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Low-Dimensional Carbon-Based Nanomaterials for Photoelectrochemical Environmental and Energy Applications

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Over the past several decades, the development of advanced nanomaterials for environmental, biomedical, and energy applications has become increasingly important. Carbon nanomaterials are some of the most often developed nanomaterials and they have been widely used as electrode materials, catalyst supports, and adsorbents.

Low-dimensional carbon nanomaterials such as 0-D carbon dots (CD), 1-D carbon nanotubes (CNTs) and electrospun fibers, 2-D graphenes, graphitic carbon nitride (g-C3N4), and MXene have recently been regarded as an emerging class of nanomaterials. Since carbon-based nanomaterials with low dimension have unique properties including high specific surface area, excellent electron transfer rate, and superior photoelectrochemical properties, these low-dimensional carbon nanomaterials can be used for novel photoelectrochemical applications.

This Special Issue of Nanomaterials will focus on the most recent advances in the synthesis, advanced characterization, and application of low-dimensional carbon-based nanomaterials including nanocomposites and hybrids for energy storage and biomedicine.

Prof. Dr. Ruey-An Doong
Guest Editor

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Special Issue

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Editor-in-Chief

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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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