

Editorial

Delaware's Indian River Inlet Bridge opened to traffic in May of 2012. The cable-stayed bridge has a main span of 289 m and back spans of 121 m. It was constructed using a combination of cast-in-place and pre-cast reinforced concrete. In an effort to enhance the long-term maintenance and management of this significant infrastructure, a comprehensive structural health monitoring (SHM) system was installed on the bridge. In "Indian River Inlet Bridge (Part A): description of the bridge and the structural health monitoring system", Shenton et al provide an overview of the SHM system, including the types and layout of the sensors, and the fiber-optic network. In "Indian River Inlet Bridge (Part B): Lessons Learned From the Design, Installation, and Operation of the Structural Health Monitoring System", Shenton et al report on key lessons learned during the design, construction, operation, and maintenance of the SHM system. This is hoped to shed light on the process of monitoring to advance SHM technology. Spatial variability of seismic ground motion is characterized by wave passage effect, which is caused by finite velocity of traveling waves, loss of coherency, refraction and superposition of the

incident seismic waves and site effect due to the differences of local soil conditions. Such ground motion spatial variations may result in different seismic responses of a long dimensional structure in comparison with uniform excitation of seismic waves through the support points. In "Evaluation of long bridges dynamic responses under the effect of spatially varying earthquake ground motion", Hoseini et al propose an analytical formulation in time domain proposed instead of using numerical methods. The first known viaduct construction with movable scaffolding system is traced back to the early 1960's. During the 1970's, the use of this construction technology gained popularity in Europe. In "Numerical study of a new construction sequence for railway viaducts utilizing a movable scaffolding system", Díaz de Terán et al. present analysis of the system in comparison with other construction methods.

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