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Advanced Energy Storage Materials and Applications Based on Metal Oxides

Guest Editor:

Prof. Dr. Young Soo Yoon

Department of Materials Science
and Engineering, Gachon
University, Gachon 13120,
Gyeonggi-do, Republic of Korea

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Message from the Guest Editor

Dear Colleagues,

Advanced energy storage devices are emerging as essential technologies in a variety of fields, including electric vehicles (EVs), energy storage systems (ESSs), power implantable biomedical devices, and wearable devices. Various metal oxide materials are being investigated to improve the performance of these advanced energy storage devices. This Special Issue will feature the latest research results on metal oxide materials and applications for advanced energy storage. It will focus on research results on next-generation electrode active materials and electrolyte materials for all-solid-state batteries and lithium-ion batteries. This special issue and contains but is not limited to the following topics:

- Advanced electrode active materials;
- Improved energy density;
- Improved capacity and life;
- Improved safety Oxide-based solid electrolytes for all-solid-state batteries;
- Improved ionic conductivity;
- Improved stability;
- Reduced interfacial resistance.



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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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