Special Issue

Nucleic Acid-Based Biosensors for Molecular Diagnostics

Message from the Guest Editor

Nucleic acid (DNA or RNA)-based biosensors leverage the high specificity of DNA/RNA hybridization, catalytic activity of nucleic acid–based enzymes (ribozymes and deoxyribozymes), and molecular recognition properties of aptamers to detect biomarkers with exceptional sensitivity and selectivity. This Special Issue focuses on the cutting-edge advancements and applications of nucleic acid-based biosensors in molecular diagnostics. We welcome original research and reviews covering fundamental studies on probe design, novel transduction mechanisms, and translational applications in detecting infectious diseases, genetic disorders, cancer biomarkers, antimicrobial resistance, and other diseases. Contributions highlighting real-world clinical validation, multiplexed detection, and low-cost solutions for resource-limited settings are particularly encouraged, aiming to bridge technological innovation with diagnostic needs.

Guest Editor

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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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