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Wind Nonlinear Analysis of Tall Buildings, High-Rise Structures, Flexible Bridges and Transmission Lines

Guest Editor:

Prof. Dr. Zhitao Yan
School of Civil Engineering, Chongqing University, Chongqing 400044, China

Deadline for manuscript submissions:
closed (15 August 2023)

Message from the Guest Editor

In the past decades, the research related to wind-induced vibration, non-linear dynamic behavior and the wind-resistant design of high-rise and long-span structures has advanced. These advancements involved developments in our understanding of the critical effect of wind loads on these structures due to buffeting response under synoptic and localized high-intensity non-synoptic events, using analytical methods, numerical methods and model test techniques. Studies also involved the failures modes, sensitivity analysis, fragility analysis and structural safety assessment of those structures while taking into account the uncertainty and non-linearity in the structural properties.

This Special Issue calls for high-quality unpublished original research articles and reviews which cover ongoing and emerging developments in the wind-induced, non-linear vibration analysis of tall buildings, high-rise structures, flexible bridges and transmission lines.

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Editor-in-Chief

Prof. Dr. David Arditi
Construction Engineering and Management Program, Department of Civil, Architectural, and Environmental Engineering, Illinois Institute of Technology, 3201 South Dearborn Street, Chicago, IL 60616, USA

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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Contact Us

Buildings Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

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buildings@mdpi.com
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