



SYSTEMS, CONTROLS AND ROBOTICS SEMINAR



Dr. Robert Skelton

Professor Emeritus

Mechanical and Aerospace Engineering, University of California, San Diego
reskelton@ucsd.edu

Friday, November 14, 2014

4:00 p.m. / 108 Jack E. Brown Chemical Engineering Building

Dynamics and Control of Multibody Systems

ABSTRACT

This talk will discuss the interdisciplinary challenges in controlling, designing, and simulating flexible and multibody systems. Integration of structure and control design requires discussions about signal processing (effects from finite precision computing), modeling, the proper decisions about sensor/actuator precision needed for control and estimation, the locations of sensors and actuators. Matrix-second-order differential equations are derived and suggested for simulation and control design, due to their simpler structure. Tensegrity systems are discussed in detail to illustrate these issues.

BIO

Dr. Skelton is the Daniel L. Alspach Professor of Dynamic Systems and Controls and is Professor Emeritus of Mechanical and Aerospace Engineering at the University of California, San Diego. A member of the National Academy of Engineering, he is world renowned for his work in control systems, systems engineering design optimization, structural dynamics and design, and Tensegrity structures and multi-scale Tensegrity in materials, and deployable structures. He has for many years been involved with the control of Skylab and the Hubble Telescope.

Pizza will be served at 3:45 p.m.