



Colloquium

Institute Colloquium: The maps inside your head: How the brain represents sensory and

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Host:

In many functionally distinct regions of the brain, populations of neurons form maps of spaces that the brain seeks to represent. In the early visual system, there is evidence that the brain organizes such population representations efficiently, minimizing the neural resources required to reach the fidelity necessary in representing natural stimuli, given an animal's behavioral needs. I will review this evidence, and will then describe ongoing work applying this principle of efficiency to the "sense of place" -- i.e. the representation of an animal's physical location in the "place cell" and "grid cell" systems, which have been discovered in two parts of the brain, the hippocampus and the entorhinal cortex. If time permits, I will conclude by briefly discussing how similar analyses can shed light on the representation of shape in higher visual areas, and on the representation of odors in the olfactory system.

Monday, October 22, 2012 04:30pm - 05:30pm

Raiffeisen Lecture Hall, Central Building



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