

PROF. TAKAKUSAK

Basal ganglia

MLR

SLR

Brainstem

PMRF

Neural Mechanisms Underlying Upright Bipedal Gait

2025.4.28[mon] 10:00-11:30

Prof. Takakusaki's pioneering research explores how humans achieve and maintain upright bipedal gait through the intricate coordination of the cerebral cortex, brainstem, and spinal networks. His work highlights how cognitive functions and cortico-brainstem-spinal pathways enable adaptive, multitask walking behaviors in humans—especially as these functions evolve, decline with age, or are disrupted in neurodegenerative diseases such as Parkinson's and Alzheimer's.

In this lecture, Prof. Takakusaki will not only present his latest hypothesis based on human neurophysiology but will also share key findings from his foundational animal experiments, which form the basis of this integrated model of posture and gait control. These insights offer a rare opportunity to understand the translational pathway from basic neuroscience to clinical implications.

This talk will be of great interest to researchers, clinicians, and students in neuroscience, rehabilitation, and motor control.

特別講演会