Speaker       Jody C. Culham, Associate Professor, Department of Psychology, University of Western Ontario, London, Ontario, Canada

Time          4pm, Departmental Tea immediately following.

Date          Friday, 12 September 2008

Place         BCS Auditorium, 46-3002

Title         Neural Coding Within Human Brain Regions Involved in Grasping and Reaching.

Host          Nancy Kanwisher

Abstract:

Although much neuroimaging research on human vision has focused on the brain areas in temporal cortex involved in visual perception, considerably less is known about brain areas in parietal cortex involved in visually guided actions. Early research in my lab used functional magnetic resonance imaging to identify three key visuomotor areas subserving hand actions in human parietal cortex: (1) the anterior intraparietal sulcus (aIPS), is involved in preshaping the hand during grasping; (2) the caudal intraparietal sulcus (cIPS) is involved in processing object orientation, but only for graspable objects; and (3) the superior parieto-occipital cortex (SPOC) is involved in arm transport during reaching. Now that the basic network of areas involved in visually guided actions has been established, recent research from my lab has asked new questions about the neural coding within these areas. These projects have addressed the coding of various aspects of the grasp in aIPS, the coding of orientation in cIPS, and the coding of reachable vs. unreachable distances in SPOC. Taken together, our results suggest that although this network of areas must be closely choreographed during visually guided hand actions, each area processes different information about object shape/grip, orientation, and location.