Special Issue

Advanced Damage Detection and State Monitoring Technologies for Engineering Structures

Message from the Guest Editors

With the rapidly evolving environment, engineering materials and structures face unprecedented challenges. Aging infrastructure, environmental hazards, and escalating demands for safety and durability underscore the pressing need for advanced monitoring and diagnostic methodologies. In this context, innovative nondestructive testing techniques integrated with intelligent algorithms have emerged as transformative tools, enhancing detection accuracy while facilitating proactive maintenance and timely decision-making. This Special Issue seeks to present state-of-the-art research and recent advancements in nondestructive evaluation (NDE) and structural health monitoring (SHM) technologies and intelligent algorithms tailored to structural engineering applications. We invite high-quality original research articles and comprehensive review papers addressing, but not limited to, the following topics:

- Damage characterization of engineering materials;
- Intelligent monitoring and sensing;
- Structural state evaluation based on signal analysis;
- Applications of deep learning in NDE and SHM;
- Big data methods.

Guest Editors

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Deadline for manuscript submissions

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About the Journal

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.

Editor-in-Chief

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