

Special Issue

Nanoscale Catalysts for Electrochemical Systems of Energy Generation and Storage

Message from the Guest Editors

The energy sector is transitioning to clean and renewable energy sources, and electrochemical technologies play an important role in this shift. The intermittent nature of solar and wind generations can be tamed using electrochemical systems of energy storage using batteries and hydrogen generation, storage, and utilization. Catalysts are the key components of these electrochemical energy storage systems and determine their efficiency, cost, and life-time. Currently, platinum group metals are the most efficient electrocatalysts in both anodic and cathodic reactions. The demand for cost efficiency in power sources makes the search for cheaper and more stable electrocatalysts mandatory. Modified carbonaceous materials, alloys, metal oxides and sulfides, polymer-modified electrodes, and macrocycles are promising alternatives to platinum group metals.

Guest Editors

Dr. Alexander D. Modestov

Frumkin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences, Leninsky Prospekt 31, Building 4, 119071 Moscow, Russia

Prof. Dr. Serguei A. Martémianov

Institut Pprime, Université de Poitiers-CNRS-ENSMA, UPR 3346, 2 Rue Pierre Brousse, Batiment B25, TSA 41105, Cedex 9, 86073 Poitiers, France

Deadline for manuscript submissions

closed (10 March 2022)



Catalysts

an Open Access Journal
by MDPI

Impact Factor 3.8
CiteScore 6.8



mdpi.com/si/77899

Catalysts

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 3.8
CiteScore 6.8



[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,
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 12.9 days after
submission; acceptance to publication is undertaken in 2.8
days (median values for papers published in this journal in
the first half of 2024).