

Special Issue

Systemic Orchestration of Brain Networks: Neuroendocrine and Gut–Brain Insights into Functional Connectivity

Message from the Guest Editor

The human brain does not function in isolation; it is constantly bathed in a complex biochemical environment, where the endocrine system acts as a master conductor. Traditionally, neuroscience has focused on synaptic transmission, yet the neuroendocrine system reshapes how brain regions communicate. Emerging evidence suggests that hormones act as systemic conductors, orchestrating functional synchronization of distant brain regions. This orchestration extends to the gut–brain axis, where gut microbiota influences neural networks.

This Special Issue aims to explore the impact of multi-organ signaling on the brain's intrinsic architecture. By integrating endocrinology, microbiology and network science, this collection bridges systemic physiology and cognitive neuroscience. Our goal is to show how hormones and microbial metabolites modulate the connectome.

Original research articles and reviews are welcome.

Research areas include:

- fMRI studies on hormonal modulation
- Electrophysiological approaches
- Computational modeling of the hormonal connectome
- Clinical studies on endocrine-related disorders
- Effects of hormones on brain architecture

We look forward to your contributions.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Brain Sciences* (ISSN 2076-3425). *Brain Sciences* is an open access, peer-reviewed scientific journal that publishes original articles, critical reviews, research notes, and short communications on neuroscience. The scientific community and the general public can access the content free of charge as soon as it is published.

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