Special Issue

Smart Cementitious Materials: From Self-Healing to Self-Sensing Abilities

Message from the Guest Editors

In recent years, there has been a spectacular increase in publications related to cement-based materials with special properties, such as self-healing concrete, photocatalytic concrete, or self-sensing concrete. Different self-healing technologies have been developed, both based on solutions promoting the autogenous self-healing properties of cement-based materials, such as the addition of crystalline admixtures or superabsorbent polymers, and based on solutions incorporating healing agents to the mix, generally protected by capsules. Self-diagnosis concrete has also made significant progress in recent years. The incorporation of electrically conductive nanomaterials into the cementitious mixture, such as carbon nanotubes, graphene, and metal oxides, favors the formation of a conductive network in the cementitious matrix that increases the sensitivity of concrete to stress or deformation. With this Special Issue, we aim to compile the latest advances in the development of different technologies to obtain self-healing concrete or self-diagnostic concrete, as well as in the development of specific tests to determine their efficiency and performance.

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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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