



New Technologies in Non-destructive Testing and Structural Health Monitoring

Guest Editors:

Dr. Shirsendu Sikdar

Cardiff School of Engineering,
Cardiff University, The Parade,
Queen's Building, Cardiff CF24
3AA, UK

Dr. Abhishek Kundu

Cardiff School of Engineering,
Cardiff University, The Parade,
Queen's Building, Cardiff CF24
3AA, UK

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Message from the Guest Editors

The purpose of this Special Issue is to provide an interdisciplinary forum for discussion on structural health monitoring (SHM); nondestructive testing/evaluation strategies associated with smart structures; civil/mechanical/aerospace/materials/construction engineering; material science; and computer science.....As such, this Special Issue will cover the analysis of various types of materials (e.g., composite, metallic, concrete, amongst others) and through manual, semi-automatic, and automated techniques. Topics of interest include, but are not limited to, the following:

- SHM and NDT methods for the assessment of valuable assets;
- New signal processing and filtering methods;
- Artificial intelligence, machine learning, and data mining;
- Damage modeling and fracture simulation;
- Ultrasonic signals and their applications;
- Uncertainty quantification and management;
- Acoustic emission, guided waves, and electromechanical impedance.
- Vibration-based SHM;
- Damage identification;
- Sensors and actuators.



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Special Issue



Editor-in-Chief

Prof. Dr. David Arditi

Construction Engineering and Management Program,
Department of Civil,
Architectural, and Environmental
Engineering, Illinois Institute of
Technology, 3201 South
Dearborn Street, Chicago, IL
60616, USA

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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Contact Us

Buildings Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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