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12:30 – 1:00 PM Coffee/Pastry Mixer Foege North Lobby

1:00 – 1:50 PM, Foege N130

live stream: <https://washington.zoom.us/j/94375637567>

“Neural basis of visual object recognition in the primate brain”

ABSTRACT: The primate brain rapidly makes sense of the patterns of light that enter the eyes, recognizing objects, interpreting facial expressions, etc. While this seems natural to us, it is an amazing feat of computation that no artificial system has yet been able to approach. To dissect the neural mechanisms that support this capacity, research in my laboratory employs neurophysiological studies in awake monkeys with single and multi-contact probes, behavioral manipulations, computational modeling and reversible inactivation techniques. Our studies investigate how visual information is represented in the neural activity patterns in the brain, how these representations are transformed in successive stages and how these representations inform behavior.

BIO: Anitha Pasupathy was born in Chennai, India. She got her Bachelor's degree in Electrical Engineering at the Indian Institute of Technology in Chennai and then a Master's in Electrical Engineering at McGill University, Montreal, Canada. For her Ph.D. in Biomedical Engineering at the Johns Hopkins University, Dr. Pasupathy investigated the representational basis of neurons in area V4, an intermediate stage in the ventral visual cortex of the macaque monkey. Her work established boundary curvature as a basis for shape encoding in the primate brain. As a postdoctoral fellow at MIT, Dr. Pasupathy investigated the dynamical interplay between prefrontal cortex and the basal ganglia as macaque monkeys repeatedly relearned stimulus response associations. In her own lab at the University of Washington, where she has been since 2006, Dr. Pasupathy uses single and multi-contact electrode recordings, perturbation of neuronal circuits with cortical cooling, behavioral manipulations and computational models, to reveal how the neuronal representations along the ventral visual stream in the monkey support visual object recognition, scene segmentation and overall scene perception and understanding.