Special Issue

Emerging Trends in Single-Cell Biosensors: Technologies, Applications, and Future Directions

Message from the Guest Editors

Advancements in biosensor technologies have expanded the capabilities of single-cell analysis, enabling direct measurement of biophysical and biochemical properties with high spatial and temporal resolution. These tools offer quantitative insights into cell function and support applications across biology, medicine, and engineering. This Special Issue focuses on recent progress and future directions in single-cell biosensors. We welcome contributions on sensing technologies, signal acquisition, data analysis, and practical applications. Scope includes:

- Platform Development: Sensor design, microfluidics, nanomaterials, wireless/IoT systems
- Signal Detection: Biochemical, electrical, mechanical signals; multimodal sensing; AI-assisted processing
- Applications: In vitro/in vivo monitoring, cancer/immune profiling, high-throughput screening, diagnostics

We invite you to contribute original research articles, reviews, communications, and perspectives that will be instrumental in advancing the field of single-cell biosensing across disciplines

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Deadline for manuscript submissions

31 October 2025

Micromachines

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 6.0
Indexed in PubMed

mdpi.com/si/236610

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