



Multiple-hazard Risk Assessment and Mitigation for Infrastructure

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ABSTRACT

Although in many parts of the country one natural hazard dominates, in certain areas multiple hazards may pose a significant threat to infrastructure. The design and construction practices should address the overall risk to infrastructure from multiple hazards to achieve design strategies and risk levels that are consistent with stakeholder expectations and social objectives. When exposed to hurricanes, earthquakes, flood, and other natural hazards, infrastructure may sustain substantial damage. To mitigate risk from natural hazards cost effectively, decision-making tools must be based on a better understanding of infrastructural performance tools with different levels of hazard-resistant design practices. The focus of this presentation is to demonstrate multiple-hazard risk analysis and mitigation for resilient and sustainable infrastructure.

Numerous studies warn that the built environment will be affected by climate change through rising sea levels and altered patterns of natural hazards. This presentation also discusses the assessment of economic damage due to the change in natural hazard patterns resulting from climate change. Several possible adaptation strategies to such an effect are investigated to achieve a sustainable built environment.



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Venue: Z212

SPEAKER'S BIOGRAPHY

Dr. Yue Li is a Professor in Civil Engineering at Case Western Reserve University. He earned his Ph.D. degree in Civil Engineering from Georgia Institute of Technology in 2005. Dr. Li's research interests include resilient civil infrastructure and sustainability, natural and man-made hazard mitigation. He is an Associate Editor of ASCE Journal of Structural Engineering and Journal of Performance of Constructed Facilities. He is also on the Editorial Board of Structure Safety, and Journal of Sustainable and Resilient Infrastructure. He is the chair of ASCE/SEI committee on Risk Assessment of Structural Infrastructure Facilities and Risk-Based Decision Making, and was the chair of ASCE/SEI committee on Multiple Hazard Mitigation, and Design of Wood Structures. He received Fulbright Award in 2013, Outstanding Paper Award of the ASCE Journal of Performance of Constructed Facilities in 2012, and Michigan Technological University Research Excellence Fund Award in 2008. He has worked as a structural engineer for five years, and was involved in the design of new international terminal at Hartsfield-Jackson Atlanta International Airport.

*** All Interested Are Welcome ***

For further information, please contact Dr. You DONG at Tel. 3400-8818.

Certificates of attendance will be provided to participants if they attend the whole lecture.