



Neural Plasticity

Special Issue on **Epigenetics of Neural Plasticity in Neurodegenerative Disorders**

CALL FOR PAPERS

We invite the submission of original research articles for our special issue that broadly covers the epigenetics of brain function. The field of epigenetics encompasses the study of gene expression regulation without changes in DNA sequence. Generally, these mechanisms are limited to chromatin architecture alterations affecting transcription factor gene promoter access and noncoding RNA.

The last couple of decades have witnessed enormous growth in our understanding of these complex epigenetic pathways and their ability to regulate diverse fundamental biological functions.

The appeal of the hypothesis that aberrant epigenetic mechanisms play prominent roles in brain development as well as neuropsychiatric disorders is that they are influenced by the underlying generally immutable linear DNA sequence, sensitive to environmental factors, and highly stable. Neuronal development, learning, psychological stress, drugs of abuse, and psychiatric medications manifestations have been shown to be largely encoded through epigenetic alterations in different parts of the brain. Not surprisingly abnormalities in these pathways have been reported in various neurodegenerative disorders, including depression, anxiety, schizophrenia, and Alzheimer's disease, among others. Technological developments and the availability of resources to study epigenetics are giving new dimensions and posing new challenges to our current understandings about the potential of these mechanisms in regulating crucial neural circuits.

We are seeking contributions related to the mechanisms underlying enzymatic activity regulation, posttranslational modifications, ability to influence target gene transcription and alter nucleic acid structure, proteomics and epigenomics approaches, and epigenetic transgenerational inheritance involved in the neurodegenerative disorders. Original, high quality contributions that are not yet published or that are not currently under review by other journals or peer-reviewed conferences are sought.

Potential topics include, but are not limited to:

- ▶ Chromatin remodelling regulating synaptic plasticity
- ▶ DNA methylation and histone covalent modifications in neural function
- ▶ miRNAs and noncoding RNAs in reprogramming gene networks
- ▶ Noncoding RNA and chromatin remodelling cross talk
- ▶ Chromatin protein PTMs in transcription
- ▶ Epigenetic regulation of neuronal proteomics in neurodegeneration
- ▶ Technologies of neuroepigenetic studies
- ▶ Clinical developments in epigenetics of neurodegeneration
- ▶ Therapeutic and biomarker studies in neuroepigenetics

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

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