Special Issue

New Monocrystal Catalysts and Complex Photocatalysts: Synthesis and Characterization

Message from the Guest Editor

This topic is for the preparation of new visible light-responsive photocatalysts which will be detected by all kinds of advanced experimental instruments, such as transmission electron microscope. Different preparation methods, such as the solvothermal method, will be utilized to prepare heterojunction photocatalysts, precious metal-doped composite and monocrystal photocatalysts. New photocatalysts will be used for the degradation of organic pollutants under visible light irradiation or under ultraviolet light illumination. The removal rate of poisonous organic pollutants and the removal rates of the total organic carbon will be analyzed and arranged. The intermediate product during photocatalytic degradation poisonous organic pollutants will be investigated. The degradation pathways of poisonous organic pollutants such as pentachlorophenol will be provided. The degradation mechanism using hydroxyl radical, superoxide anion and photoinduced holes will be revealed. Hydrogen production via water splitting will be realized by using new monocrystal photocatalysts or heterojunction photocatalysts under visible light irradiation or under ultraviolet light illumination.

Guest Editor

Prof. Dr. Jingfei Luan

1. School of Physics, Changchun Normal University, Changchun 130032, China
2. State Key Laboratory of Pollution Control and Resource Reuse, School of the Environment, Nanjing University, Nanjing 210093, China

Deadline for manuscript submissions

closed (28 February 2025)

Catalysts

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/si/192329

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 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).