Friday, April 17, 2009
12:00—1:00 PM
Palmer Hall Room 3190

Research in Multibody Dynamics: A Whole World of Possibilities for Applications in Modeling Mechanical Systems, Control Systems and Vehicle Dynamics

Presented by

Brendan Chan, Ph.D
Bendix Commercial Vehicle Systems

In the last few decades, mechanical modeling has evolved, with the increase in computational power. The complexity of current mechanical systems demands models that have a sufficient resolution to represent the actual system. The modeling and control challenges posed by large scale systems such as satellite arrays and robotic systems are pushing the boundaries of computational engineering everyday.

Multibody dynamics have the advantage of providing all the mechanical and kinematical resolution to represent mechanical systems and provide the necessary insight into the problem at hand. This presentation will provide the audience with some examples of research with multibody dynamics in mechanical modeling. Some applications and results will also be presented from multibody dynamics modeling of heavy trucks, and the developed models will be presented with discussion about their Electronic Stability Control system.

Dr. Brendan Chan is currently a senior ESP controls engineer at Bendix Commercial Vehicle Systems. Dr. Chan obtained his Ph.D at the Advanced Vehicle Dynamics Laboratory (part of the Center for Vehicle Systems and Safety) at Virginia Tech. His specialization is in the area of multibody dynamics and vehicle dynamics.