## Special Issue

# **Enzyme Engineering—the Core of Biocatalysis**

## Message from the Guest Editors

Enzyme engineering is a pivotal aspect of biocatalysis, focusing on modifying enzymes to enhance their efficiency for industrial, medical, and environmental applications. In organic synthesis, enzymes offer significant advantages over traditional chemical catalysts. Directed evolution mimics natural selection by creating enzyme variants through random mutations and selecting those with desirable traits, while rational design involves introducing targeted changes based on detailed knowledge of enzyme structure and function. Engineered enzymes are instrumental in the development of sustainable technologies, enabling the efficient production of valuable chemicals while minimizing environmental impact. This special issue aims to collect papers presenting studies where enzymes have been engineered, characterized, and eventually applied for organic synthesis.

- enzyme engineering
- biocatalysis
- directed evolution
- rational design
- enzyme modification
- industrial applications
- catalytic efficiency
- sustainable technologies
- renewable chemicals
- green chemistry

## **Guest Editors**

Prof. Dr. Xi Chen

Key Laboratory of Synthetic and Natural Functional Molecule of the Ministry of Education, College of Chemistry and Materials Science, Northwest University, Xi'an 710127, China

Prof. Dr. Francesco Secundo

Istituto di Scienze e Tecnologie Chimiche "Giulio Natta", Consiglio Nazionale delle Ricerche, Via Mario Bianco 9, 20131 Milan, Italy

## Deadline for manuscript submissions

30 June 2026



# **Catalysts**

an Open Access Journal by MDPI

Impact Factor 4.0 CiteScore 7.6



mdpi.com/si/218305

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



## **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).

