



## Carbon-Based Nanomaterials for Electrochemical Energy Storage

Guest Editors:

### Dr. Junling Guo

State Center for International  
Cooperation on Designer Low-  
Carbon & Environmental  
Materials, School of Materials  
Science and Engineering,  
Zhengzhou University,  
Zhengzhou 450001, China

### Dr. Gan Qu

School of Materials Science and  
Engineering, Zhengzhou  
University, Zhengzhou 450001,  
China

Deadline for manuscript  
submissions:

**31 August 2024**

### Message from the Guest Editors

Nowadays, clean and sustainable energy sources, such as wind and solar power, reduce the use of fossil energy sources. It is important to develop electrochemical energy storage devices (including batteries, electrochemical capacitors, and so on), as they play a critical role in harnessing these clean and sustainable energy sources. The performance of these electrochemical energy storage devices typically depends on the physical and chemical properties of the materials used in electrodes, separators, and electrolytes. Therefore, various materials have been developed to construct electrochemical energy storage devices with a good performance. Among these materials, carbon-based nanomaterials have been considered as promising components for various electrochemical energy storage devices. This is because carbon materials (which are highly conductive, have a large specific surface area, and so on) are suited for pairing with other functional nanomaterials to achieve a synergistic effect (1 + 1 is greater than 2).

This Special Issue of *Nanomaterials* is aimed at presenting the current state-of-the-art carbon-based nanomaterials in electrochemical energy storage devices.





an Open Access Journal by MDPI

## 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.

## Author Benefits

**Open Access:** free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

**High Visibility:** indexed within [Scopus](#), [SCIE \(Web of Science\)](#), [PubMed](#), [PMC](#), [CAPus / SciFinder](#), [Inspecc](#), and [other databases](#).

**Journal Rank:** JCR - Q1 (*Physics, Applied*) / CiteScore - Q1 (*General Chemical Engineering*)

## Contact Us

*Nanomaterials* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/nanomaterials](http://mdpi.com/journal/nanomaterials)  
[nanomaterials@mdpi.com](mailto:nanomaterials@mdpi.com)  
[X@nano\\_mdpi](#)