Special Issue

Advances in Synaptic Transmission and Plasticity

Message from the Guest Editor

Synaptic transmission is a fascinating biological event that allows neuronal communication with target cells via chemical mediators (i.e., neurotransmitters) or electric signals through gap junctions. The efficacy and strength of synaptic connections are finely tuned over time and the activity-dependent modifications in synaptic transmission, referred to as synaptic plasticity, involve a complex network of factors. Synaptic plasticity, first identified as a crucial mechanism for memory and learning, also plays pivotal roles in the early development of neural networks. In recent decades, accumulating evidence has emerged to support the hypothesis that alterations in synaptic plasticity mechanisms might contribute to prominent brain disorders, such as neurodegenerative and neuropsychiatric diseases. In this Special Issue, we invite authors to submit high-quality original research papers and review articles that shed light on new findings on the molecular and cellular mechanisms underlying synaptic transmission and plasticity processes in both healthy and pathological conditions through molecular biology, behavior, electrophysiology, and imaging approaches.

Guest Editor

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Message from the Editor-in-Chief

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