# Special Issue

# Solar Thin Film Nanomaterials and Nanodevices

### Message from the Guest Editor

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.

### Guest Editor

Dr. Zhenhua Yu

Department of Applied Physical Sciences, University of North Carolina, Chapel Hill, NC, USA

### Deadline for manuscript submissions

closed (28 February 2023)

**Nanomaterials**

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/94383

*Nanomaterials*
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
nanomaterials@mdpi.com

mdpi.com/journal/nanomaterials

MDPI

# Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/journal/nanomaterials

MDPI

# 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
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

## Author Benefits

**Open Access:**

free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:**

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, CAPlus / SciFinder, Inspec, and other databases.

**Journal Rank:**

JCR - Q2 (Physics, Applied) / CiteScore - Q1 (General Chemical Engineering )