

Special Issue

Development of Semiconductor Nanomaterials for Gas Sensors

Message from the Guest Editors

Despite the long history of research, materials for semiconductor gas sensors are still being actively studied. To respond to the constantly-emerging new challenges for sensor devices, it is necessary to improve the known, and search for new, materials that have improved sensor characteristics: Sensitivity, selectivity and stability in humid conditions in combination with short response and recovery time, and low power consumption.

You are invited to submit contributions that are devoted to the synthesis of nanocrystalline semiconductor materials from the gas and liquid phases, and to the analysis of the interconnections "composition–structure–properties" for materials of different dimensionality (3D, 2D, 1D), and of various chemical nature. Characterization of the surface composition in terms of hydrophobic / hydrophilic properties is of considerable interest. Taking into account the high activity of nanocrystalline systems in the interaction with the gas phase, the in situ and operando studies of the mechanism of sensor signal formation are particularly welcome.

Guest Editors

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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