Special Issue

Non-destructive Evaluation, Structural Health Monitoring, Vibration Analysis and Maintenance of Bridges with Steel Elements

Message from the Guest Editor

This Special Issue will compile articles on a wide range of topics related to the existing and new non-destructive evaluation (NDE) methods, structural health monitoring (SHM), and damage detection techniques applicable to bridge steel elements and steel bridges. Topics on damage detection and structural health monitoring using all varieties of methods including but not limited to hands-on non-destructive testing (NDT), the use of non-contact or vision-based sensors and instrumentation, load testing, and vibration analysis are encouraged. Maintenance approaches that use the results of NDE and SHM to devise preventive and preservation tactics for steel bridges and elements will also be considered for publication in this issue. It is understood that the structural health monitoring and condition assessment have evolved significantly in recent years with the introduction of innovative sensors, data communication, and non-destructive evaluation. Therefore, innovative approaches to health monitoring and condition assessment of bridge steel elements are specially solicited for this special issue, along with new approaches to maintenance.

Guest Editor

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Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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