

Special Issue

Advances in Hydrogen Energy Systems Integration, Modeling and Optimization

Message from the Guest Editors

With the rapid global energy transition and the pursuit of carbon neutrality, hydrogen energy has emerged as a strategic clean energy carrier. It enables low- to zero-carbon emissions and links power, industry, and transportation, enhancing energy system flexibility and reliability. However, challenges remain in the efficient integration and optimization of hydrogen systems. This Special Issue highlights advancements in hydrogen energy system integration, modeling, and optimization, fostering interdisciplinary collaboration and innovation. We invite original research contributions on topics such as the following: - Integration and optimization of green hydrogen production and storage; - Multi-energy systems coupling hydrogen and renewables; - Optimization and scheduling of hydrogen systems across timescales; - Cross-sectoral applications in power, industry, and transportation; - Economic evaluation and business model innovation; - AI-driven planning and optimization of hydrogen systems.

Guest Editors

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