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Synthesis and Applications of Nanostructured Gas Sensors

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Message from the Guest Editor

Gas sensors are used in a wide variety of applications for a diverse range of industries including agriculture, health, safety, security, and environmental monitoring. However, the performance of such sensors is significantly influenced by the morphology and structure of the sensing materials, resulting in a great obstacle for gas sensors based on the ability of bulk materials or dense films to have highly sensitive properties. A wide variety of nanostructured devices have been developed to improve gas sensing properties, such as sensitivity, selectivity, stability, and response speed.

This Special Issue will attempt to cover the recent advances in the design and fabrication of nanostructured gas sensors, focusing on the nanodimensional design of current state-of-the-art gas sensors, which have achieved new records in selectivity, specificity, and sensitivity. The different types of nanostructured gas sensors, including catalytic, electrochemical, thermally conductive, and optical gas sensors, will be discussed, together with their gas sensing mechanisms and potential applications.



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Special Issue



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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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