Special Issue

Building Structural Design: Blast Analysis and Progressive Collapse Control

Message from the Guest Editors

Structures designed for extreme loads such as blast and impact are considered ‘protective structures’. However, structures that are not explicitly designed for such loads may still be exposed to extreme events such as blasts and impacts, with the risk of local failure escalating to progressive collapse. Therefore, the need for studies on the behaviour of structures under blast loads and progressive collapse scenarios is essential. The response of structures and infrastructures under these dynamic loads, including the structural damage and prevention of progressive collapse, is specifically of interest. The scope of this Special Issue includes all broad areas of the dynamic response of structures to blast loads and analysis and design aspects of progressive collapse. We welcome submissions that include (but are not limited to) experimental studies, review papers, engineering-level models, analysis and design approaches, theoretical and analytical models and finite element analysis. More details: https://www.mdpi.com/si/137921

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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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