Special Issue

Hybrid Conductive Polymer-Based Biosensors: Innovations in Advanced Platforms for Diagnostics and Monitoring

Message from the Guest Editor

Conductive polymers (CPs) have emerged as versatile materials for biosensing applications due to their exceptional electrical conductivity, chemical stability, and biocompatibility. By integrating CPs with biological molecules, nanomaterials, and advanced device platforms such as organic electrochemical transistors (OECTs), CMOS-based image sensors, Piezoelectric Biosensors and Surface Plasmon Resonance (SPR) Sensors significant progress has been made in developing sensitive and reliable biosensors for biomedical diagnostics, environmental monitoring, and bioelectronic systems. This Special Issue seeks to highlight cutting-edge research and critical reviews on conductive polymer-based biosensors, including material innovations, signal transduction strategies, and novel device platforms. Contributions addressing challenges such as stability, reproducibility, miniaturization, and commercialization are particularly encouraged, as are forward-looking studies on the future of CP-based biosensor technologies.

Guest Editor

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Message from the Editor-in-Chief

Biosensors is a leading journal, devoted to fast publication of the latest achievements, technological developments and scientific research in the exciting multidisciplinary area of biosensors. Both experimental and theoretical papers are published, including all aspects of biosensor design, technology, proof of concept and application. Special issues are devoted to specific technologies and applications, and a selection of the most outstanding papers each year is recognized. Pushing the boundaries of the discipline, we invite original papers, as well as timely reviews on cutting edge fields within the subject area.

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