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Innovation in Adsorption Processes and Materials for CO₂ Capture

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Message from the Guest Editors

One of the most promising alternatives to reduce the increasing amount of CO₂ released into the atmosphere and its negative impact on global climate change is represented by CO₂ capture and storage (CCS). The main explanation for the slow deployment of fully integrated commercial CCS schemes is the considerable cost of the capture phase, which approximately represents two thirds of the total cost of the whole process. In this context, the choice of the adsorbent material represents a critical point for the success of this approach. Indeed, the sorbent should combine low cost with versatility and good performances.

Therefore, the development of innovative adsorption materials and processes for CO₂ capture are essential in this perspective. The topics that would be covered in this Special Issue include but are not limited to the synthesis, characterization, and application of novel and advanced solid sorbent materials and systems for CO₂ capture by adsorption. Articles focusing on the environmental aspects related to CO₂ adsorption or life cycle analysis will also be welcome.



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Special Issue



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Message from the Editor-in-Chief

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