UNIVERSITY OF PITTSBURGH
LRDC Learning Research & Development Center
February 2011
Volume 2, Issue 2

Conferences

March 3-5, 2011
Society for Research on Educational Effectiveness
Building on Education Science: Investigating Mechanisms
Washington, DC
Event Website

March 9-12, 2011
American Psychosomatic Society
San Antonio, TX
Event Website

March 31-April 1, 2011
New York Academy of Sciences
Critical Contributions of the Orbitofrontal Cortex to Behavior
Event Website

March 31-April 2, 2011
Society for Research in Child Development
Montreal, Quebec, Canada
Event Website

April 2-5, 2011
Cognitive Neuroscience Society
San Francisco, CA
Event Website

April 8-12, 2011
American Educational Research Association
Inciting the Social Imagination: Education Research for the Public Good
New Orleans, LA
Event Website

April 13-15, 2011
International Association of Laboratory and University Affiliated Schools
Pittsburgh, PA
Event Website

LRDC Joint Appointments Spreading Across the University

The Department of Neurological Surgery isn't the first area that comes to mind when you think of LRDC joint appointments, but that's exactly where Walter Schneider has recently received an appointment. Working with colleagues at LRDC and UPMC, Walt has developed methods to map human network level cortical processing—providing information on the component structures of the brain.

Walt has been at the forefront of studies of brain imaging since its inception, beginning with identifying the first Nature paper in fMRI back in 1993. His recent work in brain connectivity methods have made it possible to identify hubs—the brain's most globally connected regions. Hub regions are essential for coordinating brain functions because of their connectivity with numerous regions with a variety of specializations.

Taking this knowledge one step further, Walt has applied his expertise about connections in the brain to high definition fiber tractography (HDFT), a brain imaging technique that shows how cognitive functions are transmitted through fibrous brain tracks, and how those functions are connected throughout the brain. HDFT has multiple applications in neurosurgery and neuroscience. Walt and colleagues at the University of Pittsburgh Medical Center (UPMC) and the Surgical Neuroanatomy Lab, have been using HDFT for precise neuroanatomical studies of brain connectivity for two years and have produced dramatic progress. The HDFT technology was a critical element in the first ever projection of fiber tracts to the surface of the skull in real time during brain surgery to aid tumor removal. Other applications of HDFT include diagnosis of Traumatic Brain Injury (TBI), neurosurgical planning, and training programs to increase both brain tissue and cognitive capacity. A colorful representation of HDFT is on the cover of Neurosurgery Department 2010 Annual Report and on the department's website. Read more about Walt's work and view a HDFT presentation in the LRDC lobby display case.

Kudos. . .

Catherine Eberbach has been awarded the Outstanding Doctoral Research Award from the National Association for Research in Science Teaching (NARST). Catherine, a former student of Kevin Crowley, received her Ph.D. last year from the Cognitive Studies program with a dissertation titled "The Effect of Parent Knowledge and Conversational Style on Children's Observations of Biological Phenomena." Catherine's research involved a study of family informal learning conducted at Phipps Conservatory. The NARST awards committee emphasized that her dissertation "has been judged by your colleagues in the Selection Committee to have the greatest significance in the field of science education."

Recent Publications

Trude, A.M. & Tokowicz, N. (2011). Negative Transfer From Spanish and English to Portuguese Pronunciation: The Roles of Inhibition and Working Memory. *Language Learning*, 61, 259-280.