Special Issue

Advances in Catalysts for the Sustainable Hydrogen Production

Message from the Guest Editors

Hydrogen as a clean energy vector is finally becoming a reality, with significant investments being devoted to the creation of commercially available vehicles and to the development of distribution networks worldwide. In this transformation of the energy paradigm, the role of catalysis is pivotal as a means for developing adequate processes to produce blue and/or green hydrogen from renewable resources. The presence of noble metals in these catalysts is unfortunately still relevant and, in some cases, unavoidable. Efforts have been directed at replacing or, at least, reducing the content of noble elements,possibly up their total replacement without scarifying catalytic performances, of utmost importance for entering a truly sustainable hydrogen economy.

This Special Issue aims to cover the most recent progress and advances in the development of catalysts for sustainable hydrogen production processes (e.g., water electrolysis, gasification or reforming of biomass and/or biomass-derived compounds) which are free of noble metals or where their content is lower than that of benchmark catalysts. The Issue is open to both original research papers and reviews.

Guest Editors

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Deadline for manuscript submissions

closed (20 December 2021)

Catalysts

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/si/68105

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.6 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).