



**December 10, 2014, 4:00 pm**

**Metcalf Auditorium 101**

## Distinguished Lecture



Dr. Lydia Kavraki  
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Rice University

## **"Planning for Complex Physical Systems"**

This talk will first describe how sampling-based methods revolutionized motion planning in robotics. The presentation will quickly focus on recent algorithms that are particularly suitable for systems with complex dynamics. The talk will then introduce an integrative framework that allows the synthesis of motion plans from high-level specifications. The framework uses temporal logic and formal methods and establishes a tight link between classical motion planning in robotics and task planning in artificial intelligence. Although research initially began in the realm of robotics, the experience gained has led to algorithmic advances for analyzing the motion and function of proteins, the worker molecules of all cells. This talk will conclude by discussing robotics-inspired methods for computing the flexibility of proteins and large macromolecular complexes with the ultimate goals of deciphering molecular function and aiding the discovery of new therapeutics.

Reception to follow.

Hosted by CCMB and HCRI

