

Special Issue

Next-Generation CRISPR-Based Biosensors for Medical Diagnosis

Message from the Guest Editor

CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats), first identified in bacteria and archaea as an adaptive immune system, has rapidly evolved over the past decade. Beyond transforming genome editing, this technology has driven the development of advanced molecular diagnostics and point-of-care testing (POCT) platforms. Leveraging its collateral cleavage activity, highly sensitive nucleic acid detection systems such as SHERLOCK and DETECTR have emerged. More recently, CRISPR assays have expanded to detecting proteins and metabolites, broadening their diagnostic utility. This Special Issue aims to showcase the fast-moving field of CRISPR-based biosensors and their transformative roles in medical diagnostics. We welcome original research, reviews, and perspectives on CRISPR/Cas engineering, signal amplification, and device miniaturization for POCT. Studies on applications in infectious disease detection, cancer biomarkers, and personalized medicine are especially encouraged. By gathering interdisciplinary advances, this issue highlights how next-generation CRISPR biosensors are redefining molecular diagnostics and enabling accessible, real-time, precision healthcare.

Guest Editor

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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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