Special Issue

Advancing Electrocatalysis: Insights and Innovations in HER, OER, and ORR for a Sustainable Energy Future

Message from the Guest Editors

The transition to sustainable energy depends on advances in electrocatalysis, especially for key reactions like the Hydrogen Evolution Reaction (HER), Oxygen Evolution Reaction (OER), and Oxygen Reduction Reaction (ORR). These processes are essential for efficient water splitting, fuel cells, and metal-air batteries, supporting renewable energy storage and utilization. This Special Issue, *"Advancing Electrocatalysis: Insights and Innovations in HER, OER, and ORR for a Sustainable Energy Future,"* aims to showcase cutting-edge research addressing challenges and opportunities in these fields. We welcome contributions on novel catalyst design, mechanistic insights, in-situ/operando characterization, and computational modeling. Studies on sustainable materials, integration with renewable energy, and scalable industrial applications are highly encouraged. By highlighting innovative strategies and multidisciplinary collaborations, this issue seeks to advance both fundamental understanding and real-world implementation of HER, OER, and ORR, contributing to a cleaner, more sustainable energy future.

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