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Chemical-Physical Properties and Applications of Nano-Scaled Oxides

Guest Editor:

Dr. Roberto Giannuzzi
1. National Research Council, Institute of Nanotechnology (CNR-NANOTEC), Via Monteroni, 73100 Lecce, Italy
2. Department of Mathematics and Physics "Ennio De Giorgi", University of Salento, 73100 Lecce, Italy

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Message from the Guest Editor

Oxide materials are of paramount importance in materials science and technology, owing to their multiple functional properties, chemical robustness, and versatility. They exhibit a wide range of compositional and structural characteristics, which translate into a wide range of physical and chemical properties. The potential applications of these materials in fields such as solar cells, electrochromism, energy storage, gas sensors, medicine, optoelectronic devices, catalysis, and corrosion protection has stimulated considerable interest in developing synthetic pathways for the fabrication of metal oxide with tailored properties.

The optical, electrical, chemical, and mechanical properties of metal oxides are greatly influenced by their nanostructure, composition, native defects, and doping, among other factors. Recent developments in metal oxide synthesis and defects engineering have received much attention as a way to improve material properties or achieve new functionalities.

This Special Issue of *Nanomaterials* aims to publish original research and reviews focusing on the modeling, synthesis, characterization, and applications of nanoscale metal oxides.

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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, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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