

Special Issue

Challenges and Future Trends in Biomedical Signal Processing

Message from the Guest Editors

Biomedical signal processing plays a fundamental role in modern healthcare, enabling the transformation of raw physiological signals into clinically meaningful information. Advances in algorithm design, feature extraction, data fusion, and real-time analysis are driving improvements in diagnosis, monitoring, and personalized medicine. At the same time, artificial intelligence, machine learning, and cloud- or IoT-based infrastructures are redefining how biomedical signals are processed, interpreted, and integrated into healthcare systems. Despite these advances, significant challenges remain, including robust noise reduction, reliable real-time interpretation, integration of multimodal and multisensory data, and privacy-preserving processing of large biomedical datasets. Addressing these issues is essential to fully exploit the potential of biomedical signal processing for continuous monitoring, decision support, and effective healthcare. This Special Issue aims to present innovative methodologies, frameworks, and applications that address current challenges and define future trends in biomedical signal processing. We look forward to receiving your contributions.

Guest Editors

Dr. Daniele Esposito

Department of Information and Electrical Engineering and Applied Mathematics, University of Salerno, Fisciano, Italy

Dr. Jessica Centracchio

Department of Information Technologies and Electrical Engineering, University of Naples Federico II, Naples, Italy

Deadline for manuscript submissions

31 January 2027



Sensors

an Open Access Journal
by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed



mdpi.com/si/256308

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

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

Department of Electrical and Information Engineering, Politecnico di Bari, Via Orabona 4, 70126 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)