

**Abstract for 6th Chinese Computational and Cognitive Neuroscience Conference (CCCN 2024)
(July 3-5, 2024)**

Dissecting the Neural Circuitry Underlying Motivated Behaviors

Bo Li

School of Life Sciences, Westlake University, P. R. China

Email: libo@westlake.edu.cn

The amygdala and basal ganglia circuits have important roles in learning and executing behaviors motivated by either appetitive or aversive stimuli. How exactly these circuits contribute to the generation of divergent behavioral responses remains elusive. Our recent studies indicate that learning driven by reward or punishment induces distinct plastic changes in discrete circuits in the basal ganglia and the amygdala, and reveal how these learning-induced changes participate in guiding flexible behaviors. Interestingly, neurons in these circuits can also convey information about the nutritional properties of foods and the metabolic status of animals, and furthermore control energy utilization and weight gain. An emerging picture is that these circuits are used to regulate different aspects of motivated behaviors as well as energy homeostasis.