



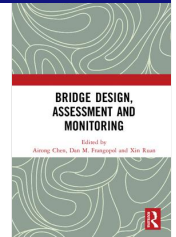
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# Bridge Design, Assessment and Monitoring

Edited by [Airong Chen](/products/search?author=Airong Chen), [Dan M. Frangopol](/products/search?author=Dan M. Frangopol), [Xin Ruan](/products/search?author=Xin Ruan)

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## Description

Bridges play important role in modern infrastructural system. This book provides an up-to-date overview of the field of bridge engineering, as well as the recent significant contributions to the process of making rational decisions in bridge design, assessment and monitoring and resources optimization deployment for the purpose of enhancing the welfare of society.

Tang specifies the purposes and requirements of the conceptual bridge design, considering bridge types, basic elements, structural systems and load conditions. Cremona and Poulin propose an assessment procedure for existing bridges. Kallias et al. develop a framework for the performance assessment of metallic bridges under atmospheric exposure by integrating coating deterioration and corrosion modelling. Soriano et al. employ a simplified approach to estimate the maximum traffic load effect on a highway bridge and compare the results with other approaches based on on-site weigh-in-motion data. Akiyama et al. propose a method for reliability-based durability design and service life assessment of reinforced concrete deck slab of jetty structures. Chen et al. propose a meso-scale model to simulate the uniform and pitting corrosion of rebar in concrete and to obtain the crack patterns of the concrete with different rebar arrangements. Ruan et al. present a traffic load model for long span multi-pylon cable-stayed bridges. Khuc and Catbas implement a non-target vision-based method for the measurement of both static and dynamic displacements time histories. Finally, Cruz presents the career of the outstanding bridge engineer Edgar Cardoso in the fields of bridge design and experimental analysis.

The book serves as a valuable reference to all concerned with bridge structure and infrastructure systems, including students, researchers, engineers, consultants and contractors from all areas sections of bridge engineering.

The chapters originally published as a special issue in *Structure and Infrastructure Engineering*.

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## About the Editors

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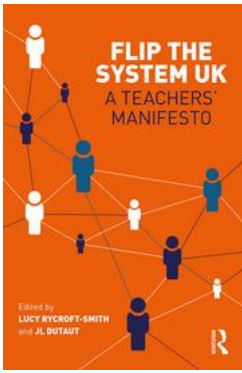
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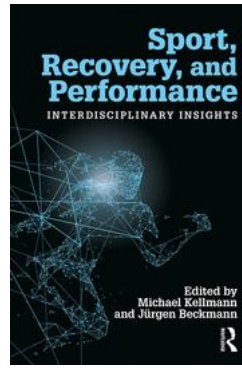
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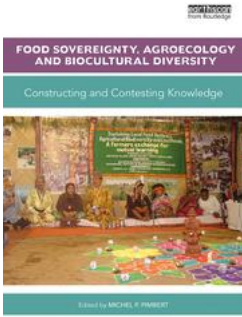
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