Special Issue

Applications and Challenges in Carbon Capture, Utilization and Storage

Message from the Guest Editors

Carbon Capture, Utilization and Storage (CCUS) refers to a suite of technologies that can play an important and diverse role in meeting global energy and climate goals. CCUS schemes can be classified by their capacity and permanence of storage, environmental consequences, and cost of implementation. Any viable system for storing carbon must be effective and cost competitive, stable as long-term storage, and environmentally benign. The challenges in scaling the industry, as with most industries, lie primarily in the cost of developing and operating the necessary infrastructure. Technical innovation through improved capture technologies and modelling of transport and storage will be important in mitigating these costs. This Special Issue will publish high-quality, original research papers, in the overlapping fields of: CO2 capture (pre-combustion, oxy-fuel combustion, post-combustion, chemical looping combustion, etc.); CO2 utilization (CO2 flooding, CO2foam flooding, CO2 huff-n-puff, CO2 fracturing, CO2 thickener, etc.); CO2 storage (CO2-water-rock reaction, CO2/hydrocarbon phase behaviors, storage capability prediction, CO2 leakage, etc.);

Guest Editors

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Deadline for manuscript submissions

closed (20 December 2023)



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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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