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.
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