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Nanomaterials for Light Energy Harvesting and Photovoltaic Devices

Guest Editors:

Prof. Dr. Jia Lin

Department of Physics, Shanghai
Key Laboratory of Materials
Protection and Advanced
Materials in Electric Power,
Shanghai University of Electric
Power, Shanghai 200090, China

Dr. Yi Yu

School of Physical Science and
Technology, ShanghaiTech
University, Shanghai 201210,
China

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Message from the Guest Editors

It is well noted that renewable energy from sunlight is a sustainable energy source capable of meeting global demand and an effective way to deal with environmental problems. Among various semiconductors, low-dimensional nanomaterials are broadly researched for application in light energy harvesting and photovoltaic devices. The high specific surface area, tunable morphological shapes, improved light absorption, and large charge carrier lifetime are particularly important for enhancing light energy harvesting and utilization ability. The surface chemistry and surface modification of nanomaterials are also essential for the improvement of their optoelectronic properties.

This Special Issue aims to provide a comprehensive overview of the development of state-of-the-art nanomaterials for light energy harvesting and photovoltaic devices, the strategies employed for improving the performances of nanomaterials for energy conversion, and to stimulate new interest in this field. Research areas may include (but are not limited to) nanomaterials, light energy harvesting, photovoltaics, renewable energy, energy systems, and solar energy conversion.



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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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