



Distinguished Lecturer Series

"Motion Planning for Physical Systems"

Dr. Lydia Kavraki

Rice University

Abstract

Over the last decade, the development of robot motion planning algorithms to solve complex geometric problems has not only contributed to advances in industrial automation and autonomous exploration, but also to a number of diverse fields such as graphics animation and computational structural biology.

This talk will relate the current state-of-the-art and detail on-going work on developing sampling-based planners for systems with increased physical realism. Recent advances in planning for hybrid systems will be described, as well as the challenges of combining formal logic and planning for creating safe and reliable systems. The talk will also briefly demonstrate how the experience gained through robotics planning has led to algorithmic tools for analyzing the flexibility and interactions of biomolecules for drug discovery.

Location

Mitre Corporation
Building 2, Conference Room 1N100
7515 Colshire Drive
McLean, VA