

UTC INSTITUTE FOR ADVANCED SYSTEMS ENGINEERING FACULTY CANDIDATE

Physics-based Robust Control of Energy Systems and Other Applications

Dr. Lin's past research work mainly involves developing system-level battery management solutions for electric vehicles (EV) subject to sparse sensing and system uncertainty. Specifically, he has been working on 1) estimation of temperature distribution in battery packs to improve battery thermal management; and 2) state of charge estimation and voltage under reduced voltage sensing to cut the cost and complexity of the battery system.

In future, his research will evolve along multiple dimensions. The first one is control, where he wants to establish a robust estimation and control framework to address common challenges in most control problems. The second dimension is multi-physics modeling and simulation, and he is interested in using different methods and technologies such as neutron imaging to uncover and capture the implicit dynamics of physical systems. By combining these two research themes, he is looking forward to developing physics-based and system-level robust control solutions for energy systems and other applications. In the long term, he is interested in extending his research to other disciplines from a control perspective, such as data mining, machine learning, sensor fusion, optimization and design.

Xinfan Lin

Xinfan Lin got his B.S. and M.S. degrees in Automotive Engineering from Tsinghua University, Beijing, China, in 2007 and 2009 respectively. He received his Ph.D. in Mechanical Engineering from the University of Michigan at Ann Arbor in May 2014. His research focuses are in the area of dynamic systems and control with emphasis on energy applications. In his Ph.D. dissertation, he developed new methods to improve the system-level battery management. He is now a Research Engineer in the Department of Vehicle Controls and System Engineering at the Research and Advanced Engineering Center of the Ford Motor Company. He is currently working on applying the developed battery management solutions to electric vehicles (EVs) and participating in various EV system and component development projects, e.g. prototyping the DC fast charging system for EVs.

Wednesday, June 1, 2016
10:00am – 11:00am and 2:00pm – 3:00pm

UConn, Storrs Campus – ITE Building 336

[To view the live webcast at 10:00am please click here](#)

[To view the live webcast at 2:00pm please click here](#)

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

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