

Presents the Fall 2012 EECS Seminar Series

**Leonid Sigal and J. Rafael Tena**  
Disney Research, Pittsburgh

**“Vision Research at Disney Research Pittsburgh”**  
Friday, October 5 2012 • 2:00 p.m. • HEC 450

We will give a short introduction to Disney Research, Pittsburgh. Followed by description of three recent projects that came out of our lab that we were closely involved in:

- 1) The importance of the role that the face has played in the world of homo sapiens is implicit in the facial variability, unique to our species, that we can observe among our fellow humans. In this talk I will present some of my work in face modeling to help computers perform some of the tasks that are routine to us but still difficult to them.
- 2) Understanding of actions and activities in multi-person scenes is a challenging and important task, particularly because the actions of agents in such scenarios are often interdependent and can be interpreted in variety of ways depending on the task and user preferences. We present a hierarchical model for human activity recognition in entire multi-person scenes.
- 3) Marker-less motion capture is a challenging problem, particularly when only monocular video is available. We estimate human motion from monocular video by recovering three-dimensional controllers capable of implicitly simulating the observed human behavior and replaying this behavior in other environments and under physical perturbations.

**BIOGRAPHY**

Leonid Sigal is a Research Scientist at Disney Research Pittsburgh and an adjunct faculty at Carnegie Mellon University. Prior to this he was a postdoctoral fellow in the Department of Computer Science at University of Toronto. He completed his Ph.D. at Brown University in 2008; His current research spans articulated pose estimation, action recognition, domain adaptation, latent variable models, data-driven simulation, controller design for animated characters and perception of human motion.

J. Rafael Tena received a Licentiate degree in biomedical engineering from Universidad Iberoamericana (2002), an M.Sc. degree in medical imaging (2004) and a Ph.D. degree in computer vision/graphics (2007), both from the University of Surrey, England. He joined Disney Research Pittsburgh in October 2009 as a Post-doctoral Associate, and is currently a Research Engineer. His current research include the development of data-driven interactive face models and their application to animated characters and animatronics.