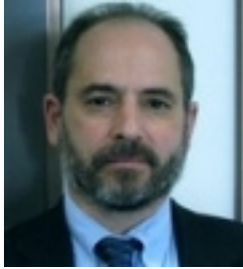


# Department of Mechanical Engineering

## 2014 Seminar Series



**Darryl Farber, Ph.D.**

Assistant Professor  
College of Engineering  
Penn State University

### **A Strategic Analysis of Interdependent Infrastructures among the Built Environment, Energy, and Transportation Systems at the Navy Yard and the Philadelphia Metropolitan Region, USA**

**December 9, 2014 | 11:00 AM | DeWalt Seminar Room, 2164 Martin Hall**

**ABSTRACT:** This presentation reports on a research initiative that explores the interdependencies of the system of systems – the built environment, energy, and transportation – related to the redevelopment of The Navy Yard in Philadelphia and the Philadelphia Metropolitan Region. The overarching goal of the project is a clearer understanding of the dynamics of multi-scale interactions and interdependencies of systems of sociotechnical systems that will provide useful insights to guide the strategic decision making of system practitioners. We report on two workshops that brought together system practitioners from the private and public sectors involved in different aspects of infrastructure operations and development. We identified one main overarching theme of decision and policy making fragmentation and four sub-themes of areas that strategic foresight and action is needed. We also identified three projects that could serve as models for developing strategic foresight through systems analysis. Currently we are developing a model of the interdependencies of the built environment, energy, and transportation systems. A draft schema will be presented. Additionally, we are collaborating with the Delaware Valley Regional Planning Commission's Greater Philadelphia Futures Group in developing regional land-use and transportation scenarios during the period September through December 2014.

**BIO:** Darryl Farber is an Assistant Professor in the College of Engineering at Penn State and serves as Managing Director of the Engineering Systems Program at The Larson Institute. His overarching interest is the strategic analysis of sociotechnical systems of systems for critical infrastructures and global trends. He earned a B.S. (Honors) in Agriculture, General Plant Science from Cornell University, a M.S. in Agricultural Economics from Penn State University, and interdisciplinary Ph.D. in Technology Management and Policy from Penn State University. Dr. Farber served as a postdoctoral fellow in the Managing the Atom Project at the Harvard Kennedy School, and project associate-visiting lecturer with the Public Policy Program at the National University of Singapore. He serves on the Board of the Society for Philosophy and Technology.



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