Neural Plasticity

Hindawi

Special Issue on

Post-Stroke Neural Plasticity: Functional and Structural Reorganization during Stroke Recovery 2024

CALL FOR PAPERS

Stroke is a leading cause of disability worldwide. It severely impairs daily activities and quality of life. Despite improved treatment strategies, a significant number of stroke survivors have persistent neurological deficits. Therefore, there is an urgent need to better understand the neural plasticity that determines functional recovery after stroke.

Advanced neuroimaging techniques are promising because they allow us to detect changes in neural plasticity. They also provide important information about the brain's ability to repair itself after a stroke. In addition, novel neurorehabilitation interventions for stroke patients are becoming more popular and have been shown to be effective in clinical practice and research. However, how these promising interventions affect neural plasticity after stroke is not fully understood. Therefore, there is a need to further investigate the changes in post-stroke neural plasticity after neurorehabilitation, which may help to elucidate the neural mechanisms of these interventions and provide guidance for future clinical applications.

The aim of this Special Issue is to increase our knowledge of how neurorehabilitation affects neural plasticity. This Special Issue welcomes human and animal studies that discuss the use of advanced methods and techniques to explain the mechanisms of neurorehabilitation. Original research and review articles discussing the state of the art are welcome.

Potential topics include but are not limited to the following:

- Virtual reality telerehabilitation technology.
- Post-stroke neural plasticity after physical therapy/neural plasticity after physical therapy.
- Post-stroke neural plasticity after non-invasive brain stimulation (NIBS) such as transcranial magnetic stimulation (TMS), theta burst stimulation (TBS), transcranial direct current stimulation (tDCS), transcranial alternating current stimulation (tACS), transcranial ultrasound stimulation (TUS), and other related advanced techniques.
- Robot-assisted training, virtual reality, and telerehabilitation technology facilitate neural plasticity in stroke.
- Structural and functional adaption of the brain in stroke revealed by neuroimaging techniques such as functional magnetic resonance imaging (fMRI), magnetic resonance perfusion imaging, electroencephalography (EEG), functional near-infrared spectroscopy (fNIRS), and other related advanced techniques.
- Advanced mechanisms of post-stroke neural plasticity in human/animal.
- Machine learning techniques facilitate the instruction of predictive models based on post-stroke neural plasticity.

Authors can submit their manuscripts through the Manuscript Tracking System at https://review.wiley.com/submit?specialIssue=480228.

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

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