Special Issue

Environmental Performance Assessment of Cementitious Construction Materials and Structures

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.

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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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