
Rose F. Kennedy Intellectual and Developmental Disabilities Research Center (IDDRC)
Seminar Series

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Topographical Maps of Prioritized Space in Frontal and Parietal Cortex

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Kennedy Center (Room 901): Tuesday, April 24, 2012, 1:00pm



Biographical Note: Dr. Clayton Curtis received his M.A. and Ph.D. in Psychology from the University of Minnesota. Dr. Curtis' major research interests are Cortical mechanisms of spatial cognition and oculomotor and cognitive control using functional magnetic resonance imaging, magnetoencephalography, electrocorticography, psychophysiology, transcranial magnetic stimulation, and pathological populations. For more information, visit <http://clayspace.psych.nyu.edu>.

Abstract: The prefrontal and posterior parietal cortices (PFC/PPC) sit at the apex of the sensorimotor hierarchy and are important for the selection and planning of voluntary action and are thought to bias the processing in sensory areas towards behaviorally relevant dimensions. Recently, several lines of evidence from a variety of disciplines have converged on a theory positing that activity in the frontal and parietal cortices constitutes maps of prioritized space. In this conceptual framework, priority maps tag important locations in the visual field and are constructed both from the salience (e.g., conspicuousness) of objects and its current relevance (e.g., task goal). Activity in a priority map could be used to select between competing representations of actions in the motor system or between competing representations of objects in the visual system. In this talk, I will describe recent efforts in my lab to test whether patterns of neural activity in the human PFC and PPC are consistent with several predictions from the priority map theory.