Neuronal subcircuit of the ventral striatum and pathological reward processing

Dysfunction in dopamine transmission is a common phenotype of psychiatric disorders that encompass deficits in reward processing, including schizophrenia, major depression or bipolar disorders. Strikingly, these pathologies are also accompanied by alterations in lipid metabolism and a decrease in phospholipid-containing polyunsaturated fatty acids (PUFAs) in particular. However, the implication of such phenotype in the etiology of recurrent psychiatric disorders has been overlooked.

This presentation will center on findings that tie changes in striatal dopamine signaling to reward-relevant behavior using in vivo transgenic strategies, electrophysiological approaches and comprehensive behavioral measures. I will present findings that establish a direct, causal link between membrane lipid composition of discrete subpopulation of dopaminoceptive neurons and motivational deficits and show how alterations of membrane lipid composition can modulate dopamine receptors-dependent signaling and functional endpoints. The talk will conclude with discussion of how investigations of such protein-lipid interactions for GPCRs represent promising scientific and translational avenues.

HEB Seminar Series
October 17, 2022  |  12:00 – 1:00 PM
Via Zoom
https://usc.zoom.us/j/99881542352