Special Issue

Microfabrication of Flexible and Stretchable Bioelectronic Devices: Materials, Structures, and Applications

Message from the Guest Editors

The growing application of flexible and stretchable bioelectronic devices is driving a paradigm shift in next-generation personalized healthcare, enabling seamless integration with soft biological tissues for continuous monitoring, stimulation, and therapeutic intervention. Recent advances in microfabrication technology have unlocked unprecedented capabilities in micro/nano-structured functional materials, geometric design, multimodal biosensing and actuators, and the system-level integration of flexible bioelectronic devices. This Special Issue will highlight recent advances in the microfabrication technology used in flexible and stretchable bioelectronic devices designed for seamless integration with diverse biological interfaces, including the epidermis, neural tissues, internal organs, and vascular systems. We invite submissions focusing on innovative functional materials, fabrication techniques, device architectures, and integration strategies that enable high-performance sensing, stimulation, and therapeutic functions. Interdisciplinary research bridging micro/nanotechnology, materials science, biomedical engineering, and soft robotics will be prioritized.

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Deadline for manuscript submissions

31 July 2026

Biosensors

an Open Access Journal by MDPI

Impact Factor 5.6
CiteScore 9.8
Indexed in PubMed

mdpi.com/si/259463

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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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