

**Ralph Adolphs, Ph.D.**  
**MIND Institute Distinguished Lecturer Series – April 11, 2017**

**Biographical Information**

Dr. Adolphs obtained his Ph.D. at Caltech in 1993. He subsequently conducted postdoctoral work with Antonio Damasio in patients with brain lesions, and has been on the faculty at Caltech since 2004. His work elucidates the neural underpinnings of social behavior and studies several clinical populations, including neurosurgical patients, individuals with rare brain lesions, and people with autism. In 2012, the National Institute of Mental Health awarded Adolphs and his team a \$10 million, five year grant to establish the Caltech Conte Center for the Neurobiology of Social Decision Making, of which Adolphs now serves as director. His awards and honors include the Distinguished Investigator Award from the Social and Affective Neuroscience Society (2013), the top-cited article prize from Current Opinion in Neurobiology (2010), the ASCIT Award for Excellence in Mentoring Research from Caltech (2007), a NARSAD Distinguished Investigator award (2005), a James S. McDonnell Foundation “21st Century Science” Award in Bridging Mind, Brain, and Behavior (2002), a Klingenstein Award in the Neurosciences (2000), and an EJLB Foundation Scholar Research Award (1996).

**Presentation Abstract (4:30 presentation)**

*Predicting who you are from looking at your brain*

All of cognition and behavior depend on the brain, but can we predict them just from looking at the brain? Specifically, can we use neuroimaging data, such as fMRI, to predict individual differences in intelligence, personality, or social functioning? I will show that we can indeed make these predictions, albeit only at a statistical level across large samples of individuals, not at the level of diagnosis for an individual.

Prediction is one thing, understanding is another. How could we use neuroimaging data to understand the causal mechanisms whereby the brain produces cognition and behavior? Could we even derive new ways of thinking about the mind from such data, so that we end up asking questions not about personality or intelligence, but other constructs that better capture what is actually happening in the brain? I will suggest that this difficult question can be tackled, given enough data and new tools, such as combining direct brain stimulation with fMRI.

The above two main themes of my talk are based primarily on fMRI data from neurologically healthy, typically developed people. But they can be extended and tested further in two clinical populations my lab studies: people with focal brain lesions, and people with developmental disorders. Taken together, all these studies are giving us guidelines for how to even approach the questions with the best scientific methodology, and they are beginning to suggest how they will eventually revise what psychological processes we talk about.