



## Application of Nanomaterials in Ion Batteries

Guest Editor:

**Prof. Vilas Ganpat Pol**

Davidson School of Chemical  
Engineering, Purdue University,  
West Lafayette, United States

vpol@purdue.edu

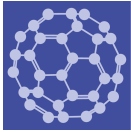
Deadline for manuscript  
submissions:

**closed (17 June 2019)**

### Message from the Guest Editor

Nanosized (1–100 nm) materials possess distinct physical, chemical and electrochemical properties that could impact the cell performance of rechargeable ion-batteries. In energy storing Li-ion, Na-ion and K-ion batteries the anode and cathode materials dimensions, shape, structure and texture could play a significant role in charging and discharging time, ion-diffusion, electronic conductivity and solid electrolyte formation (typically for anodes). The designed electrode materials play a momentous role in a battery's cycle life, energy density, cost and safety aspects. This Special Issue of the *Nanomaterials* journal will cover and shine light on the applications of various fascinating nanomaterials and nanoarchitectures of metals, alloys, oxides, MXenes, heteroatom doped materials and many more as electrodes for ion batteries (single to multivalent) and their overall promising energy storing performance.





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 by the [Science Citation Index Expanded](#) (Web of Science), Scopus, Chemical Abstracts, Inspec and Polymer Library. Citations available in [PubMed](#), full-text archived in [PubMed Central](#).

**CiteScore** (2019 Scopus data): **4.1**, which equals rank 147/460 (Q1) in 'General Materials Science' and rank 73/281 (Q1) in 'General Chemical Engineering'.

## Contact Us

---

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

Tel: +41 61 683 77 34  
Fax: +41 61 302 89 18  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/nanomaterials](http://mdpi.com/journal/nanomaterials)  
[nanomaterials@mdpi.com](mailto:nanomaterials@mdpi.com)  
[@nano\\_mdpi](https://twitter.com/nano_mdpi)