

Special Issue

Innovative Gas Hydrate Technologies for a Sustainable Energy Future

Message from the Guest Editors

This Special Issue, titled “**Innovative Gas Hydrate Technologies for a Sustainable Energy Future**”, seeks high-quality contributions from researchers working on fundamental, applied, and interdisciplinary aspects of gas hydrate science and technology. Topics of interest include, but are not limited to, the following:

- Gas hydrate formation and dissociation kinetics;
- Hydrate-based gas storage and transportation (e.g., methane and hydrogen);
- CO₂ capture and sequestration via hydrate formation;
- AI and machine learning in gas hydrate research;
- Experimental and molecular simulation studies on hydrate phase behavior;
- Hydrate applications in seawater desalination and cold energy;
- Hydrate formation in porous and confined media;
- Thermodynamic modeling and predictive frameworks for hydrate systems;
- Hybrid hydrate systems integrating IoT for process control;
- Sustainable hydrate-based separation technologies.

Guest Editors

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