Special Issue

Design and Properties of 3D Printing Concrete

Message from the Guest Editor

Concrete 3D printing has received a lot of interest in recent years, leading to the development of new concepts, printing devices and construction designs. The disruptive development of 3D printing in the building field has induced multidisciplinary research development, leading to new mixed designs of printable materials, the definition of fresh state properties and rheological behaviour requirements, structural and architectural designs of printed structures using topology optimization, and robotics innovation. This Special Issue focuses on works related to those innovations. Paper topics can include many aspects related to the digital fabrication of concrete and cement-based materials: processing, case studies, fresh state properties and rheological requirements, the mechanical behaviour of printed cement-based material, the structural design of printed parts and structures, and environmental and economic impacts. This Special Issue is expected to provide a collection of articles showing an overview of recent advances in the field of concrete 3D printing and drawing future perspectives for these new revolutionary methods.

Guest Editor

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Deadline for manuscript submissions

closed (20 February 2025)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/144408

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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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