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Innovation and Development in Electrocatalysts for Hydrogen Production

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Message from the Guest Editors

Dear Colleagues,

Water splitting via electrocatalytic hydrogen evolution reaction (HER) is an efficient and sustainable method for industrial hydrogen production that will help to address global energy and environmental concerns in the future. To date, platinum (Pt)-based materials remain the state-of-the-art HER electrocatalysts. The scarcity and high cost of Pt, on the other hand, severely restrict its commercial use. As a result, earth-abundant alternatives which also have high electrochemical stability and promising catalytic capability have become a hot research topic.

This Special Issue aims to cover the most recent progress and advances in electrocatalysts for hydrogen production. This includes but is not limited to the design, synthesis, and characterization of novel HER electrocatalysts, as well as research on fundamental surface electrochemical reaction mechanisms, novel concepts in surface electrochemistry, and theoretical methods of direct interest and impact in the science and applications of HER electrocatalysts and electrocatalytic HER processes.

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