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Solar Thin Film Nanomaterials and Nanodevices

Guest Editor:

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Deadline for manuscript submissions:
closed (28 February 2023)

Message from the Guest Editor

Dear Colleagues,

Solar energy has great potential to provide clean and renewable energy to humans. In the past several decades, nanoscale research has played a vital role in the emergence of advanced solar energy techniques. The synthesis, design, characterization, and fabrication of nanomaterials lead to the desired properties of both solar thin film absorbers and charge-collecting layers, which greatly boost the performance of solar devices. There are still challenges to overcome in new solar absorber materials, including achieving a deeper understanding of the carriers' transfer mechanism, as well as facile and lost-cost fabrication, design of new devices, etc., which are expected to attract enormous interest and create great economic value in the solar energy community.

This Special Issue of *Nanomaterials* will cover the most recent advances in "Solar Thin Film Nanomaterials and Nanodevices", concerning the materials synthesis, fundamental physics, nanostructure design, fabrication, and characterization of solar nano-absorbers and related charge selection materials, as well as advanced analytical methods and techniques in photovoltaic nanodevices.

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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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