ELSC Seminar: Carl Petersen

June 19, 2014

On the topic of: Synaptic mechanisms of sensory perception?

ELSC cordially invite you to the lecture given by:

Carl Petersen
Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland

On the topic of:

Synaptic mechanisms of sensory perception?

The lecture will be held on Thursday, June 19, 2014
at 15:45, at ELSC: Silverman Bldg., 3rd Wing, 6th Floor, Edmond J. Safra Campus

Light refreshments at 15:30

Abstract:

A key goal of modern neuroscience is to understand the neural circuits and synaptic mechanisms underlying sensory perception. Here, I will discuss our efforts to characterise sensory processing in the mouse barrel cortex, a brain region known to process tactile information relating to the whiskers on the snout. Each whisker is individually represented in the primary somatosensory neocortex by an anatomical unit termed a 'barrel'. The barrels are arranged in a stereotypical map, which allows recordings and manipulations to be targeted with remarkable precision. In this cortical region it may therefore be feasible to gain a quantitative understanding of neocortical function. We have begun experiments towards this goal using whole-cell recordings, voltage-sensitive dye imaging, viral manipulations, optogenetics and two-photon microscopy. Through combining these techniques with behavioral training, our experiments provide new insight into sensory perception at the level of individual neurons and their synaptic connections.
It is now widely accepted that deciphering the enigma of the brain is the most challenging intellectual endeavor of the 21st century, "The Century of the Brain" - Join our quest and become a friend of ELSC.

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Our Int'l Ph.D. program provides outstanding students with top-notch courses in computational neuroscience.

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The Jerusalem Brain Sciences Building will provide a state-of-the-art research and teaching facility for the Edmond and Lily Safra Center for Brain Sciences.

**The Building**

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