

Special Issue

Graphene-Based Optoelectronic and Plasmonic Devices

Message from the Guest Editors

In recent years, graphene has emerged as a versatile material for a broad range of device applications. In particular, the high carrier mobility, large carrier density and tunability are appealing material properties for optoelectronic devices. Graphene-based nanostructures can also support surface plasmon excitations with exceedingly high field confinement and enhancement in the mid-infrared to terahertz spectral region. The capability to achieve tunable strong light-matter interactions also makes graphene plasmonic structures suitable for realizing high-performance sensors and tunable metamaterials/metasurfaces. The 2D nature of graphene and the straightforward transfer process make graphene compatible with a wide range of materials in nanofabrication processes. This Special Issue of *Nanomaterials* aims at establishing a comprehensive and balanced collection of works which embodies the current active research on graphene-based optoelectronic and plasmonic devices, with the goal of encompassing the state-of-the-art developments for all different types of devices within the scope of this Special Issue.

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Deadline for manuscript submissions

closed (20 May 2024)



Nanomaterials

an Open Access Journal
by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed



mdpi.com/si/140009

Nanomaterials
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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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