

## Special Issue

# Molecular and Systems Mechanisms of Neural Circuit Function and Plasticity

### Message from the Guest Editor

Neural micro-circuits are fundamental computational units of the brain, translating biochemical and electrical signals into coherent cognitive and behavioral outputs. In recent years, remarkable progress in molecular imaging, electrophysiology, and multi-omics approaches has deepened our understanding of how circuit organization and plasticity are shaped by genetic, metabolic, and environmental factors. However, how these mechanisms collectively sustain brain function or conversely lead to dysfunction in brain disorders and during aging remains largely unresolved. This Special Issue, “Molecular and Systems Mechanisms of Neural Circuit Function and Plasticity”, aims to highlight emerging insights into the organization and modulation of neural circuits across molecular, cellular, and systems levels. We welcome original research and review articles addressing circuit plasticity, neuromodulation, proteomic and metabolic regulation, and integrative or computational approaches that bridge molecular mechanisms with cognition and behavior.

### Guest Editor

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### Message from the Editor-in-Chief

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