

Special Issue

CO₂ Mineralization of Calcium Silicates Cements

Message from the Guest Editors

In the last few decades, the construction industry has faced significant challenges due to its excessive consumption of natural resources and its contribution to greenhouse gas emissions. To limit the global temperature rise to 2°C, a drastic reduction in CO₂ emissions from cement production is crucial. The high CO₂ footprint of Portland cement (PC) is caused by the decomposition of limestone and the consumption of flue during the sintering of clinker, which consists of alite and belite as the main mineral phases. One of the most feasible options to reduce the CO₂ footprint in cement production is to utilize alternative low-lime calcium silicates such as wollastonite. To enhance the reactivity of these low-lime calcium silicates, carbonization mineralization is an effective technology. This field is rapidly advancing into new areas of discovery. However, the carbonation process, microstructure evolution, controlling of phase assemblage, origin of cementitious ability of the carbonation products, and performance enhancement methods have not been thoroughly explored. It is my pleasure to invite you to submit full papers, communications, or reviews for this Special Issue.

Guest Editors

Dr. Ye Li

School of Civil and Environmental Engineering, Harbin Institute of Technology, Shenzhen, China

Prof. Dr. Ao Zhou

School of Civil and Environmental Engineering, Harbin Institute of Technology, Shenzhen, China

Deadline for manuscript submissions

20 February 2025



Materials

an Open Access Journal
by MDPI

Impact Factor 3.1
CiteScore 5.8
Indexed in PubMed



mdpi.com/si/173866

Materials

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

[mdpi.com/journal/
materials](https://mdpi.com/journal/materials)





Materials

an Open Access Journal
by MDPI

Impact Factor 3.1
CiteScore 5.8
Indexed in PubMed



[mdpi.com/journal/
materials](https://mdpi.com/journal/materials)



About the Journal

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

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q1 (Metallurgy and Metallurgical Engineering) /
CiteScore - Q2 (Condensed Matter Physics)