ELSC Seminar: Yoram Gutfreund

November 27, 2014

On the topic of: Saliency mapping, habituation and sensory gating: lessons from the barn owl?

ELSC cordially invite you to the lecture given by:

Yoram Gutfreund
Department of Physiology and Biophysics, Technion

On the topic of:

Saliency mapping, habituation and sensory gating: lessons from the barn owl?

The lecture will be held on Thursday, November 27, 2014 at 17:00, at ELSC: Silverman Bldg., 3rd Wing, 6th Floor, Edmond J. Safra Campus

Light refreshments at 16:45

Abstract:

Change detection is an ongoing computational task performed by the brain as part of the broader process of saliency mapping and selection of the next target for attention. In the optic tectum of the barn owl, the probability of the stimulus has a dramatic influence on the neural response to that stimulus. Rare or deviant stimuli induce stronger responses compared to common stimuli. This phenomenon known as stimulus-specific adaptation has recently attracted scientific interest because of it's possible role in the computation of changes in the input stream. Here I will show evidence that in the barn owl's optic tectum it may underlie the ability to orient specifically to unexpected events. These results support a recently emerging hypothesis that the evolutionary role of the deep/intermediate layers of the superior colliculus (SC) in mammals or the optic tectum (OT) in birds is to select the most salient target and send this information to the appropriate brain regions to control the body and brain orienting responses.
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