**Abstract:** In the right hands, reinforcement learning is a powerful tool that applies to a wide range of sequential decision problems ranging from game playing to robotic control to tax collection. Achieving good results with reinforcement learning has traditionally required a fair amount of expertise, both in reinforcement learning methods and in the domain of application. This expertise is used to shape the feature space and the action space to conform with the somewhat finicky nature of standard reinforcement learning algorithms. In this talk, I will provide an overview of my research group's efforts to make reinforcement learning more user friendly by automating feature selection, introducing new, non-parametric techniques, and extending reinforcement learning techniques to enormous (or finely discretized continuous) action spaces.

This talk will describe joint work with Christopher Painter-Wakefield and Jason Pazis.

**Biography:** Ronald Parr is a professor at the Duke University Department of Computer Science. He received his A.B. (Cum Laude) in Philosophy in 1990 from Princeton University, where he was advised by Gilbert Harman. In 1998, he received his Ph.D. in computer science from the University of California at Berkeley, under the supervision of Stuart Russell. After graduating from Berkeley, Ron spent two years as a postdoctoral research associate at Stanford University, where he worked with Daphne Koller. He was selected as a Sloan fellow in 2003. In 2006, he received the NSF CAREER ward and served on DARPA's computer science study group (CSSG). He was program co-chair for the 2007 UAI conference, and general chair of the 2008 UAI conference. Ron has served on the editorial boards of JAIR and MLJ, and as an action editor for JMLR.