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## **Editorial**

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From a perspective of performance, worldwide, many infrastructure systems are approaching the end of their design lives, and require major repair, retrofit or replacement. Therefore, there is a crucial need for design/decision-making methodologies and protocols that will assure maintaining the safe operation of infrastructures. These methods will assist practising engineers to decide whether to repair or replace an infrastructure system. Moreover, they can be used to perform the cost analysis for construction and maintenance of such systems.

While providing solutions for real-life problems represents the ultimate goal of the engineering profession, it is also crucial to retain the rigour of mathematical formulations, and their computational implementations, to ensure safety, reliability, and more accurate predictions for service life of an infrastructure system. The keystone in this aspect is the development of appropriate models for new as well as existing infrastructures and by employing realistic information suitable for the evaluation of the system's parameters.

This special issue on 'Reliability and Computations of Infrastructures' provides support for translation of reliable engineering computing into general engineering practice. This special issue is based on the 6th International Conference on Reliable Engineering Computing held at the Illinois Institute of Technology, Chicago, IL, USA, in May 2014. The papers present a unique symbiosis of various engineering and associated disciplines with the kernel areas of civil/mechanical engineering, computer science, and mathematics. This special issue brings about examples of several areas, as related to reliability and computations of infrastructures, where scientific and mathematical modelling can be employed in specific applications.