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Advanced Nanocomposites for Batteries and Supercapacitors

Guest Editors:

Dr. Zhibin Wu
State Key Laboratory of Powder Metallurgy, Central South University, Changsha 410083, China

Dr. Yirong Zhu
College of Materials and Advanced Manufacturing, Hunan University of Technology, Zhuzhou 412007, China

Deadline for manuscript submissions:
closed (10 July 2024)

Message from the Guest Editors

Electrochemical energy storage and conversion devices play a transformative role in modern society. They have been widely applied in portable electronic devices, electric transportation, and smart power grids, which advance energy efficiency and sustainability. Batteries and supercapacitors, including alkaline metal-ion batteries, Zn-ion batteries, solid-state batteries, and supercapacitors, are state-of-the-art devices for electrochemical energy storage and conversion. Determined by the structure-function relationship, it is of great significance to improve the electrochemical performances of devices by regulating the nanostructures and optimizing the properties of electrode materials.

This Special Issue of Nanomaterials aims to cover the most recent advances in batteries and supercapacitors, concerning their synthetic methodology, structure design, mechanism characterization, theoretical modeling, and device fabrication. We are inviting contributions from leading groups in the field to show the latest progress and emerging sciences of batteries and supercapacitors. Original research articles and reviews are welcome.

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Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

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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Nanomaterials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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