Special Issue

Photo(electro)catalysis in Energy and Environment: Theories, Experiments, and Applications

Message from the Guest Editors

We are delighted to invite you to contribute to a new Special Issue, which is dedicated to examining recent theoretical and experimental research achievements and applications regarding photoelectrocatalysis applications. The concept of photoelectrocatalysis combines electrochemistry and photocatalysis. In photoelectrocatalysis, selecting the right material is critical to obtaining charge carriers. In recent decades, transition metal oxides have been widely studied in photoelectrocatalysis systems. The Special Issue also relates to the experimental and theoretical assessment of potential catalysts for photo/electrocatalytic reactions. It involves the synthesis, characterization, evaluation of properties, synthesis of composite materials, conversion of CO2 into value-added products, photoelectrocatalytic oxidation and reduction of pharmaceutical pollutants, and photodegradation applications. These technologies offer an optimistic approach to addressing the global energy and environmental crisis.

- photoelectrocatalysts
- material
- molecular catalysts
- electrocatalysis
- photocatalysis
- CO2 reduction

Guest Editors

Dr. Prabhakarn Arunachalam

Department of Chemistry, College of Science, King Saud University, P.O. Box. 2455, Riyadh 11451, Saudi Arabia

Dr. Qiucheng Chen

Department of Chemistry, Northwestern University, Evanston, IL 60208, USA

Deadline for manuscript submissions

closed (20 April 2025)

Catalysts

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/si/221614

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

MDPI

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 15.9 days after submission; acceptance to publication is undertaken in 3.5 days (median values for papers published in this journal in the second half of 2025).