Special Issue

The Neural Processes Underlying the Sensorimotor System and Cognitive Function

Message from the Guest Editor

Sensorimotor integration refers to the integration of sensory inputs with motor outputs and relies on the coordinated activity of cortical and subcortical regions that operate in an orchestrated manner to modulate motor commands. Sensorimotor integration plays a crucial role in fine motor control and motor learning, and it contributes to shaping cortical connectivity, which is considered a key substrate for cognitive functioning as well as for the pathophysiology of neurodegenerative disorders. Sensorimotor processes are also central to the embodied simulation hypothesis, which proposes that individuals use their own sensorimotor representations to interpret others' motor actions and emotional behaviors. Nevertheless, the specific neural circuits and mechanisms underlying these functions remain the subject of ongoing debate. In this Special Issue, we invite studies that investigate the neural circuits supporting sensorimotor integration and their relationships with cognitive functions in both healthy individuals and in patients with neurological or psychiatric conditions.

Guest Editor

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