Special Issue

New Design of Catalysts and Electrodes in Water Electrolysis Technologies

Message from the Guest Editors

"Green hydrogen" is increasingly recognized as a promising solution for decarbonizing a wide range of industrial sectors, including transportation, energy storage, metal production, and chemical production. This Special Issue aims to highlight recent advancements in catalysts and electrodes for water electrolysis technologies. Topics of interest include, but are not limited to:

- Novel catalytic materials for the oxygen and hydrogen evolution reactions, especially low-Ir/Pt or Ir/Pt-free systems;
- Advanced catalyst supports for enhanced durability and performance;
- AI-assisted or model-based catalyst screening methods (e.g., density functional theory, molecular dynamics);
- In-depth characterization and analysis of catalyst degradation mechanisms;
- Advanced manufacturing processes for ionomer-containing or ionomer-free electrodes;
- Cost-effective, high-performance, and durable water electrolyzer design and fabrication strategies;

Guest Editors

Dr. Weitian Wang

Department of Mechanical, Aerospace, and Biomedical Engineering, University of Tennessee, Knoxville, TN 37996, USA

Prof. Dr. Gaoqiang Yang

College of Mechanical and Vehicle Engineering, Hunan University, Changsha 410082, China

Deadline for manuscript submissions

5 December 2025

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/243301

Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

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Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

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