



Colloquium Series



Modeling and Simulation of Robotic Systems

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Abstract: Modeling and simulation is the process of using mathematics and software to reproduce physical phenomena. At the Jet Propulsion Laboratory modeling and simulation is an important component in the development of spacecrafts, ground vehicles, and other robotic platforms, as well as the control software that drives them. This talk will explore some of the ways we utilize simulation at JPL such as testing control algorithms, analyzing the kinematics and dynamics of multibody systems, and performing large scale sampling and analysis to evaluate uncertain scenarios. We will also delve into the mathematics, software, and domain-specific knowledge that goes into building a simulation and will conclude by exploring the components of a simple example simulation.

Keywords: applied mathematics, modeling, computer simulation, many-body systems

Thursday April 25, 12:05 - 12:50pm in 8-249