

Special Issue

Nanomaterials and Nanotechnology for Optoelectronics and Photovoltaics

Message from the Guest Editor

Over the past ten years, some emerging photovoltaics, such as perovskite solar cells, dye-sensitized solar cells, quantum dot solar cells, and organic solar cells, have received great attention due to their high power conversion efficiency, light-weight, low-cost, and simple fabrication compared to traditional silicon solar cells. The maximum efficiency of perovskite solar cells in 2019 reached 25.2%, confirmed by the national renewable energy laboratory. However, many challenging issues are still unsolved for practical application. This Special Issue will reflect the state-of-art nanomaterials and nanotechnologies applied in optoelectronics and photovoltaics with respect to design of electron and hole transport materials, novel absorbers, control of morphology and crystallization of absorbers, interface modification, defect engineering, new electrode materials, large-area/long stability fabrication, facile manufacturing, new device architectures, etc. Such technologies can make significant progress in the development of optoelectronics and photovoltaics. Contribution of original research and review articles are welcome.

Guest Editor

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Deadline for manuscript submissions

closed (15 August 2021)



Nanomaterials

an Open Access Journal
by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed



mdpi.com/si/36543

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About the Journal

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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