

WHITAKER BIOMEDICAL ENGINEERING INSTITUTE

DEPARTMENT OF BIOMEDICAL ENGINEERING FRIDAY SEMINAR SERIES

J. Douglas Crawford, Ph.D.

Associate Professor
Canada Research Chair in Visuomotor Neuroscience,
CIHR Group for Action & Perception
York Centre for Vision Research

“Neural Transformations for Eye-Hand Coordination”

DATE: April 23, 2004
TIME: 1:00p.m. – 2:00p.m.
PLACE: Traylor 709
Hosted by: Reza Shadmehr

Abstract:

Single unit recordings in the parietal cortex of monkeys suggest that the cortical mechanisms for action encode reach goals relative to current gaze direction. Here we will consider psychophysical evidence that suggests the same is true for arm movements in the human. We will then trace the anatomic sites of these gaze-centered representations through a combination of fMRI recordings in normal subjects and behavioral measurements in patients with parietal-lobe damage, showing how they are internally updated when the eyes moves. To cap things off, we will consider how --contrary to the suggestions of some investigators-- these early representations are insufficient in themselves to compute the movement goal; subsequent comparisons with eye and head position are still required to generate the motor plan for reaching and grasping. These data lead toward the overall conclusion that, despite our subjective intuitions about the way we represent the external world, the brain has evolved a sparse, efficient, and direct means to accomplish the sensory guidance of behavior

Any questions, contact Ben Feinberg at 410-502-6959.

Check the web for a complete list.

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**JOHNS HOPKINS UNIVERSITY
720 RUTLAND AVENUE, BALTIMORE, MD 21205**

For Disability Access Information
Contact: Joyce Bankert: 410-955-3132: jbankert@bme.jhu.edu