Special Issue

Advances in Green Hydrogen and Green Ammonia

Message from the Guest Editors

Research spanning theoretical, computational, and experimental approaches that improve the efficiency, reliability, scalability, and safety of hydrogen and ammonia production and utilization systems. Areas of interest for publication include, but are not limited to, the following topics:

- Integrated scheduling and operation of electricity–hydrogen–ammonia systems;
- CFD modeling and simulation of key equipment such as electrolyzers and ammonia synthesis reactors;
- Process simulation, techno-economic analysis, and lifecycle assessment of green hydrogen/ammonia systems;
- Dynamic modeling, real-time optimization, and advanced control strategies;
- Safety monitoring, risk assessment, fault diagnosis, and early warning systems;
- Design, development, and prototyping of novel materials and components for electrolysis and catalytic synthesis;
- Hybrid renewable energy systems for hydrogen/ammonia production;
- Power-to-ammonia and power-to-gas integration with existing infrastructures;
- Applications of hydrogen and ammonia in energy storage, transportation, and industrial decarbonization;
- Standards, regulations, and policy support mechanisms for green hydrogen and ammonia economies.

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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.

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