Special Issue

High-Performance Concrete: Synergies Between Material Innovation and Structural Health Monitoring

Message from the Guest Editors

High-performance concrete (HPC) is an advanced type of concrete distinguished by its superior mechanical properties, enhanced durability, and improved sustainability compared to its conventional form. With the increasing demands of HPC applied in modern infrastructure, this Special Issue explores the performance of HPC in terms of synergies between material innovation and structural health monitoring, aiming to address critical challenges in optimizing HPC's mechanical properties, durability, and environmental sustainability while advancing real-time performance assessment and predictive maintenance frameworks. Overall, this Special Issue seeks to combine the benefits between new material design and advanced structural health monitoring technology, thereby fostering the development of resilient and intelligent concrete infrastructures. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following: nanomaterials, engineered cementitious composites, AI-driven property prediction models, and integrated sensor networks for damage detection. We look forward to receiving your contributions.

Guest Editors

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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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