

## Special Issue

# Enhanced Research on CO<sub>2</sub> Capture–Transport– Sequestration Technology Based on Hydrate Technology

### Message from the Guest Editors

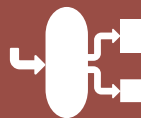
This Special Issue aims to showcase cutting-edge advancements in enhancing hydrate-based CCS technology. We welcome the submission of original research and reviews focusing on high-density and efficient formation of CO<sub>2</sub> hydrates (e.g., thermodynamic/kinetic analysis), thermodynamic/kinetic promoter optimization (e.g., composite, green, and nanomaterial-based promoters), multi-factor regulation (salinity, pH, reservoir properties), process intensification (mechanical, chemical, and external field stimulation), and multi-scale modeling (molecular dynamics to field-scale simulations). We particularly encourage contributions addressing promoter environmental adaptability, cross-stage synergy in CCS chains, and technoeconomic evaluation. This Special Issue seeks to integrate fundamental insights and engineering innovations, accelerating the transition of hydrate-based CO<sub>2</sub> management from laboratory research to practical applications for global carbon neutrality.

### Guest Editors

Dr. Jiaqi Wang  
Dr. Kun Ge  
Dr. Zhen Long

### Deadline for manuscript submissions

30 June 2026



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You are invited to contribute either a research article or a comprehensive review for consideration and publication in *Processes* (ISSN 2227-9717). *Processes* is published in open access format – research articles, reviews, and other content are released on the internet immediately after acceptance. The scientific community and the general public have unlimited, free access to the content. As an open access journal, *Processes* is supported by the authors and their institutes through the payment of article processing charges (APCs) for accepted papers. We would be pleased to welcome you as one of our authors.

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