptake of low carbon energy technology?"*
- 10:00 – 10:15      General discussion of Session 1
- 10:15 – 10:45      Coffee/tea break and student posters
- 10:45 – 11:30      **Session 2: Risk, Forecasting and Decision Making (Chair – Zoe Szajnfarber, George Washington University)**  
(all talks 12-minutes w/3 minutes Q&A)
- Evan Sherwin (Carnegie Mellon), "U.S. Energy Surprises Have Become More Frequent: Retrospective analysis of U.S. energy forecasts"*
- Barry Dewitt (Carnegie Mellon) "Tornado Risk Perception from Visual Clues"*
- Peter Blokland (TUDelft) "An Integrated Approach in Proactively Improving Safety and Performance in Sociotechnical Systems"*
- 11:30 – 11:45      General discussion of Session 2
- 11:45 – 12:45      Lunch break and student posters
- 12:45 – 13:45      **Session 3: Technological Change and Innovation (Chair – Joana Mendonça, Instituto Superior Técnico)**  
(all talks 12-minutes w/3 minutes Q&A)
- Janna Fabris (University of British Columbia), "Establishing Knowledge Framework to Address Risk in Composites Manufacturing and Design"*
- Anabela Costa Reis (Instituto Superior Técnico), "Uncertainty in Industrial Dynamics: Challenges and opportunities to foster capacity building in aeronautics"*
- Casey Canfield (Carnegie Mellon), "Using Signal Detection Theory to Measure Phishing Detection Ability and Behavior"*
- Zachary Pirtle (George Washington), "Dissimilar Development: Exploring independence as an epistemic strategy for systems engineering"*
- 13:45 – 14:00      General discussion of Session 3

- 14:00 – 14:45     **Session 4: Technology Innovation: Government and Institutions (Chair – David Hounshell, Carnegie Mellon)**  
 (all talks 12-minutes w/3 minutes Q&A)
- Hyoung Ryul Ma (Stony Brook), "Technological Performance of Public R&D Projects: Empirical evidence from Korea"*
- Vivek Sakhrani (MIT), "Negotiated Collaboration: A study in flexible infrastructure design"*
- Hassan Khan (Carnegie Mellon), "Scaling Moore's Wall [sic.]: A public partnership to a presumptive anomaly in a world of declining fundamental research"*
- 14:45 – 15:00     General discussion of Session 4
- 15:00 – 15:30     Coffee/tea break and student posters
- 15:30 – 16:30     Meeting of faculty (Dilks Library – next to Singleton Room)
- Informal meeting and discussion among students (Singleton Room)
- 16:30             Shuttle or walk to Wyndham Pittsburgh University Center Hotel  
 (*Harper Transportation will provide shuttle service back to the hotel*)
- 18:00             Molly's Trolley will transport non-CMU participants and depart Wyndham Pittsburgh University Center hotel to LeMont Restaurant (1114 Grandview Avenue, Pittsburgh, PA, 412-431-3100, <http://www.lemontpittsburgh.com/LeMont/index.htm>)
- 18:30             Reception and Dinner
- ~21:15           Molly's Trolley will depart LeMont Restaurant to Wyndham Pittsburgh University Center hotel

**Tuesday, June 23:**

- 07:45             Shuttle or walk to Singleton Room, Roberts Engineering Hall  
 (*Harper Transportation will provide shuttle trips. Sign on Van will say "TMP." Front desk at hotel will have driver's phone number. If you walk, allow 15-20 minutes*)
- 08:00 – 08:30     Coffee, tea, juice and continental breakfast
- 08:30 – 09:30     **Session 5: Technological Change and Innovation (Chair – Frank Field, MIT)**  
 (all talks 12-minutes w/3 minutes Q&A)
- Michael Specter (MIT), "Understanding the Economics of Web Cryptography"*
- Cecilia Testart Pacheco (MIT), "Mapping Cyber Security Concepts and Actors"*
- Jesse Sowell (MIT), "Harnessing Adaptation in Operational Internet Resource Management"*

