materials

IMPACT FACTOR 3.1

Indexed in: PubMed

CITESCORE 5.8

an Open Access Journal by MDPI

Advances in ORR & OER Electrocatalysts

Guest Editor:

Dr. Diana M. Fernandes
REQUIMTE-LAQV, Departamento de Química e Bioquímica, Faculdade de Ciências, Universidade do Porto, Porto, Portugal

Deadline for manuscript submissions:
closed (20 April 2022)

Message from the Guest Editor

The current global energy crisis and the negative environmental impacts resulting from the incessant use of fossil fuels have driven scientists to develop novel renewable energy storage and conversion technologies, such as fuel cells, water splitting devices, and metal–air batteries. Electrocatalysis plays a key role in these clean energy devices, enabling the development of several sustainable processes for future technologies. However, the design of highly efficient and cost-effective materials is one of the current major challenges in this field. The commonly employed technologies are expensive due to the use of noble metal-based electrocatalysts, but from the tremendous research efforts, several highly active and stable new materials have emerged.

This SI aims to cover the latest advances on emerging oxygen reduction reaction (ORR) and oxygen evolution reaction (OER) electrocatalysts, including their synthesis and characterization, evaluation of their electrocatalytic performances, as well as a theoretical understanding of ORR and OER that affords rational design strategies for high performance ORR/OER electrocatalysts.

materials

IMPACT FACTOR 3.1 | Indexed in: PubMed | CITESCORE 5.8

an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.
Journal Rank: JCR - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/materials
materials@mdpi.com
𝕏@Materials_Mdpi