

Special Issue

Advanced Materials for Solar Photovoltaic Technologies

Message from the Guest Editor

Advanced materials are key for enhancing the efficiency, durability, and cost-effectiveness of PV systems, driving the evolution of clean energy solutions. This Special Issue encompasses a broad spectrum of topics, including:

- Emerging Photovoltaic Materials: Exploration of novel materials such as perovskites, quantum dots, and 2D materials for high-efficiency solar cells;
- Thin-Film Photovoltaics: Innovations in amorphous silicon, cadmium telluride, and CIGS technologies;
- Plasmonic and Nanostructured Materials: Utilization of nanoparticles and nanostructures for light trapping and enhanced optical properties;
- Durability and Stability Improvements: Strategies to enhance the operational stability and environmental resilience of PV materials, particularly under harsh conditions;
- Materials for Tandem and Multi-Junction Cells: Development of materials that enable higher efficiency through tandem configurations;
- Sustainable and Recyclable Materials: Focus on eco-friendly and recyclable materials that reduce the environmental footprint of PV production.

Guest Editor

Dr. Brahim Aïssa

Qatar Environment and Energy Research Institute (QEERI), Hamad Bin Khalifa University (HBKU), Qatar Foundation, Doha 5825, Qatar

Deadline for manuscript submissions

closed (25 June 2025)



Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



mdpi.com/si/225593

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

[mdpi.com/journal/
energies](https://mdpi.com/journal/energies)





Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



[mdpi.com/journal/
energies](https://mdpi.com/journal/energies)



About the Journal

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University
Niccolò Cusano, 00166 Roma, Italy

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), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q1 (Control and Optimization)