Special Issue

Recent Advancements in M-N-C Catalysts for Electrochemical Energy Conversion Devices

Message from the Guest Editors

To reduce and eventually eliminate our dependence on fossil fuels, efficient and affordable electrochemical energy conversion technologies should be largely implemented. This idea relies heavily on the development of fuel cells, electrolyzers, and batteries, of which the performance is limited by the electrode reactions due to their multiple charge- and proton-transfer steps, which occur typically at three-phase interfaces. The topics include M-N-C materials with single-atom sites for all types of energy conversion devices, such as fuel cells, water electrolyzers, CO2 reduction electrolyzers, N2 reduction electrolyzers, batteries, etc. Experimental and theoretical insights on M-N-C electrocatalyst synthesis, characterization, structure-performance relationship, reaction intermediate pathways, and degradation mechanisms are particularly welcome. Furthermore, electrode structure studies to understand the catalyst aggregate size, catalyst pore size, ionomer distribution, ion transfer and mass transport in bulk electrode, etc., and their impacts on device performance are also kindly invited.

Guest Editors

Dr. Hao Wang
National Renewable Energy Laboratory, Golden, CO 80401, USA

Dr. Luigi Osmieri
Los Alamos National Laboratory, Los Alamos, NM 87545, USA

Deadline for manuscript submissions

closed (20 February 2022)

Catalysts

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/si/71721

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).