# Special Issue

# State of the Art and Future Challenges in Zeolite Catalysts

## Message from the Guest Editor

Zeolite catalysts are intensively used in the several petroleum refinery processes, such as catalytic cracking, paraffins and xylene isomerization, alkylation process, methanol-to-gasoline conversion, and aromatization for the production of benzene, toluene, and xylenes. Besides petroleum refinery processes, zeolite catalysts are also applied to the production of fine and speciality chemicals, pharmaceuticals, and medicinal drug molecules. Due to their unique properties, such as ion exchange, uniform pore dimensions, shape selectivity, thermal stability, resistance to coke formations, and isomorphous substitutions, these catalytic materials are used for the development of green process technology development. Taking into consideration that zeolite catalysts can be regenerated and reused several times, these catalytical materials are very cost-effective and efficient in the production of fuel components and chemicals. The future challenges of zeolite catalysts are applications in the development of environmentally friendly processes, the discovery of novel zeolite catalysts with new structures, and the effective processing of crude oil to value-added fuel components.

## Guest Editor

Dr. Narendra Kumar

Faculty of Science and Engineering, Laboratory of Industrial Chemistry and Reaction Engineering, Åbo Akademi University, Henriksgatan 2, FI-20500 Turku, Finland

## Deadline for manuscript submissions

closed (20 June 2025)

**Catalysts**

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/si/190571

*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).