







an Open Access Journal by MDPI

Environmental Performance Assessment of Cementitious Construction Materials and Structures

Guest Editor:

Prof. Dr. Zhuguo Li

Department of Architectural Design and Engineering, Graduate School of Science and Technology for Innovation, Yamaguchi University, Ube 755-8611, Japan

Deadline for manuscript submissions:

20 October 2024

Message from the Guest Editor

The cement industry contributes 6-8% of global CO2 emissions. Various technologies have been developed to reduce these emissions, such as CO2 capture, waste utilization, and alternative cement materials like geopolymer. Self-compacting and 3D-printed concrete can also reduce the environmental impact during construction. However, these processes also emit CO2, so a comprehensive assessment of the life cycle of materials and structures is needed. Using recycled materials not only reduces carbon emissions but also conserves resources. Life cycle assessment (LCA) allows for comparisons between different materials and structures.

This Special Issue focuses on publishing LCAs of cement-based materials and structures using alternative raw materials or new techniques. Topics include LCIAs, energy consumption analysis, environmental performance, and waste utilization evaluations.













an Open Access Journal by MDPI

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

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The iournal covers twenty-five comprehensive biomaterials, energy materials, advanced composites. advanced materials characterization, porous materials, manufacturing processes and systems. 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.

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*)

Contact Us

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