Special Issue

Functional Semiconducting Nanomaterials and Applications in Energy Conversion and Environmental Remediation

Message from the Guest Editors

Semiconducting nanomaterials have been attracting great attention with the expectation of clean, renewable, and sustainable technologies in energy and environmental fields. The novel photocatalytic and optoelectrical properties of semiconducting nanomaterials shed significant insights into emerging solar-driven research areas, including solar-to-fuel conversion by water splitting, solar-to-electricity conversion by solar cells, and environmental remediation by advanced oxidation process (AOP) along with their hybrid systems. In particular, the design of novel semiconducting nanomaterials and in-depth understanding of the reaction mechanisms will be the key drivers in achieving innovative energy and environmental applications. In this Special Issue in Nanomaterials, the new research findings on the extended version of semiconducting nanomaterials and their energy, environmental, and optoelectronic applications will be addressed where halide perovskites, metal-organic frameworks (MOFs), and carbon-based materials will be included with materials design strategies.

Guest Editors

Prof. Dr. Jung-Ho Yun

Department of Environmental Science and Engineering, College of Engineering, Kyung Hee University, 1732 Deogyeong-daero, Giheung-gu, Gyeonggi-do, Yongin-si 17104, Republic of Korea

Dr. Jeonghun Kim

Department of Chemical and Biomolecular Engineering, Yonsei University, 50 Yonsei-ro, Seodaemun-gu, Seoul 03722, Republic of Korea

Deadline for manuscript submissions

closed (20 October 2023)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/164754

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

mdpi.com/journal/nanomaterials

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)