



an Open Access Journal by MDPI

# Molecular and Cellular Mechanisms of Brain Disease: Hippocampus as a Nodal Point

Guest Editor:

#### Prof. Dr. Natalia V. Gulyaeva

 Department of Functional Biochemistry of the Nervous System, Institute of Higher Nervous Activity and Neurophysiology, Russian Academy of Sciences, Moscow 117485, Russia
Moscow Research and Clinical Center for Neuropsychiatry, Moscow 115419, Russia

Deadline for manuscript submissions: closed (30 June 2022)



mdpi.com/si/88840

## Message from the Guest Editor

Dear Colleagues,

Hippocampus is a very plastic brain structure, a critical brain structure for working and spatial memory as well as for emotional behaviors in animals and humans. However, the price for its high plasticity is its selective vulnerability to the development of pathological processes induced by numerous stress factors, as well as ischemia, seizures, head trauma, aging, etc. and mediated by signal transduction associated with stress hormones and neuroinflammation. Altered neurogenesis and damage of hippocampal neurons are suggested to be involved in the onset of numerous brain illnesses, particularly mental disorders and neurodegenerative diseases. Over the past decade, it has become clear that hippocampal malfunction is a nodal point for comorbidity between neurological and psychiatric diseases, in particular cognitive disturbances, epilepsy, and affective disorders.

This Special Issue focuses on the involvement of hippocampus in brain diseases and welcomes both original research articles and review papers that deal with the molecular and cellular mechanisms underlying various cerebral pathologies associated with hippocampal dysfunction.







an Open Access Journal by MDPI

## **Editor-in-Chief**

#### Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences, Sez-Biochimica, Faculty of Medicine, Università Politecnica delle Marche, Via Ranieri 65, 60100 Ancona, Italy

### Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

## **Author Benefits**

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), PubMed, PMC, MEDLINE, Embase, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q1 (Biochemistry and Molecular Biology) / CiteScore - Q1 (Inorganic Chemistry)

# **Contact Us**

International Journal of Molecular Sciences Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 www.mdpi.com mdpi.com/journal/ijms ijms@mdpi.com X@IJMS\_MDPI