# Special Issue

# Catalysts for Solar Fuels

## Message from the Guest Editors

Fossil fuels, e.g., coal, oil and gas, are important carbon carriers in the long-term carbon cycle, and were literately derived from renewable energy, solar energy, by the growth and burial of organic matters on Earth over a geological timescale. Artificial interference with the carbon cycle using cutting-edge technologies appears to be feasible, resulting in a very short cycle, aiming at zero emissions. Semiconductor-based photocatalysis has profoundly extended solar energy utilization to chemical production processes, where solar fuels emerge, via either water splitting for hydrogen production or CO2 reduction for hydrocarbon formation. Key challenges remain, particularly in terms of catalyst materials, i.e., semiconductor photocatalysts. This Special Issue therefore collects original research papers, reviews and commentaries on the rational design, synthesis, characterization, computational studies, and performance evaluation of catalyst materials, including semiconductors and co-catalysts, in either homogeneous or heterogeneous forms, for solar fuel production. Perspectives on the feasibilities of solar fuels are also welcome.

## Guest Editors


Prof. Dr. Hongqi Sun

School of Engineering, Edith Cowan University, 270 Joondalup Drive, Joondalup, WA 6027, Australia

Prof. Dr. Mingbo Wu

State Key Laboratory of Heavy Oil Processing, School of Chemical Engineering, China University of Petroleum, Qingdao 266580 ,China


## Deadline for manuscript submissions

closed (31 August 2019)


# Catalysts

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/si/16045

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

mdpi.com/journal/catalysts

Catalysts

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/journal/catalysts

# About the Journal

## Message from the Editor-in-Chief

## Editor-in-Chief

Prof. Dr. Keith Hohn
Carl R. Ice College of Engineering, Kansas State University, Manhattan, KS, USA

## Author Benefits

**High Visibility:**

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, CAB Abstracts, and other databases.

**Journal Rank:**

JCR - Q2 (Chemistry, Physical) / CiteScore - Q1 (General Environmental Science )

**Rapid Publication:**

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.6 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).

MDPI