Special Issue on Pathology of Synapses and Dendritic Spines

Call for Papers

Synapses of the central nervous system (CNS) are specialized junctions through which neurons communicate with other neurons. The majority of excitatory synapses in the CNS are located on dendritic spines, small protrusions arising from neurons. Disorders of the central nervous system are often accompanied by dendritic spine pathology and synaptic malfunction. In most cases, it is unknown whether changes in synapses and dendritic spines are the cause of these disorders or simply accompany them. Data regarding early synaptic changes in these disorders may shed light on the disease mechanism. For example, in Alzheimer's disease, it is generally accepted that synaptic pathology is responsible for the cognitive decline characteristic of the earliest phases of the disease. Findings showing that pathology of synapses and dendritic spines exists in both early and late phases support this notion. In many other disorders, data are missing regarding synaptic changes, especially in early phases.

We are mainly interested in manuscripts that report original observations on pathological changes in synapses and spines in human patients with neurological or psychiatric disorders. Studies made on mouse models of these diseases are also welcome. We particularly encourage multidisciplinary studies combining two or more techniques. Reviews that summarize the results of morphological and electrophysiological changes in a specific model of a neurodegenerative disease are also welcome. Potential topics include, but are not limited to:

- Cognitive disorders (e.g., Alzheimer's disease, and other dementias)
- Psychiatric disorders (e.g., schizophrenia, mood disorders, and PTSD)
- Neurological disorders (e.g., Parkinson's disease, Huntington's disease, cerebrovascular disease, and epilepsy)
- Developmental disorders (e.g., Rett syndrome and autism)

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