Special Issue

CO_2 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.

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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.

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