

Special Issue

Advances in Structural Health Monitoring and Industry 5.0 Innovations for Bridge Management and Conservation

Message from the Guest Editors

Within the context of bridge management and conservation, this Special Issue investigates how Industry 5.0 is transforming Structural Health Monitoring (SHM), i.e., the process of assessing the condition of structures in real-time or at regular intervals. Specifically, we will explore how emerging technologies—such as data acquisition, automated processes, and digital information and analysis—are revolutionizing the ways in which bridges are monitored, assessed, and maintained. These innovations enable better damage identification, facilitating proactive maintenance strategies and enhancing the overall resilience and efficiency of bridge infrastructures. We invite contributions on:

- Sensor placement optimization.
- Automation of damage detection, localization, and quantification.
- Data mining and data fusion strategies for bridge SHM applications.
- Data-driven, model-based, and hybrid SHM novel strategies.
- Remaining bridge service life prediction.
- SHM-aided decision-making processes.
- Smart sensors, AI-driven analytics, and digital twins.

Guest Editors

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