

COLLOQUIUM SERIES

Connectivity Constrains the Organization of Object Knowledge in the Brain

Date: October 15, 2010

Location: 3 M Centre, Room 3250

Time: 3:00 pm - 4:00 pm

(Please join us after the talk for light refreshments.)



Dr. Brad Mahon
University of Rochester
Brain and Cognitive Sciences

ABSTRACT:

Various forms of category-specificity have been described at both the cognitive and neural levels, inviting the inference that different semantic domains are processed by distinct, dedicated mechanisms. I will present a framework for category-specificity that explains the emergence of category-specificity in terms of functional coupling among brain regions. Three sets of neuroimaging findings are presented within this framework. I'll argue that the data from the fMRI experiments show that category-specificity within the ventral stream arises due to differential connectivity between regions of the ventral stream and other regions of the brain that process non-visual information about the same categories of objects. More broadly, I will suggest that the unit of analysis for understanding category-specificity in the brain is not a particular region, but the broader network within which that region is embedded.

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