Special Issue

Advanced Sensing and AI-Driven Technologies for Physiological Monitoring and Health Assessment

Message from the Guest Editors

Recent advances in sensing technologies, wearable systems, and artificial intelligence are transforming physiological monitoring and digital healthcare. Modern biomedical sensors enable continuous, non-invasive monitoring of physiological signals such as photoplethysmography (PPG), electrocardiography (ECG), electroencephalography (EEG), and electromyography (EMG), providing insights into cardiovascular health, neurological activity, and human motion. Wearable devices combined with advanced signal processing enable real-time monitoring and early detection of health abnormalities. Meanwhile, machine learning and deep learning techniques are increasingly used to analyze large-scale physiological data, improving diagnostic accuracy and enabling personalized healthcare. This Special Issue focuses on innovative sensing technologies, wearable health monitoring systems, biomedical signal processing, and AI-driven health assessment. Topics include wearable biosensors, physiological signal analysis, artifact reduction, feature extraction, multimodal monitoring, and intelligent data analysis methods that enhance the reliability and clinical applicability of physiological sensing systems.

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Deadline for manuscript submissions

1 December 2026

Sensors

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 9.4
Indexed in PubMed

mdpi.com/si/274910

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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.

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