Special Issue

Green and Sustainable Concrete Materials

Message from the Guest Editor

Concrete is the most widely used construction material in the world, and is typically produced using Portland cement (PC) as a binder. The PC manufacturing process produces high carbon dioxide emissions due to the calcination of limestone and the combustion of fossil fuels, making its use in concrete construction a critical environmental issue. On the other hand, with the rising demand for a more cost-effective concrete binder, an alternative source to PC is needed. To date, new green and sustainable concrete systems, such as geopolymer concrete, magnesium phosphate concrete, and concrete containing supplementary cementitious materials, have been extensively explored in concrete research. This Special Issue aims to highlight current advances in concrete research on environmentally friendly or cost-effective concretes, as well as waste recycling. Papers should focus on, but are not limited to: the properties, evaluation, novel manufacturing/experimental techniques, analytical methods, microstructure, modeling, design, production, and practical applications of new binders/aggregates in concrete.

Guest Editor

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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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