



*sustainability*



*Special Issue Reprint*

## **Sustainable Structural Design for High-Performance Buildings and Infrastructures**

[www.mdpi.com/books/reprint/5506](http://www.mdpi.com/books/reprint/5506)

Edited by  
Chiara Bedon  
Mislav Stepinac  
Marco Fasan  
Ajitanshu Vedrtnam  
Maged A. Youssef



ISBN 978-3-0365-4328-4 (Hardback)

ISBN 978-3-0365-4327-7 (PDF)

Exceptional design loads on buildings and structures may have different causes, including high-strain natural hazards, man-made attacks and accidents, and extreme operational conditions. All of these aspects can be critical for specific structural typologies and/or materials that are particularly sensitive. Dedicated and refined methods are thus required for design, analysis, and maintenance under structures' expected lifetimes. Major challenges are related to the structural typology and material properties. Further issues are related to the need for the mitigation or retrofitting of existing structures, or from the optimal and safe design of innovative materials/systems. Finally, in some cases, no design recommendations are available, and thus experimental investigations can have a key role in the overall process. For this SI, we have invited scientists to focus on the recent advancements and trends in the sustainable design of high-performance buildings and structures. Special attention has been given to materials and systems, but also to buildings and infrastructures that can be subjected to extreme design loads. This can be the case of exceptional natural events or unfavorable ambient conditions. The assessment of hazard and risk associated with structures and civil infrastructure systems is important for the preservation and protection of built environments. New procedures, methods, and more precise rules for the protection of sustainable structures are, however, needed.



Order your Print Copy  
You can order print copies at  
[www.mdpi.com/books/reprint/5506](http://www.mdpi.com/books/reprint/5506)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



### **Open Access**

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



### **Author Focus**

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



### **High Quality & Rapid Publication**

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



### **High Visibility**

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



### **Print on Demand and Multiple Formats**

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.