

Special Issue

Nanomaterials for Photodetector and Photovoltaic Applications

Message from the Guest Editor

Recently, photoactive and photovoltaic technologies have progressed in efficiency, fabrication and stability. The utilization of nanomaterials provides opportunities to significantly enhance the performance of the device such as through light scattering, light absorption, carrier collection efficiency, power conversion efficiency, reliability, etc. A key common factor for the recent breakthroughs in these devices is the development of novel nanomaterials as an active layer or effective electron/hole transport layer. Especially through the utilization/functionalization of nanomaterials for surface passivation, interface engineering has enhanced their stability and efficiencies in both photodetectors and photovoltaics via enhanced carrier collection efficiency and photocurrent generation. Thus, the scope of this Special Issue is to provide a comprehensive research outlining progress on the application of nanomaterials and nanostructures to enhance the performance and stability of photodetectors or photovoltaics. We invite authors to contribute original research articles and review articles.

Guest Editor

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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.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones

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