



## Sensing Brain Activity Using EEG and Machine Learning

Guest Editor:

**Dr. Peter Rogelj**

Faculty of Mathematics, Natural  
Sciences and Information  
Technologies, University of  
Primorska, 6000 Koper, Slovenia

Deadline for manuscript  
submissions:

**closed (20 March 2024)**

### Message from the Guest Editor

Understanding brain activity is challenging due to its high structural and functional complexity, as well as high inter- and intra-subject variability. One of the most promising approaches to sense and study it is in the spatiotemporal domain using electroencephalography (EEG) and machine learning techniques (ML). The applied ML techniques address the specifics of EEG data and sensed neural processes, including noise, artefacts, volume conduction, brain connectivity, limited spatial resolution, and high temporal resolution. This Special Issue aims to collect papers presenting recent research on brain activity sensing, analysis, and recognition using machine learning techniques on EEG data, including but not limited to:

- Feature-based ML approaches;
- Artificial neural network architectures;
- Reinforcement learning;
- System dynamics analysis;
- Statistical approaches in modelling;
- Applications of graph theory.

And various applications of machine learning to EEG analysis, such as:

- Clinical diagnostics;
- Emotion recognition;
- Attention recognition;
- Brain activity classification;
- Brain–computer interfaces (BCI);
- Brain connectivity analysis.





# sensors



an Open Access Journal by MDPI

## 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

## 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.

## 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 & Instrumentation*) / CiteScore - Q1 (*Instrumentation*)

## Contact Us

*Sensors* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/sensors](http://mdpi.com/journal/sensors)  
[sensors@mdpi.com](mailto:sensors@mdpi.com)  
[X@Sensors\\_MDPI](#)