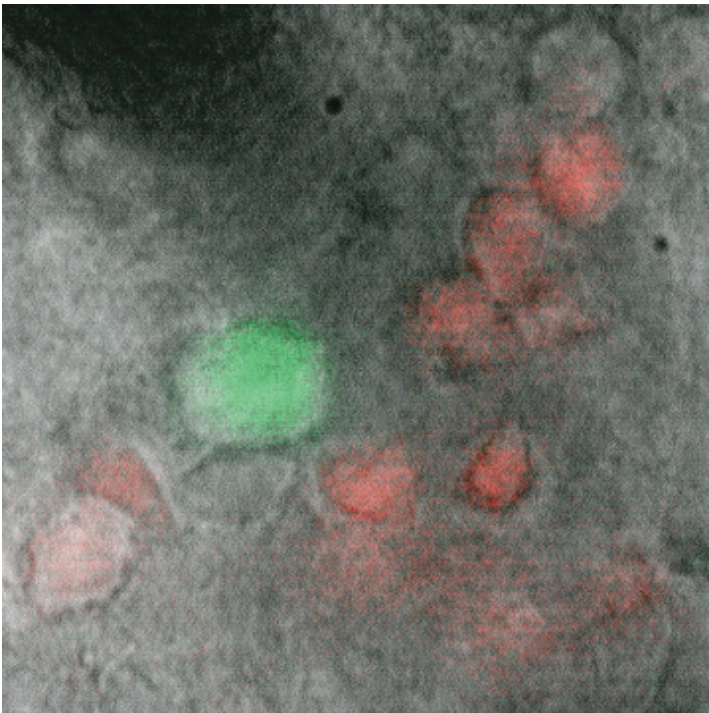


# Striatal Interneurons and the Regulation of Striatal Output Pathways



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Mellon Institute Conference Room

Inhibitory fast-spiking interneurons (FSIs) are abundant throughout many brain regions and are crucial for controlling spike time integration and coordinating neuronal synchrony. Dysfunction of FSIs in the striatum, the primary input nucleus of the basal ganglia, has been observed in a number of striatal-based movement disorders including Parkinson's disease, Tourette syndrome, and dystonia. These movement disorders arise from unbalanced activity between two parallel pathways originating in the striatum: one facilitates movement and the other suppresses movement. My work has established how FSIs differentially control activation of these two opposing pathways to shape striatal output and subsequent motor control. Additionally, my work identifies FSIs as putative therapeutic targets in Parkinson's disease and dystonia, and lays the foundation for future studies of the control of movement by neural circuits in the striatum.

Host: Alison Barth, Ph.D.