

## Book Review

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# *Journal of Bridge Structures' Book Award*

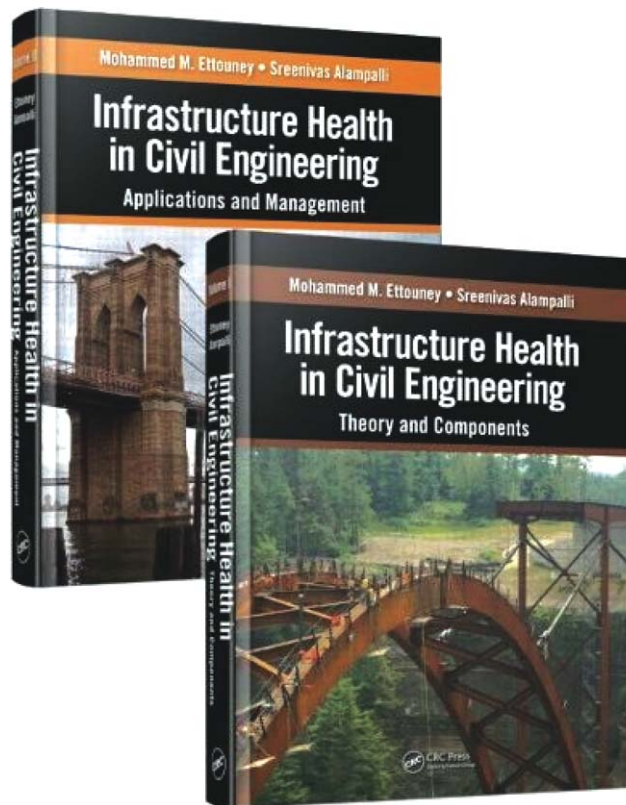
I am pleased to announce inauguration of the *Journal of Bridge Structures' Book Award*. The inaugural *Journal of Bridge Structures' Book Award* goes to “Infrastructure Health in Civil Engineering, Volume I: Theory and Components, and Volume II: Applications and Management”, published by CRC Press, Boca Raton, FL, 2011; Volume I: ISBN 978-0-8493-2040-8; Volume II ISBN 978-1-4398-6653-5, Two-volume set ISBN 978-1-4398-6655-9.

Dr. Mohammed Ettouney and Dr. Sreenivas Alampalli authored the two-volume book on “Infrastructure Health in Civil Engineering.” The two authors possess both research and practical experience in dealing with infrastructure, specifically bridge safety, security, evaluation, and management. Dr. Ettouney is a principal at Weidlinger Associates, based in New York City. He has more than 40 years of experience in structural engineering and hazard-related disciplines, including earthquake engineering, blast engineering, vibration and acoustic mitigation, soil mechanics and dynamics, and structural health engineering. Dr. Ettouney published more than 275 papers and contributed to five books on these subjects. He is a licensed Professional Engineer and has a B.S. in civil engineering, M.S. in structural engineering from Cairo University, Sc.D. in structural mechanics from the Massachusetts Institute of Technology and MBA from Long Island University. Dr. Ettouney serves on the steering committee for development of a second-generation performance-based seismic design code (ATC-58), under FEMA sponsorship. Dr. Alampalli is the Director of the Structures Evaluation Services Bureau at the New York State Department of Transportation (NYSDOT). He is a licensed Professional Engineer, and he obtained his Ph.D. and MBA from Rensselaer Polytechnic Institute, M.S. from Indian Institute of Technology

(IIT), Kharagpur, India, and B.S. from S.V. University, Tirupati, India. He published more than 250 technical publications. Dr. Alampalli chairs the National Academies Expert Task Group on “Bridge Evaluation and Monitoring” to support FHWA’s Long-Term Bridge Performance Program. He is currently the editor of the International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII) “Monitor” and serves on the editorial board of the *Journal of Bridge Structures* and *Journal of Structure and Infrastructure Engineering*.

“Infrastructure Health in Civil Engineering” describes the authors’ philosophies and experiences in dealing with infrastructure assets and has potential to enhance understanding of both researchers and practitioners in the area of structural health with emphasis on decision-making in infrastructure maintenance and renewal.

First volume “Infrastructure Health in Civil Engineering: Theory and Components” emphasizes the value and importance of decision-making in the process required to effectively assess, model, and strengthen structural health. It explores philosophies, provides theoretical background while extending it in some areas, and touches on practical issues through several case studies. The structural health field is covered as integration of four bases to produce a comprehensive process for maintaining bridge health: measurements, structural identification, damage identification, and decision-making. The authors argue that decision-making should be the fundamental block of every aspect of infrastructure/bridge management and such objectivity can only be accomplished by the integration of monitoring, analysis, and risk-based management processes. They explore analogies between structural and human health to illustrate key concepts. This volume then covers each



of these elements of infrastructure health in detail, theories of infrastructure health, and different bases/phases of the infrastructure life span.

Second volume “Infrastructure Health in Civil Engineering: Applications and Management” deals with the application of the processes described in volume I to specific demands (scour, fatigue, earthquakes, and corrosion) and FRP applications. These discussions are followed by four chapters on bridge testing, management processes, life cycle analysis of bridges, and finally bridge security to further illustrate the key concept “*Objective management processes and decision-making is the key to healthy infrastructure.*” This volume covers state-of-the-art practices and future directions, use of probability and statistics, numerous practical applications, and use of structural health in civil engineering concepts for management and maintenance of different types of structures.

Overall, the two volumes present strong and comprehensive methodologies for enhancing bridge and other civil infrastructure with emphasis on risk monitoring, life cycle analysis, and decision-making. The book set is pointing the way to a cost-efficient and high performance civil infrastructure future. With a wealth of information for researchers, practitioners, and owners, they are excellent books to have in this reviewer’s opinion.

The editor-in-chief congratulates the authors for the selection of their scientific contribution to receive the inaugural *Journal of Bridge Structures’* Book Award.

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