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Nanostructured Materials in Gas Sensing Applications

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Due to several advantages, nanomaterials have been sensing applications, studied for gas including nanoparticles, nanowires, nanotubes, and graphene. These materials have been functionalized with various chemical moieties to increase their sensitivity and selectivity for target gases. The resulting sensors have been shown to have low detection limits, fast response times, and high stability over extended periods of use. Additionally, the integration of nanomaterials with microelectronic devices has enabled the development of low-power and highly miniaturized gas sensors. This has paved the way for their use in portable and wearable devices for the real-time monitoring of environmental and industrial gases.

This Special Issue aims to collect papers on sensor-based nanomaterials. Authors are invited to submit articles that focus on selective enhancement, low power consumption, fast responses, and other aspects. Papers on the characterization and evaluation of sensing performance or the completion of gas-sensitive mechanistic discussions of experimental phenomena are also welcome.

Prof. Dr. Dan Meng Guest Editor









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Editor-in-Chief

Prof. Dr. Shirley Chiang

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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, metalorganic 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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