

Special Issue

Present Challenges in Catalytic Emission Control for Internal Combustion Engines

Message from the Guest Editors

Despite the increasing market share of electric vehicles, internal combustion engines continue to be widely used in numerous sectors, ranging from transportation to energy production. Numerous efforts are still invested to enhance engine efficiency and decrease CO₂ emissions. Concurrently, further improvement of the catalytic exhaust gas aftertreatment system remains a high priority. In particular, knowledge-based catalyst development is regarded as the ultimate approach for attaining near-zero pollutant emissions. This Special Issue on “Present challenges in catalytic emission control for internal combustion engines” is aimed at providing an overview on state-of-the-art catalyst characterization, performance, deactivation, and reactivation for different classes of catalysts applied to the exhausts of diesel, gasoline, or natural gas engines. The contributions to the Special Issue should preferentially include systematic and comprehensive studies for elucidating mechanistic aspects and deriving structure–activity correlations. Equally important are the contributions describing recent advances in catalyst modeling and simulation.

Guest Editors

Dr. Maria Casapu

Institute for Chemical Technology and Polymer Chemistry, Karlsruhe Institute of Technology, 76131 Karlsruhe, Germany

Dr. Dmitry E. Doronkin

Institute of Catalysis Research and Technology (IKFT), Karlsruhe Institute of Technology, 76344 Eggenstein-Leopoldshafen, Germany

Deadline for manuscript submissions

closed (31 March 2021)



Catalysts

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 7.6



mdpi.com/si/47773

Catalysts
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
catalysts@mdpi.com

[mdpi.com/journal/
catalysts](https://mdpi.com/journal/catalysts)





Catalysts

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 7.6



[mdpi.com/journal/
catalysts](https://mdpi.com/journal/catalysts)



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 15.9 days after submission; acceptance to publication is undertaken in 3.5 days (median values for papers published in this journal in the second half of 2025).