Special Issue

Self-Healing Concrete and Cement-Based Materials

Message from the Guest Editors

Deterioration of concrete is often associated with the ingress of external agents, and thus the presence of cracks can dramatically shorten the service life of conventional concrete structures. One of the possible solutions to mitigate cracks in concrete is autonomous healing, which relies on activities other than those of cement-based materials. Autonomous healing has been gaining the interest of many researchers who have explored the effectiveness of bacterial crystallization, encapsulation/vascular, expansion polymer/crystal, electrodeposition, shape memory alloy, fibers, and nanoparticles toward the self-healing of concrete. The articles in the Special Issue will cover, but will not be limited to, the following topics:

- Self-healing concrete methodologies using additives, bacteria, microcapsules
- Self-healing mechanism and modeling
- Autogenous and autonomous self-healing
- Application of self-healing techniques to repair, coating, etc.
- Evaluation and monitoring of self-healing

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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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