- David Espinoza (Colorado Boulder), "Technical and Cost Analysis for Wireless Broadband Access Networks for Rural Areas in the Andes and Amazon Regions of Peru"*
- 09:30 – 09:45 General discussion of Session 5
- 09:45 – 10:45 **Session 6: Water (Chair – Arthur Petersen, University College London)**  
(all talks 12-minutes w/3 minutes Q&A)
- Behailu Bekera (George Washington), "Stochastic Model for the Assessment of Thermoelectric Power"*
- Daniel B. Gingerich (Carnegie Mellon), "Water Treatment Capacity Utilizing Power Plant Waste Heat Driven Forward Osmosis"*
- Aviva Loew (Carnegie Mellon), "Cost-effectiveness of Power Plant Cooling System Retrofits as a Climate Adaptation Strategy: The Case of Texas"*
- Paul Welle (Carnegie Mellon), "Understanding the role of desalination technologies for agriculture in the Central Valley of California"*
- 10:45 – 11:00 General discussion of Session 6
- 11:00 – 11:15 Coffee/tea break and student posters
- 11:15 – 12:15 **Session 7: Climate Change and Life Cycle Analysis (Chair – David Ferguson, Stony Brook)**  
(all talks 12-minutes w/3 minutes Q&A)
- Jörn Richstein (TUDelft), "Evaluation of European Carbon Market Reforms Under Consideration of Risk Averse Investors"*
- Parth Vaishnav (Carnegie Mellon), "Analyzing a Proposal to Cap Greenhouse Gas Emission from International Civil Aviation at 2020 Levels"*
- Morgan Edwards (MIT), "Metrics for Evaluating the Climate Impacts of Energy Technology CH<sub>4</sub> Emissions"*
- Fan Tong (Carnegie Mellon) "The Benefits of Using Natural Gas for Road Transportation – A County-level Analysis of Reduced Criteria Air Pollutants"*
- 12:15 – 12:30 General discussion of Session 7
- 12:30 – 13:00 Lunch break and student posters
- 13:00 – 14:00 **Session 8: Renewable Energy (Chair – David Reed, University of Colorado Boulder)**  
(all talks 12-minutes w/3 minutes Q&A)
- Marc Jaxa-Rozen (TUDelft), "Designing Smart Grids for Aquifer Thermal Energy Storage"*

*Gang He (UC Berkeley), "Achieving High Penetration of Renewables to Decarbonize China's Power Sector"*

*Mark Staples (MIT), "Optimal Global Bioenergy Deployment: Quantifying the trade-offs between offsetting fossil fuels, and emissions from land use change"*

*Joshua Mueller (MIT) "Increasing Renewable Energy System Value Through Energy Storage"*

- 14:00 – 14:15      General discussion of Session 8
- 14:15 – 16:00      Faculty meet to discuss best paper and poster awards (Roberts Engineering Hall room 340)
- 16:00 – 16:30      Best paper and best poster awards
- 16:30                Shuttle or walk from campus to hotel for those who do not want to continue the workshop discussion  
*(Harper Transportation will provide shuttle service back to hotel)*
- 17:00 – 19:00      Pizza and continuation of workshop/discussion for those who wish to stay

**POSTERS**

*Omkar Aphale (Stony Brook), "Validation Assessment of Groundwater Flow Simulation Models Using Area Metric Approach"*

*Jaime Bonnin Roca (Carnegie Mellon), "Technical and Regulatory Challenges in the Introduction of Metal Additive Manufacturing in Aeronautics"*

*Michael Craig (Carnegie Mellon), "Assessing the System-wide Merits of Flexible Carbon Capture and Sequestration Power Plants in Complying with the U.S. Clean Power Plan"*

*Nathaniel Horner (Carnegie Mellon), "Cost-Aware Load Shifting for Geographically Distributed Data Centers"*

*Siripha Junlakarn (Carnegie Mellon), "Provision of Differentiated Reliability Services in Distribution Systems Based on Customer Preferences"*

*Erin Mayfield (Carnegie Mellon), "Reducing Methane Emissions from the U.S. Natural Gas System: Decision making under uncertainty"*

*Daniel Posen (Carnegie Mellon), "Green Feedstocks vs. Green Energy in U.S. Plastics Production"*

*Jeffrey Song (Carnegie Mellon), "Probabilistic Framework for Aquatic Invasive Species eDNA Monitoring"*

*Parth Vaishnav (Carnegie Mellon), "The Benefits and Costs of Using Shore Power for Vessels Calling at U.S. Ports"*