



## Neural Plasticity

### Special Issue on **Cerebrovascular and Associated Neurodegenerative Disorders: From Mechanisms to Therapeutics**

# CALL FOR PAPERS

Neural plasticity is a key contributor to brain repair and functional recovery after cerebrovascular injuries. However, brain repair implicates concomitant neural and vascular remodeling. Dysfunctional neurovascular coupling can also induce or augment metabolic imbalance between neural and vascular activity and hinder brain repair capability, efficacy of therapeutic interventions and functional improvement following cerebrovascular injuries and/or diseases. Notably, both neurovascular and metabolic coupling are perturbed during brain aging and in age-related neuropathologies in close association with cognitive decline.

Functional decline (cognitive and motor) occurs after an acute cerebrovascular event, stroke, and chronic cerebrovascular disease such as cerebral small vessel disease (SVD); nevertheless, the temporal profile of pathophysiological events varies between the acute and chronic cerebrovascular injuries. Although functional impairments result from neuro- and vascular-degeneration, it is not clear whether the layout of these upstream events in the pathophysiological cascade affects the restorative potential of the nervous system. An initial cause of longstanding disability after stroke is considered neural pathology. Alternatively, vascular pathology is recognized as an original cause of mixed dementia after SVD. It is also not obvious how neural and vascular pathologies interact in stroke and SVD and how the chain and interplay between these pathologies influence efficacy of therapeutic interventions targeting neural plasticity after stroke and/or SVD and associated neurodegenerative processes.

This special issue is intended to focus on a translational approach to study mechanisms of brain repair and neuroplasticity in relation to promoting functional recovery following stroke or in the relationship between small vessel disease and development of vascular cognitive impairment and dementia.

Stroke and cerebrovascular disease in relation to the following

Potential topics include, but are not limited to:

- ▶ Therapeutic interventions for improving brain plasticity (neuroplasticity and/or angiogenesis) targeting cognitive and motor abnormalities
- ▶ Aging as a comorbidity factor of cognitive decline
- ▶ Impact of comorbidities (e.g., malnutrition, diabetes mellitus, hypertension, and psychological stress) on recovery potential of central nervous system
- ▶ Risk factors (e.g., infection/inflammation, concussion, and associated microvascular aberrations) in brain pathogenesis and recovery
- ▶ Imaging brain and vascular pathology and brain repair
- ▶ Behavioral interventions for improving brain recovery

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/np/cand/>.

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