



Neural Plasticity

Special Issue on

Role of Inhibitory Interneurons in Neural Plasticity

CALL FOR PAPERS

Inhibitory neurons play a vital role in plasticity during development and adulthood. With their diversity and subtypes, network connectivity, and intrinsic properties, interneurons are essential for synchronization and to control the rhythmic activity of neural circuitries in the nervous system, acting to gate the information in local networks and being modulated during different behavioral states. Inhibitory synapse formation and removal can occur with spatial and temporal precision associated with excitatory synaptic changes on the same neuron. The structural and synaptic rearrangements of inhibitory interneurons can be induced by changes in inhibitory activity with consequent changes in neuronal network oscillations and homeostatic plasticity. Deficits in the GABAergic system lead to aberrant information processing in a variety of neurodevelopmental disorders.

We invite investigators to contribute with original research articles, hypotheses, perspectives, and review articles addressing recent advances involving interneurons in neural plasticity. A particular interest will be given to papers exploring the structural and functional plasticity of interneurons and the role of interneurons in synaptic plasticity and brain oscillations in physiological conditions and in brain disorders and brain repair.

Potential topics include, but are not limited to:

- ▶ Structural plasticity of inhibitory circuits during development and adulthood
- ▶ Role of inhibition in regulating excitability and oscillations and of neuronal firing
- ▶ Regulation of brain neural plasticity by inhibitory interneurons
- ▶ Inhibitory synaptic plasticity in brain repair and cell replacement
- ▶ Inhibitory and excitatory interneurons shaping neural plasticity
- ▶ Modulation of inhibitory synaptic plasticity in neurological disorders
- ▶ Effect of proliferation, migration, and differentiation of interneurons in brain disorders
- ▶ Interneuron and glia interaction in brain plasticity

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

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