Special Issue

Innovation in Adsorption Processes and Materials for CO_2 Capture

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.

Guest Editors

Dr. Federica Raganati
Institute for Research on Combustion (IRC)-CNR, P.le V. Tecchio, 80, 80125 Napoli, Italy

Dr. Paola Ammendola
Institute for Research on Combustion(IRC)–CNR, 80125 Naples, Italy

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Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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