

Special Issue

Catalysis for Hydrogen Storage and Release

Message from the Guest Editors

Catalysis plays a crucial role in both industrial and biological processes, regulating the production of essential chemicals like ammonia and methanol, which are integral to energy conversions. As global warming leads to climate change, the pursuit of "carbon neutrality" is paramount, necessitating a shift from fossil fuels to renewable energy sources. Transitioning to renewable hydrogen produced with low carbon emissions is vital for cost-effective decarbonization. However, challenges in production, transportation, and storage must be addressed. Hydrogen's low volumetric density complicates its use in transport, prompting the exploration of hydrogen carriers such as H₂O, LHOC, NH₃, and bio-CH₄ as viable alternatives. This Special Issue invites original research papers, reviews, and communications that focus on catalytic processes for hydrogen storage and release. We aim to highlight catalysts used in the production and decomposition of hydrogen carriers, emphasizing their strategic importance in facilitating the energy transition.

Guest Editors

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Deadline for manuscript submissions

closed (15 May 2026)



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