

UTC INSTITUTE FOR ADVANCED SYSTEMS ENGINEERING Seminar Series

Monday October 16th, 2017

1:00 – 2:00PM

UConn, Storrs Campus – ITEB 336

[To view live webcast click here](#)

Bioprocess Systems Engineering of Cell Culture Processes: Challenges and Opportunities

Systems Engineering has been an integral part of many engineering disciplines and has proven its value in many industries. As a young and heavily regulated industry, Biopharmaceutical manufacturing has been slow to adopt process systems engineering approaches, but the FDA and other regulatory bodies are pushing for more advanced methods to monitor and control manufacturing processes. In this talk we will discuss practical examples on how this is achieved. The first part of the talk will introduce some challenges and present several case studies in which a systems engineering and model-based approaches have proven successful. The second part of the talk will focus on research on advanced modeling and simulation of bioprocesses based on dynamic flux balance analysis that can further improve process monitor and control. The Bioprocess Engineering and Data Analytics group designs and uses new process technologies and data analysis systems to enable Sanofi to better monitor, understand, control, plan, and tech transfer its manufacturing operations.

Kai Hoeffner

Kai Hoeffner is a Process Engineer in the Bioprocess Engineering and Data Analytics group at Sanofi. He has supported process development, scale-up, and tech transfer of cell culture processes across Sanofi's biologics platform. Prior to Sanofi, his research focus was in biotechnology, chemical engineering, and health care at the Massachusetts Institute of Technology, the Max Planck Institute in Magdeburg, Germany, and the Massachusetts General Hospital. He holds a PhD in Chemical Engineering from Queen's University in Kingston, ON and a Diploma in Engineering Cybernetics from the University of Stuttgart.

Upcoming Distinguished Lectures

11/13/17 – Prodrimos
Daoutidis – Energy Efficiency &
Sustainability: New Vistas for
Systems and Control Research

10/23/17 – Dimitri Bertsekas
Stable Optimal Control and
Semicontractive Dynamic
Programming

Upcoming Seminars

10/30/17 – Jun Ueda
Human-Robot Physical
Interaction for Neuromuscular
Adaptive Robot Co-workers

12/4/17 – Lyle Ungar
Deep Learning and its Impact
on Engineering

Website:

www.utc-iase.uconn.edu

Email:

utc-iase@enr.uconn.edu

Phone:

860.486.3355



United Technologies Corporation

Institute for Advanced Systems Engineering

UNIVERSITY OF CONNECTICUT

UConn
SCHOOL OF ENGINEERING