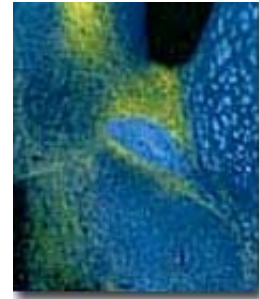




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Research Interests

We study the neuronal mechanisms of behavior with a particular focus on the region of the brain called the basal ganglia. Our long-term goal is to understand how individual neurons and neuronal circuits might be contributing to and processing information related to movement and rewards. We examine the neural correlates of motor behavior during learned and instinctive movements and during the presentation of stimuli associated with rewards. Our principal method is to record electrical activity of individual nerve cells while animals execute natural movements, respond to predictive sensory cues or react to rewards. In these experiments we also activate neural systems by the application of dopaminergic drugs that are known to affect motor behavior and motivational systems. This research is relevant to understanding neurological disorders such as Parkinson's disease, Huntington's disease, Tourette Syndrome, drug addiction, etc. Both graduate and undergraduate students participate in ongoing projects or independent studies for advanced students.

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