



## Embracing the Diversity of Perinatal Brain Injury: Molecular Mechanisms and Novel Therapeutics

Guest Editors:

**Dr. Lauren L. Jantzie**

Division of Neonatal-Perinatal Medicine, Department of Pediatrics and Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD 21287, USA

**Dr. Raul Chavez-Valdez**

Johns Hopkins School of Medicine, Department of Pediatrics, Division of Neonatal-Perinatal Medicine, Baltimore, MD 21205, USA

Deadline for manuscript submissions:

**closed (15 June 2022)**

### Message from the Guest Editors

Perinatal brain injury (PBI) is one of the most important lifelong causes of epilepsy, cerebral palsy, and deficits in cognition, behavior, and social interaction. The pathophysiology of CNS injury following PBI reflects a combination of multiple insults, including 1) inflammation from prenatal infection and/or hypoxia-ischemia (HI); 2) individualized risk from genetic/congenital disorders; 3) acquired prenatal exposures to drugs, and toxins; 4) gut microbiota and nutritional status; and 5) postnatal stresses, such as sepsis and surgery. The cumulative effect of PBI results from a cascading impact on neurodevelopment and presents unique challenges to repair that are distinct from the mature CNS. While myelin, synapses, and circuits are plastic and modifiable throughout the lifespan, there remain many distinctive hurdles to repair of the developing brain. Notably, response to injury within the context of the constantly evolving, incompletely formed, platform of the developing CNS demands individualized and precision medicine approaches coupled with rigorous molecular and cellular mechanistic evaluation of the unique pathophysiology and mechanisms of disease.





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