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Graphene and Related 2D Materials Based Devices and Heterostructures

Guest Editors:

**Prof. Dr. Francisco Javier
García Ruiz**

Departamento de Electrónica y
Tecnología de Computadores,
Facultad de Ciencias,
Universidad de Granada, 18071
Granada, Spain

Dr. Enrique G. Marin

Department of Electronics and
Computer Technology, Faculty of
Sciences, University of Granada,
18071 Granada, Spain

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Message from the Guest Editors

The surge of graphene and related 2D materials has revolutionized research in electronic and optoelectronic devices. In particular, the opportunity to have insulator, semiconductor, and semi-metal electronic behaviors in mono-atomic thick materials has expanded the design possibilities. The so-called quantum engineering of 2D materials, exemplified by lateral and van-der-Waals heterostructures, is the new paradigm in device design.

This Special Issue is focused on the analysis of the electronic and optoelectronic properties of devices based on graphene and related layered materials, with an emphasis on their heterostructures and also on their interfaces with materials such as bulk metals or insulators. Both experimental and theoretical approaches are welcome for 2D material-based devices such as transistors, photodetectors, sensors, memristors, etc.



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Special Issue



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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.

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Nanomaterials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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