

## Special Issue

# Neural Mechanisms of Brain–Computer Interfaces

### Message from the Guest Editor

Brain–computer interfaces (BCIs) have rapidly evolved from experimental tools into promising technologies for restoring communication, motor control, and interaction with the environment. Beyond their applied value, BCIs provide a unique opportunity to probe and modulate the neural mechanisms underlying brain function.

Increasing evidence suggests that BCI use may drive neural plasticity, reshaping brain activity and connectivity through training, feedback, and interaction with external devices. However, the precise mechanisms by which BCIs induce and sustain plastic changes remain insufficiently described. A clearer understanding of these processes is crucial for optimizing BCI design, maximizing clinical benefits, and advancing fundamental neuroscience. This Special Issue brings together original research, reviews, and perspectives that address the neural mechanisms of BCIs, with particular emphasis on their potential to induce neural plasticity. By consolidating current knowledge and highlighting open questions, we aim to stimulate further experimental and theoretical studies that will advance this emerging field.

### Guest Editor

Dr. Miguel Pais-Vieira

Institute of Biomedicine, Department of Medical Sciences, University of Aveiro, Aveiro, Portugal

### Deadline for manuscript submissions

30 June 2026



## Life

---

an Open Access Journal  
by MDPI

---

**Impact Factor 3.4**  
**CiteScore 6.0**  
**Indexed in PubMed**



[mdpi.com/si/254710](https://mdpi.com/si/254710)

*Life*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[life@mdpi.com](mailto:life@mdpi.com)

[mdpi.com/journal/](https://mdpi.com/journal/)

[life](https://life.mdpi.com)





# Life

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.4  
CiteScore 6.0  
Indexed in PubMed



[mdpi.com/journal/  
life](https://mdpi.com/journal/life)



## About the Journal

### Message from the Editor-in-Chief

*Life* (ISSN 2075-1729) is an international, peer-reviewed open access journal that publishes scientific studies related to fundamental themes in life sciences. Some papers are published individually, while others are submitted for inclusion in special issues with guest editors. You are invited to contribute a research article, essay, or a review to be considered for publication.

---

### Editor-in-Chief

Prof. Dr. Lluís Ribas de Pouplana

Institute for Research in Biomedicine (IRB Barcelona), The Barcelona  
Institute of Science and Technology, 08028 Barcelona, Spain

---

### 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, CAPIus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q1 (Biology) / CiteScore - Q1 (Paleontology)