

Special Issue

Electrocatalysis under the Initiative and Propaganda of Carbon Neutrality

Message from the Guest Editors

Electrocatalysis, complemented by sustainable energy resources, provides a pivotal means to facilitate efficient conversion while producing high-value-added chemicals and fuels. Most importantly, the electrochemical processes can help to close the carbon cycle, paving the way for achieving a carbon-neutral society. In recent years, electrocatalysis has evolved into a multidiscipline subject, involving material synthesis, physical characterization and performance evaluation, as exemplified by studies on CO₂ electroreduction, water splitting and N₂ fixation. The combined efforts can present a comprehensive understanding about relevant reaction mechanisms and kinetics. Here, this Special Issue is focused on many topics in electrocatalysis, such as the advanced characterization techniques, new theories and mechanisms and the rational design of catalysts and reactors. The aim of the Special Issue is to summarize the development of electrocatalysis, address the main difficulties and highlight solutions and directions for future research.

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Deadline for manuscript submissions

closed (30 September 2022)



Catalysts

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Impact Factor 4.0
CiteScore 7.6



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