

Special Issue on Neuroplasticity in the Pathology of Neurodegenerative Diseases

CALL FOR PAPERS

Neuroplasticity is a primary property of the nervous system and is not only able to restore its function but can also alleviate the onset of developmental disorders. Neural plasticity appears in response to various internal and external causes, including stroke, epilepsy, neurodegenerative diseases, and pharmacological treatment (e.g., L-dopa, antiepileptic drugs).

Cerebrovascular diseases, including stroke, micro stroke, and hemorrhagic stroke, lead to a change in the protein profile involved in the compensatory mechanisms of oxidative stress, apoptosis, a release of neurotransmitters, and assembly of the cytoskeleton, as well as neuroplasticity and cognitive function.

Moreover, it has been demonstrated that many stimuli, such as injuries or illnesses (e.g., epilepsy), may induce neuroplasticity. Epilepsy and neuroplasticity seem to be closely related, as the two processes could positively affect one another.

Neuroplasticity arises as a consequence of degenerative diseases such as Alzheimer's, Parkinson's, and Huntington's diseases. It is known that these diseases may lead to disorders of synaptic transmission depending on the degree and extent of the central nervous system lesions.

However, patterns of neural plasticity following brain ischemia and degenerative diseases are almost unknown. It seems that both structural disorders and pharmacotherapy play an important role in normal central nervous transmission. The authors are also welcome to submit the manuscripts on research giving insight into the new therapies supporting the central nervous system plasticity in neurodegenerative diseases.

It seems that understanding of the brain plasticity mechanisms may contribute to more effective therapies and improve the lifestyle of patients with neurodegenerative diseases.

Potential topics include but are not limited to the following:

- ▶ Molecular factors involved in APP processing, as well as growth factors, serotonergic system, cholinergic neurotransmission, and synaptic plasticity of the dementia diseases
- ▶ Parkinsonism-linked genes, oxidative stress, L-dopa pharmacotherapy, and neuronal signaling or plasticity in Parkinson's disease
- ▶ Loss of synaptic plasticity due to mutant huntingtin and mitochondrial dysfunction in Huntington's disease
- ▶ The protein fractions participating in exocytosis, synaptic plasticity/signaling, and support of neurotransmitter transport after stroke
- ▶ Abnormal structural modifications in childhood epilepsy and as a result of another neurodegenerative diseases or an acute brain injury in adult epilepsy as well as antiepileptic drug pharmacotherapy and neuroplasticity
- ▶ Neurogenesis in the neurodegenerative diseases

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/np/ncns/>.

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

Lead Guest Editor

Jolanta Dorszewska, Poznan University of Medical Sciences, Poznan, Poland
dorszewska.j@yahoo.com

Guest Editors

Wojciech Kozubski, Poznan University of Medical Sciences, Poznan, Poland
wkozubski@ump.edu.pl

Wioletta Waleszczyk, Nencki Institute of Experimental Biology, Warsaw, Poland
w.waleszczyk@nencki.gov.pl

Matthew Zabel, California Northstate University, Elk Grove, USA
mzabel@llu.edu

Kevin Ong, University of Melbourne, Melbourne, Australia
drkevinong@gmail.com

Submission Deadline

Friday, 28 December 2018

Publication Date

May 2019