

Special Issue

Electrocatalysts for Oxidation-Reduction Reactions

Message from the Guest Editor

Electrocatalysis is an important branch of catalysis research. Driven by electrical energy, these electrocatalytic oxidation and reduction reactions offer the possibility of producing electricity, energy storage molecules, or value-added chemicals. One of the difficulties with electrocatalytic reactions is the development of highly active catalysts that can reduce the energy consumption of the reaction, which requires consideration of several factors including the electrochemically active surface area, conductivity, intrinsic activity, and hydrophilicity of the catalyst. In order to investigate the electrocatalytic reaction mechanism in-depth, it is necessary not only to study the reaction active sites and adsorbed species under different electrode potential, temperature and pH in combination with in-situ experiments but also to use theoretical calculations to correlate the intrinsic activity of the catalyst with descriptors. This Special Issue will cover the latest advances in the development of electrocatalysts in the field of electrocatalytic oxidation-reduction reactions.

Guest Editor

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