

Special Issue on **Neural Plasticity-Based Rehabilitation for Functional Recovery of Paretic Limbs**

CALL FOR PAPERS

Chronic sensorimotor dysfunction in the limbs after pathological or traumatic causes to the nervous system (e.g., stroke, spinal cord injury, peripheral nerve injury) is a great challenge to global health care. In the motor control of limbs, the occurrence of an interruption or lesions in any of the neural pathways from the cortex, subcortex, spinal cord, to the peripheral nerves could give rise to permanent disability in the corresponding limbs.

Functional and/or structural remodelling of neural circuits is a critical mechanism for functional recovery and its modulating methods have attracted great concerns. Clinicians and researchers are making progress in both theoretical and technological solutions for neural rehabilitation in the past decades. The application of novel techniques based on a better understanding of neural mechanisms may hopefully bring about substantial improvements for disabled patients. Moreover, alterations of neural activity in the recovery or compensatory process observed by neuroimaging or electrophysiological measures are important for understanding the underlying physiological process.

The aim of this Special Issue is to bring together original research articles and review articles providing an overview of advances in rehabilitation concepts, strategies, and technologies for the reconstruction of limb function following neurologic problems. Submissions focusing on clinical efficacy and animal experiments are welcome. We expect reports on the novel uses of therapeutic technologies and devices of rehabilitation engineering in enhancing functional recovery.

Potential topics include but are not limited to the following:

- ▶ Robot-assisted rehabilitation for motor recovery in paretic limbs
- ▶ Novel approaches including motor imagery therapy, mirror therapy, environmental enrichment (EE), music-based therapy, etc.
- ▶ Virtual reality (VR)-based rehabilitation for functional recovery of paretic limbs
- ▶ Constraint-induced movement therapy (CIMT) for functional recovery of paretic limbs
- ▶ Brain-computer interface (BCI)-based rehabilitation for functional recovery of paretic limbs
- ▶ Non-invasive stimulation techniques for neuromodulation in paretic limbs
- ▶ Novel rehabilitation assistant devices for paretic limbs
- ▶ Application of artificial intelligence (AI) in paretic limb rehabilitation
- ▶ Novel theories or concepts for neural rehabilitation in paretic limbs
- ▶ Traditional Chinese treatments (e.g., acupuncture, Tai Chi) for neural rehabilitation in paretic limbs
- ▶ The role of cognitive function in motor recovery in paretic limbs
- ▶ Functional or structural changes in the brain associated with the recovery of paretic limbs

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.hindawi.com/submit?specialIssue=097291>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Mou-Xiong Zheng, Shanghai University of Traditional Chinese Medicine, Shanghai, China
zhengmouxiong@shutcm.edu.cn

Guest Editors

Ji-Geng Yan, Medical College of Wisconsin, Wisconsin, USA
8088ds@gmail.com

Chun-Lei Shan, Shanghai University of Traditional Chinese Medicine, Shanghai, China
shanclhappy@163.com

Xu-Yun Hua, Shanghai University of Traditional Chinese Medicine, Shanghai, China
huaxuyun@shutcm.edu.cn

Jia-Jia Wu, Shanghai University of Traditional Chinese Medicine, Shanghai, China
wujiajia@shutcm.edu.cn

Rong-Rong Lu, Fudan University, Shanghai, China
0356213@fudan.edu.cn

Submission Deadline

Friday, 31 December 2021

Publication Date

May 2022