DESCRIPTION

A multidisciplinary journal dedicated to the theoretical, experimental, computational, and clinical understanding of the brain development, physiology, function, and pathology.

The journal offers an open-access multidisciplinary publishing platform (under the format of letters, research articles, and reviews) to researchers interested in physical aspects of the brain. In particular, Brain Multiphysics’ goal is to disseminate high quality theoretical, computational, experimental, and clinical work on physical mechanisms and properties (e.g., biochemistry, electrophysiology, fluid and solid mechanics) relevant to the wider context of the physiology, pathology, and cognitive functions of the brain. The journal will consider experimental, clinical, theoretical, or computational studies aimed at improving our understanding of the brain or developing new methods to probe the fascinating inner working of the brain. While the journal welcomes contributions in any particular area of brain physics, we encourage work combining multiple physical field, across multiple scales, and/or involving multidisciplinary collaborations.

The following list of topics is indicative but not exhaustive:

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- Brain tissue rheology
- Morphogenesis and development
- Cancer progression
- Vascular and cerebrospinal fluid mechanics
- Brain trauma
- Cerebral oedema
- Brain stimulation and neuromodulation
- Topological data analysis
- Electrophysiology
- Assisted neurosurgery
- Transport processes in the brain
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- Neuroimaging and physics
- Machine learning applied to brain multiphysics

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INTRODUCTION
The journal offers an open-access multidisciplinary publishing platform (under the format of letters, research articles, and reviews) to researchers interested in physical aspects of the brain. In particular, BMΦ’s goal is to disseminate high quality theoretical, computational, experimental, and clinical work on physical mechanisms and properties (e.g., biochemistry, electrophysiology, fluid and solid mechanics) relevant to the wider context of the physiology, pathology, and cognitive functions of the brain. The journal will consider experimental, clinical, theoretical, or computational studies aimed at improving our understanding of the brain or developing new methods to probe the fascinating inner workings of the brain. While the journal welcomes contributions in any particular area of brain physics, we encourage work combining multiple physical fields, across multiple scales, and/or involving multidisciplinary collaborations. Authors are welcome to contact the Editors-in-Chief ahead of submission to ask whether their work is suitable for the journal.

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