

Special Issue

Electrocatalysts in Hydrogen Fuel Cells and Water Electrolyzers: Recent Advances and Future Opportunities

Message from the Guest Editor

Two major solutions have been pursued in current research to address the high loading of PGM catalysts. The first approach is to reduce the amount of Pt used in the catalysts with minimal sacrifice of catalyst performance. The other approach is to completely eliminate PGM elements using PGM-free catalysts composed of earth-abundant and inexpensive elements. Metal–nitrogen–carbon (M–N–C) catalysts, for instance, have become one of the most promising PGM-free catalysts, approaching the level of PGM catalysts in terms of their catalyst activity. This Special Issue aims to gather papers on recent progress in electrocatalysis in fuel cells and electrolyzers. The scope includes the development of new materials for PGM and PGM-free catalysts, investigation of active sites and reaction mechanisms, studies on electrode structure and its kinetics in fuel cells/electrolyzers, and/or any other related domains. Additionally, research on HER and the hydrogen oxidation reaction (HOR) can be included, especially in alkaline and neutral media where the reaction kinetics can be much slower than that in acidic media. Lastly, both experimental and theoretical studies are encouraged.

Guest Editor

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Deadline for manuscript submissions

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Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 29th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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