

Special Issue

Recent Progress in Development of Hydrogenation and Dehydrogenation Catalysts

Message from the Guest Editors

Catalytic hydrogenation and dehydrogenation of functional groups in organic molecules are useful, versatile, and environmentally friendly reaction routes available for organic synthesis. This important area of catalytic chemistry has vital scientific significance and broad application prospects in energy storage, fine chemicals, production of polymers, production of edible and non-edible oils, and pharmaceuticals synthesis. About 10–20% of chemical reactions used to produce fine chemicals and pharmaceutical products are hydrogenations. Dehydrogenation reactions find wide application in the production of hydrogen, alkenes (especially, light olefins, that is, ethene and propene), polymers, and oxygenates. Reversible dehydrogenation reactions (hydrogen release process) and hydrogenation reactions (hydrogen storage process) are used as hydrogen storage systems through various organic hydrogen carriers. This Special Issue will cover recent developments in catalysts for hydrogenation and dehydrogenation reactions.

Guest Editors

Dr. Lalit Kumar Golani

Department of Chemistry & Biochemistry, Milwaukee Institute for Drug Discovery, University of Wisconsin, Milwaukee, WI 53211, USA

Dr. Fan Zhang

National Institute of Clean-and-Low-Carbon Energy, Beijing 102211, China

Deadline for manuscript submissions

closed (31 May 2023)



Catalysts

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 7.6



mdpi.com/si/73280

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

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





Catalysts

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 7.6



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