Special Issue

Potentials of 2D Materials for Emerging Electronic Devices

Message from the Guest Editor

We are pleased to invite you to contribute to this Special Issue, which focuses on the **sensing potential of 2D materials for modern devices**. Two-dimensional materials have ushered in a new era in sensor technology, owing to their exceptional electrical conductivity, high surface-to-volume ratio, mechanical flexibility, and tunable band structures. These properties make them uniquely suited for the development of next-generation sensors with ultra-high sensitivity, fast response times, and multifunctionality. This Special Issue aims at bringing together recent advancements in the synthesis, functionalization, and device integration of 2D materials—such as **graphene, transition metal dichalcogenides (TMDs), black phosphorus, MXenes**, and their van der Waals heterostructures—for high-performance sensing applications. Topics of interest include, but are not limited to, **chemical, biological, optical, and physical sensors**, as well as innovations in fabrication methods, signal amplification strategies, and hybrid systems. We especially encourage submissions that address challenges related to **scalability, selectivity, low power operation, and integration with IoT, AI, and wearable platforms**.

Guest Editor

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You are invited to contribute research articles or comprehensive reviews for consideration and publication in *Micromachines* (ISSN 2072-666X). *Micromachines* is published in the open access format. Research articles, reviews and other contents are released on the internet immediately after acceptance. The scientific community and the general public have unlimited free access to the content as soon as it is published. As an open access journal, *Micromachines* is supported by the authors or their institutes by payment of article processing charges (APC) for accepted papers. We are pleased to welcome you as our authors.

Editor-in-Chief

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