Special Issue

Nanostructure-Based Energy Electrocatalysis

Message from the Guest Editors

Energy electrocatalysis is an important branch of electrochemistry involving the interaction of electrical and chemical reactions in an electrochemical cell. Additionally, the activity and kinetics of an electrochemical reaction are highly influenced by the composition and structure of electrocatalysts. Nanostructured electrocatalysts usually show different electrocatalytic reaction activities and reaction paths from bulk counterparts. Moreover, surface reconstruction, catalyst-support interaction or the interface engineering of nanostructures often remarkably affect the underlying reaction mechanisms, lead to high-performance electrocatalysts. This Special Issue mainly focuses on energy electrocatalysis, including the design and synthesis of nanostructured electrocatalytic materials, typical applications in the electrolysis of water, proton exchange membrane fuel cells, metal-air batteries, electrosynthesis, piezoelectric catalysis and the corresponding electrocatalytic mechanism. Potential topics include, but are not limited to:

- Electrolysis of water
- Proton exchange membrane fuel cell
- Metal-air battery based on nanostructures
- Electrosynthesis
- Piezoelectric catalysis

Guest Editors

Prof. Dr. Xiangzhi Cui

Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China

Prof. Dr. Ruguang Ma

School of Materials Science and Engineering, Suzhou University of Science and Technology, Suzhou, China

Deadline for manuscript submissions

closed (10 September 2024)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/120240

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

mdpi.com/journal/nanomaterials

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/journal/nanomaterials

MDPI

About the Journal

Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q1 (General Chemical Engineering)