



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



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Neural mechanisms of attention and the marmoset as a model system

An understanding of information processing at the level of cortical circuits remains a key challenge for understanding the brain and how the dysfunction of its circuits contributes to mental disease. It has been appreciated for a long time that most of the connectivity in cortex is recurrent and involves extensive feedback from higher to lower areas. Behavioral paradigms using selective attention highlight the importance of these feedback connections in perception. Much evidence, including my own work, suggests that attention plays a dynamic role in regulating inhibition in cortical circuits to select behaviorally relevant stimuli. However, progress to understand attention at the level of circuits has been limited by our ability to label and manipulate different neuronal classes. While recent advances with molecular and genetic tools have made this possible in mice, those techniques have lagged for the primate. I propose a novel approach using a new primate model, the common marmoset. Although marmosets are less able to learn those tasks typically performed by macaques in attention tasks, their natural viewing behavior does reveal core features of attention. I will discuss the relative merits for using this species for behavioral and neurophysiology investigations.

Thursday, February 18
4:00 pm, K-307 (3-6408)
University of Rochester Medical Center

Refreshments will be provided
Sponsored by the Rochester Chapter of the Society for Neuroscience