UTC INSTITUTE FOR ADVANCED SYSTEMS ENGINEERING

Robust Design for a Sustainable Future: Solar Desalination for Food and Water Security

This seminar will discuss the systems-level approach to solving a current and long-standing problem of unsustainable natural resource management in agribusiness. We will step through the process design of a modular heat-integrated solar-driven thermal desalination process for freshwater generation and wastewater reuse to enhance the sustainability of agribusiness. The broad-scale deployment of such technology is cast as a decision problem (robust optimization problem) formulated as a semi-infinite program. The solution of this program not only decides the feasibility of the project but also helps identify the optimal design/deployment strategy (and economics thereof) taking into account uncertainty in energy and natural resource markets.

Matthew Stuber

Dr. Stuber is the cofounder and principal investigator at WaterFX, Inc. leading the process systems engineering efforts including process technology design, experimentation, intensification, and continuous improvement efforts for sustainable desalination and water purification. He's currently working on sustainable drought relief in California through the application of distributed renewable energy-driven desalination systems for both reuse and new sources of freshwater.

Dr. Stuber's primary research interests lie in the development and application of theory and methods for solving challenging problems in mathematical optimization for design under uncertainty, reliability and safety, process development, and process improvement with specific interests in energy and natural resources applications.

Dr. Stuber holds a Bachelor of Chemical Engineering degree from the University of Minnesota – Twin Cities and a PhD in Chemical Engineering from MIT.

Wednesday, June 29, 2016
11:00am – 12:00pm

UConn, Storrs Campus – ITE Building 336

Please click here to view live webcast

Upcoming Distinguished Lectures

10/06/16 – Olivier de Weck
When is complex too complex? Graph energy, proactive complexity management and the first law of systems engineering

10/17/16 – Wei Chen
Design under uncertainty; multidisciplinary design optimization; simulation-based design

Upcoming Seminars

09/08/16– Chris Ha
Think Like a Customer, Act like a Startup in Analytics Space

10/03/16 – Amit Surana (UTRC)
Koopman Operator Theoretic Framework for Nonlinear System and Control Applications

Website:
www.utc-iase.uconn.edu

Email:
utc-iase@engr.uconn.edu

Phone:
860.486.3355

UTC Institute for Advanced Systems Engineering
UNIVERSITY OF CONNECTICUT

UCONN
SCHOOL OF ENGINEERING