Eminent Speaker Series

Charles L. Brown Department of Electrical & Computer Engineering

Session 18: John Baillieul, PhD

Electrical and Computer Engineering
Aero/Mech Engineering, Boston University
http://people.bu.edu/johnb/

Hosted by: Zongli Lin

"The Evolving Applications of Control Theory to Devices, Networks and Life Itself"

Abstract

Over the course of the last ten years, Karl Astrom, winner of the IEEE Medal of Honor, has frequently referred to automatic control as the "hidden technology". Control engineering pervades all of modern technology - from aircraft flight control systems, to electronic stability programs in automobiles, to the control of particle beams traveling at the speed of light in the $4.5 billion large hadron collider, to a great many more applications that are sometimes commonplace (room temperature control) and sometimes arcane (controlling oishisa = taste and texture in processed foods). Despite this pervasiveness, as technologies advance, the enabling control systems become increasingly hidden from users. This talk describes recent advances in control that have been stimulated by technological advances in digital networks, communications, biology, and very recently, in applications involving both cognitive and social psychology.

Biography

Professor John Baillieul currently holds professorial appointments in three departments at Boston University: Aerospace/ Mechanical Engineering, Electrical and Computer Engineering and Manufacturing Engineering. He is past Chairman of Aerospace/Mechanical Engineering and of Manufacturing Engineering. He has also served as Associate Dean for Academic Programs in the B.U. College of Engineering. Prof. Baillieul has been an active member of the IEEE for many years. Among many other positions, he has served as the Editor-in-Chief of IEEE Transactions on Automatic Control and President of the IEEE Control Systems Society. He is currently IEEE Vice President of Publication Services and Products. Prof. Baillieul's research deals with robotics, the control of mechanical systems, and mathematical system theory. Much of his present research is devoted to applying the methods of dynamical systems theory and classical geometric nonlinear control theory to fields of current technological interest, including fluid structure interactions, microelectromechanism dynamics, adaptive optics, and network mediated control of large scale device arrays. Recent developments in this research have also led him to work on the interplay between communications and information theory and control.

Friday, October 26th
4:00-5:00 pm
Thornton Hall, E-316

Reception will follow in the Wilsdorf Hall Atrium