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Sensing Applications of Semiconductor Nanomaterials

Guest Editor:

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Message from the Guest Editor

Semiconductor nanomaterials have revolutionized sensing applications, allowing us to leverage their unique physical and chemical attributes at the nanoscale. With advancements in nanotechnology facilitating precise control over material properties at atomic levels, researchers have delved into the study of various semiconductor nanomaterials like quantum dots, nanowires, and nanosheets for sensing applications. This exploration has resulted in substantial enhancements in sensor sensitivity, selectivity, and response time compared to conventional techniques. This Special Issue aims to spotlight the latest advancements in semiconductor nanomaterial-based sensing applications. Its scope includes, but is not confined to, topics such as the synthesis and characterization of semiconductor nanomaterials for sensing, the design and fabrication of sensors based on semiconductor nanomaterials, and the real-world implementation of these sensors in environmental monitoring, healthcare, agriculture, and food safety.

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call "nanomaterials". These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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