Special Issue

Emerging Semiconductor Technologies for Next-Generation Sensors

Message from the Guest Editors

The rapid evolution of semiconductor technologies is revolutionizing the landscape of next-generation sensors by enabling unprecedented levels of sensitivity, miniaturization, and energy efficiency. Emerging materials such as two-dimensional materials, high-□ dielectrics, and organic–inorganic hybrid materials are unlocking new functionalities and device performance. Advanced fabrication techniques, including nanoscale patterning and heterogeneous integration, are further expanding the possibilities for sensor innovation across various applications in healthcare and environmental monitoring. This Special Issue aims to highlight recent breakthroughs and trends in semiconductor-based sensor technologies, fostering interdisciplinary research and collaboration in order to address the challenges and opportunities of future sensing technologies, with a particular focus on fundamental materials science, device physics, and novel fabrication methods.

Guest Editors

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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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