Special Issue

Advanced Materials for Electrocatalysis of Oxygen

Message from the Guest Editors

The oxygen reduction reaction (ORR) and the oxygen evolution reaction (OER) are among the most important reactions in renewable energy conversion and storage devices. The full deployment of these devices (fuel cells, electrolyzers, metal–air batteries, etc.) depends on the development of highly active, stable, and low-cost catalysts. Furthermore, bifunctional materials that are able to catalyze both reactions are still a challenge for the progress of rechargeable metal–air batteries or unitized regenerative fuel cells. Actually, noble metals, belonging to Pt-group metals (PGMs), are mainly used to catalyze these reactions; however, the high cost and the limited resource of PGMs greatly hinder the widespread commercialization of these energy conversion and storage devices. Therefore, the development of low-cost, highly active, and stable non-PGM catalysts for ORR and OER are highly desired. This Special Issue aims to cover the most recent advances and developments regarding advanced materials for oxygen electrodes. and

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Deadline for manuscript submissions

closed (31 December 2021)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/66274

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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.

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