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Preparation of Functionalized Nano-Oxides and Its Application in Sensing

Guest Editor:

Dr. Annanouch Fatima Ezahra

Department of Electronic,
Electric and Automatic
Engineering (DEEEA), Electrical,
Engineering and Computer
Science Faculty (ETSE),
Universitat Rovira i Virgili, 43003
Tarragona, Spain

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Message from the Guest Editor

Metal oxide (MOX) gas sensors are important components in a wide range of applications such as environmental monitoring, the control of industrial processes in general and of chemical processes in particular, or personal safety at home and at the workplace. With the emergence of nanotechnologies, metal oxide nanomaterials have become suitable candidates for gas sensing applications. They possess unique physical and chemical properties that promote high sensor performance. However, they also suffer from some drawbacks that influence their usability, such as a lack of selectivity and high working temperature. These shortcomings can be overcome by the functionalization of those nanomaterials with a wide range of additives such as metal/metal oxide nanoparticles, polymers, transition metal dichalcogenides, or carbon nanomaterials. This Special Issue will highlight the recent developments in the preparation of gas sensors based on functionalized metal oxide nanomaterials that show promising results in terms of sensitivity, selectivity, humidity, cross-sensitivity, and low-temperature detection.



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Special Issue



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Editor-in-Chief

Prof. Dr. Shirley Chiang

Department of Physics, University
of California Davis, One Shields
Avenue, Davis, CA 95616-5270,
USA

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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Nanomaterials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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