Special Issue

Advanced Microfluidic Devices and MEMS in Biosensing Applications

Message from the Guest Editors

Microfluidic devices and micro-electro-mechanical systems (MEMS) have revolutionized biosensing technologies, offering unprecedented precision, miniaturization, and automation for biomedical diagnostics, environmental monitoring, and point-of-care testing. This Special Issue explores the latest advancements in microfluidics and MEMS-based biosensors, highlighting innovative designs, fabrication techniques, and applications in detecting biomolecules, cells, and pathogens. Topics of interest include, but are not limited to: Novel Microfluidic Platforms; MEMS-Based Sensors; Biomarker Detection; Smart Materials; Wearable and Implantable Devices; AI and Automation, etc. This Special Issue invites original research, reviews, and perspectives addressing challenges and opportunities in this rapidly evolving field. Contributions from interdisciplinary researchers in engineering, biology, and clinical sciences are encouraged to foster collaboration and accelerate the translation of these technologies into practical solutions.

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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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