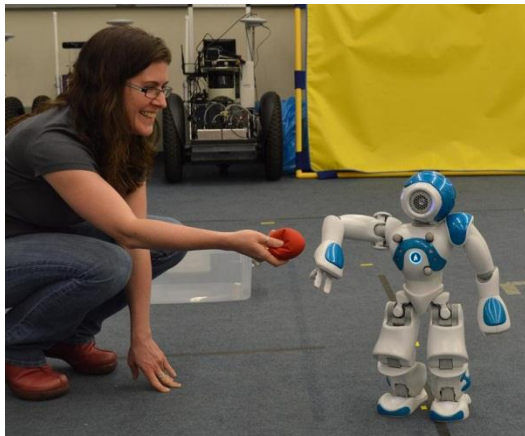


# ROBOTICS SEMINAR

FRIDAY, February 28, 2014

1305 NEWELL-SIMON HALL

3:30-4:30 pm



**Hadas Kress-Gazit**  
**Assistant Professor**  
**Cornell University**

## High-level verifiable robotics

**ABSTRACT:** Why don't we have robots fetching us coffee and finding our keys for us? While robots have become more capable and powerful, they are not yet integrated into everyday life. Part of the reason is that robots are difficult to program and even more difficult to verify. Therefore, to achieve the dream of a robot in every home, two key challenges must be addressed; people should be able to easily interact with robots, and robots must always do as they are told.

In this talk I will discuss the work done in my group to address these challenges. Specifically, I will describe the use of language and temporal logic to capture high-level task specifications, the development of formal methods that automatically transform task specifications into correct robot behavior, if such behavior exists, and approaches to dealing with the extra complexities of verifying autonomous robots.

**BIO:** Hadas Kress-Gazit is an Assistant Professor at the Sibley School of Mechanical and Aerospace Engineering at Cornell University. She received her Ph.D. in Electrical and Systems Engineering from the University of Pennsylvania in 2008 and has been at Cornell since 2009. Her research focuses on formal methods for robotics and automation and more specifically on creating verifiable robot controllers for complex high-level tasks using logic, verification, synthesis, hybrid systems theory and computational linguistics. She received an NSF CAREER award in 2010 and a DARPA Young Faculty Award in 2012.

Host: Howie Choset

For Appointments: Stephanie Matvey ([smatvey@cs.cmu.edu](mailto:smatvey@cs.cmu.edu))