Special Issue

Intelligent Damage Detection of Materials and Structural Health Monitoring Technology

Message from the Guest Editors

Early-stage defects and damage in structural materials can propagate, compromising the safety and integrity of the structures. Consequently, there is increasing demand for advanced structural health monitoring (SHM) technologies to assess the condition of structural materials in aging structures. This Special Issue aims to compile cutting-edge research on intelligent damage detection and SHM methodologies specifically focused on structural materials. Topics of interest include, but are not limited to, the following:

- Characterization and property prediction of structural materials for SHM;
- Intelligent damage detection in structural materials (concrete, steel, and composites);
- Defect identification in structural materials using deep learning;
- Signal processing and modal analysis for SHM of structural materials;
- Physics-informed machine learning for structural materials;
- Failure prognostics and remaining useful life prediction of materials;
- Condition assessment and integrity evaluation of structural materials;
- Structural model updating.

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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