

Prof. Michel Ghosn de la City University of New York inaugurarà el curs acadèmic 2018 - 2019 de l'Escola de Camins

## Are our bridges falling down?

Making the case for formal reliability assessment and risk management

Escola de Camins

### *Are our bridges falling down?*

#### *Making the case for formal reliability assessment and risk management*

Recent failures, including that of the Morandi Bridge, have increased anxiety about the reliability of our current bridge inventory and the safety of the travelling public. The fear is that ageing, increased traffic volumes and deferred

maintenance of existing bridges, many of which were built based on "cost-optimized design" principles, have increased the risk of structural failures. This situation has compelled highway agencies to explore approaches for improving traditional condition rating, structural assessment and bridge management processes. The presentation will first give an overview of current practice in assessing the performance of existing

bridges and highlight its limitations. The presentation will then discuss approaches to better incorporate field data and consider structural system behavior in a comprehensive reliability-based assessment of bridge structural safety. The paper explains how various proposed improvements form the building blocks for the eventual implementation of risk-based bridge assessment criteria.

### **Michel Ghosn**

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Prof. Ghosn is an expert in the areas of structural reliability and system safety with a particular emphasis on bridge structures. His research includes the analysis and quantification of structural redundancy and robustness of bridge systems; development of load and resistance factor specifications for bridge design and rating; and development of techniques for the reliability assessment of bridge structural systems.

Ghosn is the winner of the 2017 IASSAR Research Award presented every four years by the [International Association on Structural Safety and Reliability](#). Other recognitions include the 2013 IABSE Prize for best scientific paper from the [International Association of Bridge and Structural Engineers](#); and the 2010 IABMAS Prize from the [International Association for Bridge Management and Safety](#). Ghosn is currently the chairman of the [American Society of Civil Engineers'](#) Technical Council on Life-Cycle Performance, Safety, Reliability and Risk of Structural Systems. He also received the CCNY President's 2016 Award for Outstanding Faculty Service in the Grove School of Engineering.