Special Issue

Sustainable Cement Materials: Preparation, Experimental Analysis and Engineering Applications

Message from the Guest Editors

The production of Portland cement requires significant natural resources and energy and generates CO2 emissions, all of which contribute to substantial environmental impact and climate change. Driven by the goal of carbon neutrality in the cement and construction industry, considerable efforts have been made to explore various strategies, including carbon capture, the use of supplementary cementitious materials, the development of low-carbon alternatives and waste recycling.

This Special Issue focuses on research related to sustainable cement materials, including, but not limited to, composition, processing, rheology, hydration, mechanical performance, durability, microstructure and life cycle assessment. It also encompasses applications in engineered cementitious composites (ECCs), ultra-high performance concrete (UHPC), 3D-printed concrete (3DPC), limestone calcined clay cement (LC3), cement composites containing biomass or industrial ashes, alkali-activated materials, asphalt- and magnesium-based materials, recycled aggregate concrete (RAC), recycled fiber-reinforced construction materials, carbon sequestration technologies, self-healing concrete and demonstration projects.

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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.

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