Department Colloquium

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"How the neural representation of objects influences attention and memory"

Beyond the core task of recognizing objects based on their visual features, another important function of vision is to track objects as they move, change, and even disappear over time. Brain mechanisms for visual recognition are focused in ventral cortex, while mechanisms for tracking and short-term memory have typically been localized in parietal cortex. I will present novel evidence for how these mechanisms interact as prominent theories of visual attention posit that identity and spatiotemporal information must be integrated (e.g., "object file theory" by Kahneman, Treisman, & Gibbs, 1992). My group has discovered that object shape and feature complexity influence memory for objects in parietal cortex. Furthermore, we recently found that object trajectory and grouping cues influence shape-specific representations in both parietal and ventral cortex. Overall, the results reveal neural mechanisms for object files, one of the most profound and influential ideas in visual cognition over the past two decades.

THURSDAY, APRIL 3, 2008
HARPER MEMORIAL, ROOM 103
4:00 P.M.