



2D Materials and Van der Waals Heterostructures: Physics and Applications

Guest Editor:

**Prof. Dr. Antonio Di
Bartolomeo**

Department of Physics “E.R.
Caianiello”, University of Salerno,
84084 Fisciano, Italy

Deadline for manuscript
submissions:

closed (31 May 2019)

Message from the Guest Editor

Dear Colleagues,

The advent of graphene, and more recently of layered 2D materials, has opened new perspectives in electronics, optoelectronics, energy harvesting and sensing applications. Layered 2D materials can be fabricated with relatively inexpensive production methods, integrated into existing semiconductor technologies, and offer new physical, chemical and mechanical properties. Electrically they can behave as metals, semiconductors, insulators or even superconductors. Consisting of covalently bonded and dangling-bond free lattices, they can form heterojunctions with each other or with bulk materials, without the need of a close lattice matching. In these heterojunctions, the participant materials are held together by weak van der Waals forces, which do not introduce significant changes at the atomic scale and essentially maintain the original electronic structure of the materials.

For further reading, please follow the link to the Special Issue Website at:

http://www.mdpi.com/journal/nanomaterials/special_issues/2d_

Prof. Antonio Di Bartolomeo

Guest Editor





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 - 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

mdpi.com/journal/nanomaterials
nanomaterials@mdpi.com
[X@nano_mdpi](#)