Special Issue

Research on Mechanical Properties and Finite-Element Analysis of Concrete Structures

Message from the Guest Editors

The use of concrete is increasing due to its raw materials, low price, and simple production process. It is also widely used because of its high compressive strength, good durability. It is used in various civil engineering applications, also in shipbuilding, machinery industry, and marine development, geothermal engineering, etc.

Concrete material is a typical multi-scale composite material. At the mesoscale, concrete material can be considered as a three-phase material composed of aggregate, mortar, and interfacial transition zone. The macro properties of concrete structures are affected by their structure at the mesoscale and below. At the same time, concrete structures are affected by external factors in their service life, resulting in the evolution of the properties of the concrete materials and affecting the service life.

This Special Issue will cover topics related to concrete materials and structures, including but not limited to the mechanical properties, numerical simulation, multi-scale analysis, multiphysics coupling, damage and fracture performance, new concrete materials, among others. It is our pleasure to kindly invite you to submit manuscripts for this SI.

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Deadline for manuscript submissions

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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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