Special Issue

From Brain Signals to Recovery: Neural Sensing for Functional Restoration

Message from the Guest Editors

Brain–computer interfaces (BCIs), in a broad conceptual sense, are systems that acquire, interpret, and utilize brain signals to control external devices or provide neural feedback. Among the most informative sensing modalities for BCI development are electroencephalography (EEG) and intracranial EEG (iEEG), which offer complementary insights into brain dynamics.

This Special Issue aims to highlight recent advances in neural sensing technologies, neuromodulation, signal processing, neural decoding, and machine learning approaches that leverage electrophysiological signatures for therapeutic and rehabilitative applications. We welcome original research and review articles that focus on the development, validation, and clinical integration of EEG and iEEG systems in neurorehabilitation and neural plasticity—particularly in contexts such as stroke, epilepsy, spinal cord injury, and other neuromotor or neurological disorders. The scope of this Special Issue includes sensor design, neurobiomarker discovery, multimodal data integration, real-time BCI systems, neuromodulation strategies, and translational neuroscience.

Guest Editors

Dr. Yingchun Zhang

Department of Biomedical Engineering, Desai Sethi Urology Institute, Miami Project to Cure Paralysis, The Engineering for Precision Rehabilitation (EPR) Laboratory, University of Miami, Coral Gables, FL, USA

Dr. Su Liu

Department of Biomedical Engineering, Desai Sethi Urology Institute, Department of Neurology, Miami Project to Cure Paralysis, University of Miami, Coral Gables, FL 33136, USA

Deadline for manuscript submissions

10 September 2026

Sensors

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed

mdpi.com/si/254658

Sensors
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sensors@mdpi.com

mdpi.com/journal/sensors

Sensors

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed

mdpi.com/journal/sensors

About the Journal

Message from the Editor-in-Chief

Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Dipartimento di Ingegneria Elettrica e dell'Informazione (Department of Electrical and Information Engineering), Politecnico di Bari, Via Edoardo Orabona n. 4, 70125 Bari, Italy

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, MEDLINE, PMC, Ei Compendex, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Instruments and Instrumentation) / CiteScore - Q1 (Instrumentation)