

Special Issue

Advances in Solar-Driven Catalytic Materials for Sustainable Fuels

Message from the Guest Editors

Solar-driven catalytic materials play a key role in addressing global challenges like climate change, energy security, and environmental protection. The Special Issue on 'Advances in Solar-Driven Catalytic Materials for Sustainable Fuels' focuses on materials engineered to harness sunlight for catalytic processes that directly address global energy and climate challenges. It targets research enabling the conversion of solar energy into chemical fuels via photocatalytic, electrocatalytic, and photoelectrochemical pathways for hydrogen generation and CO₂ reduction. The scope emphasizes innovations in material design, mechanistic understanding, and performance optimization under solar irradiation, with a strong focus on practical viability. Topics of interest span novel semiconductors, metal-free photocatalysts, hybrid organic-inorganic frameworks, nanostructured electrodes, and earth-abundant electrocatalysts tailored for solar fuel production. Researchers are encouraged to submit articles that push the boundaries of catalytic materials for solar-powered fuel production to tackle existing challenges in efficiency and stability.

Guest Editors

Prof. Dr. Keiko Sasaki

Dr. Sulakshana Shenoy

Dr. Jirawat Trakulmututa

Dr. Wenan Cai

Deadline for manuscript submissions

31 March 2026



Crystals

an Open Access Journal
by MDPI

Impact Factor 2.4
CiteScore 5.0



mdpi.com/si/242339

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

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





Crystals

an Open Access Journal
by MDPI

Impact Factor 2.4
CiteScore 5.0



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



About the Journal

Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

Editor-in-Chief

Prof. Dr. Alessandra Toncelli

Department of Physics, University of Pisa, 56126 Pisa, PI, 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), Inspec, Ei Compendex, CAPus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Crystallography) / CiteScore - Q2 (Condensed Matter Physics)