



an Open Access Journal by MDPI

## Physics and Chemistry of Graphene: From Fundamentals to Applications

Guest Editors:

### Prof. Dr. Elena Sheka

Institute of Physical Research and Technologies, Peoples' Friendship University of Russia (RUDN University), 117198 Moscow, Russia

### Dr. Tai-Feng Hung

Battery Research Center of Green Energy, Ming Chi University of Technology, New Taipei City, Taiwan

Deadline for manuscript submissions:

**closed (31 May 2021)**

### Message from the Guest Editors

Graphene's nickname as a 'miracle material' is perfectly consonant with its superior properties. The real miracle of graphene is that the species is a union of two entities: chemical and physical, each of which is unique in its own way. The molecular–crystalline duality of graphene is a natural consequence of this feature. Graphene dualism ensures a further division of the body into *per sci* and *high tech* graphenes, the former of which is the object of fundamental studies, while the latter is the working material for plenty of attractive applications.

This Special Issue will highlight the forefront of research in this interdisciplinary area spanning physics, chemistry, biology, and geology of *per sci* graphene and commercial developments of *per tech*. The issue will cover a large set of topics including synthesis and structural studies of graphene crystals and molecules; chemistry and electrochemistry; electrical and optical properties; variety of spectroscopy; thermal, magnetic, and mechanical properties; theory and computational simulations; devices constructed from of graphene; energy applications; and biomedical and other applications.



[mdpi.com/si/33762](https://mdpi.com/si/33762)

# Special Issue



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, CAPlus / SciFinder, Inspec, and other databases.

**Journal Rank:** JCR - Q2 (*Chemistry, Multidisciplinary*) / CiteScore - Q1 (General Chemical Engineering)

## Contact Us

---

*Nanomaterials* Editorial Office  
MDPI, Grosspeteranlage 5  
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](https://x.com/nano_mdpi)