



Advanced Composite Materials for Gas Adsorption and Separation

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Message from the Guest Editors

Dear Colleagues,

Today, gas adsorption and separation represent a very important direction to fight climate change. Advanced solid porous materials such as mesoporous adsorbents, metal–organic frameworks, and zeolites represent a promising direction for CO₂ capture and separation due to their high efficiency and low energy consumption.

The pore size and pore volume of the advanced solid mesoporous materials significantly affect the gas capture performance of amine-grafted and amine-impregnated adsorbents. The synthesis of these materials functionalized with different amine groups with high adsorption capacity for the gas capture process represents an important task for the future. The characterization of these materials from the structural, thermal program adsorption–desorption, and regeneration points of view are also important for future industrial CO₂ capture applications.

In this Special Issue, I have the pleasure of inviting you to contribute with new research material in this scientific domain, dedicated to innovative advanced solid porous materials for gas adsorption and separation.





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Message from the Editor-in-Chief

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