

Special Issue on  
**Intelligent Techniques for Structural Health Monitoring of Civil Engineering Structures 2023**

# CALL FOR PAPERS

Structural health monitoring (SHM) refers to the process of damage identification. It enabled us to observe the changes in the structural responses of a civil engineering structure using sensory systems. Recent advances in sensing technologies and machine learning have opened a new paradigm for SHM with cost-effectiveness and real-time operation. A substantial amount of structural information can be effectively collected from a complex real-world structure through a smart sensor network.

However, it requires advanced and intelligent data analytic tools to extract useful information for the assessment of structural conditions and the diagnosis of structural damage. SHM using traditional physics-based approaches shows less practicality for realistic applications due to the complexity of in-situ structures, environmental changes, operational conditions, and the existence of structural damage. Data-driven approaches based on machine learning have helped us create methodologies that can more accurately predict the structure damage under a high level of uncertainty.

The aim of this Special Issue is to bring together original research and review articles discussing intelligent SHM techniques as the combination of innovative machine learning strategies with smart sensors for enhancing performance and realizing the goal of SHM.

Potential topics include but are not limited to the following:

- ▶ Structural health monitoring (SHM) and damage identification
- ▶ Big data and intelligent monitoring techniques for SHM
- ▶ Smart sensor and innovative sensing technologies
- ▶ Sensors and sensor networks for SHM
- ▶ Vision sensor-based SHM
- ▶ Piezoelectric sensor-based SHM
- ▶ Advanced data processing techniques for SHM
- ▶ Uncertainty and errors in SHM and damage assessment
- ▶ Intelligent structures and materials for SHM
- ▶ Local and global SHM methods
- ▶ Real-world SHM applications

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.wiley.com/submit?specialIssue=261849>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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