

Special Issue

Intelligent Optical Sensors in Biomedicine and Robotics

Message from the Guest Editors

This Special Issue aims to highlight cutting-edge research on the development, application, and intelligent integration of optical sensors in the fields of biomedicine and robotics. Optical sensing offers numerous advantages, including high sensitivity, non-invasiveness, and the ability to operate in challenging environments. The integration of these advanced optical sensing capabilities with artificial intelligence (AI), machine learning (ML), and robotic systems is revolutionizing healthcare, diagnostics, surgical procedures, and autonomous robotic operations. This includes areas such as advanced signal processing, real-time data interpretation, predictive modeling for diagnostics, and enhanced robotic perception and manipulation. This Special Issue encompasses smart biosensors for personalized medicine, medical imaging breakthroughs, sophisticated robot vision systems, and haptic feedback in surgical robotics. This Special Issue highlights the synergistic relationship between optical sensing, intelligence (AI/ML), and their transformative impact on both biomedical engineering and advanced robotics, driving innovation for a healthier and more automated future.

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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.

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