



Society for Neuroscience–Rochester Chapter Post-doc / Faculty Seminar Series



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Auditory Memory and the Prefrontal Cortex

Working memory, or the temporary storage of information, is required for complex tasks that include recognition, reasoning, and language processes. Neurophysiology and neuroimaging studies have shown involvement of the dorsolateral prefrontal cortex during working memory. Most investigations of working memory in the prefrontal cortex have focused on the processing of visual stimuli. However, the role of the prefrontal cortex in the maintenance or manipulation of auditory stimuli has not been as thoroughly investigated. In my research, I have focused on the role of the primate prefrontal cortex in auditory and audiovisual working memory. I will present neurophysiological evidence of single prefrontal neuron activity during auditory working memory task. I will also discuss my recent studies showing that inactivation of the prefrontal cortex impairs audiovisual and auditory working memory. Lastly, I will describe my preliminary recordings in the medial prefrontal cortex showing involvement of this region in an audiovisual delayed non-matching-to-sample task. These experiments suggest that the prefrontal cortex is not only involved in, but is necessary for auditory working memory.

Thursday, April 23

4:00 pm, K-307 (3-6408)

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Refreshments will be provided

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