

Cellular Neurophysiology and Behavior

Our research explores the neural circuits and neuroadaptations that mediate social behaviors. Affective disorders are typified by social dysfunction and currently there is a limited mechanistic understanding of the neural adaptations that are responsible for aberrant social behaviors. Therefore, we focus on how diverse coping strategies, sex hormones and/or social support can induce changes in the underlying neural circuits guiding social behaviors with the goal of identifying beneficial/pathological neural adaptations. To study these circuits we utilize cutting-edge cell-type/circuit specific *in vitro* electrophysiological recordings, viral-mediated gene transfer and optogenetic manipulations; all in combination with animal models of mood and anxiety disorders. We examine the neural adaptations that occur from the level of the ion channel and relate these changes back to behavior. The goal of this research is to expand our neurophysiological understanding of mood and anxiety disorders in order to find targets for mechanistically driven therapeutics.