Special Issue

Sustainable Structural Health Monitoring in Civil Engineering

Message from the Guest Editors

With the rapid acceleration of global urbanization and the aging of infrastructure, structural health monitoring (SHM) for civil engineering structures has become a critical component in ensuring public safety and promoting sustainable development. SHM technology enables the real-time monitoring and performance evaluation of civil engineering structures, effectively preventing disasters, extending service life, and reducing maintenance costs. However, in practical applications, traditional SHM systems face challenges such as high energy consumption, complex data processing, and limited economic viability. As a result, the integration of sustainability concepts into structural health monitoring has emerged as a key area of research and an inevitable trend for future development. This Special Issue invites contributions that address both the challenges and opportunities in sustainable SHM. Topics of interest include the following:

- Sustainable sensing technologies
- Data-driven sustainability design
- Life cycle management and assessment of civil structures
- Al-driven structural health monitoring
- Structural damage assessment
- Case studies and practical applications

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I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

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