Special Issue

Catalytic Activity on Thermochemical and Non-Thermal Plasma Conversion/Utilization of Methane and Carbon Dioxide

Message from the Guest Editors

An interesting perspective for CO2 Carbon Capture and Utilization technologies (CCU) is to consider these technologies not only as a way to replace fossil fuels, but also as an alternative for the production of energy carriers that would allow the storage of intermittent production of electricity from renewable sources in a power-to-gas or power-to-liquid conversion process. The valorization of this molecule through advanced processes opens a portfolio of products such as syngas (CO/H2 mixtures), CH4, methanol (CH3OH) and DME (CH3OCH3), among others. The conversion of methane into clean fuels, chemical feedstocks, or high-value carbon materials, such as hydrogen, ethylene (C2H4), methanol, or carbon supports, is advantageous from both energetic and economic perspectives. Advanced technologies, which employ direct catalytic reactions or the syngas route, aim to enhance efficiency and minimize CO2 emissions.

Guest Editors

Dr. María Victoria Navarro

Dr. Gemma S. Grasa

Dr. Isabel Martínez

Deadline for manuscript submissions

31 October 2025

Catalysts

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/si/211601

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).