Special Issue

Hierarchically Catalysts for Water Splitting and Selective Hydrogenation

Message from the Guest Editors

The need for sustainable and renewable energy production, storage, and conversion technologies has never been more pressing than now. To address the energy and environmental crisis, electrochemical water splitting has emerged as a promising method for producing green hydrogen. Selective hydrogenation is an excellent method used to prepare these products in large quantities. These approaches require concerted efforts to design catalytic materials that are highly active, cost-effective, and have long-term stability. Heterostructures, commonly defined as composites consisting of interfaces in different components, have demonstrated exceptional catalytic performance in electrocatalysis and industrial catalysis, particularly in hydrogen evolution reactions (HERs), oxygen evolution reactions (OERs), and benzene selective hydrogenation (BSH). Heterostructured materials often show improved charge transfer because of the diverse arrangements of energy bands in different components and have recieved significant attention because of the fascinating synergistic effects of the interactive coupling between heterogeneous zones, resulting in high activity and long-term stability.

Guest Editors

Prof. Dr. Guangjie Shao

Hebei Key Laboratory of Applied Chemistry, College of Environmental and Chemical Engineering, Yanshan University, Qinhuangdao 066004, China

Dr. Ailing Song

Hebei Key Laboratory of Applied Chemistry, College of Environmental and Chemical Engineering, Yanshan University, Qinhuangdao 066004, China

Deadline for manuscript submissions

closed (31 August 2024)

Catalysts

an Open Access Journal by MDPI

Impact Factor 3.8
CiteScore 6.8

mdpi.com/si/186246

Catalysts
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 3.8
CiteScore 6.8

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, 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 13.9 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the second half of 2024).