

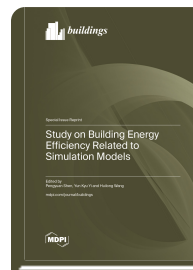
*Special Issue Reprint*

## **Study on Building Energy Efficiency Related to Simulation Models**

[www.mdpi.com/books/reprint/11601](http://www.mdpi.com/books/reprint/11601)

Edited by  
Pengyuan Shen  
Yun Kyu Yi  
Huילong Wang

ISBN 978-3-7258-5425-7 (Hardback)  
ISBN 978-3-7258-5426-4 (PDF)



This Special Issue focuses on the need for advanced simulation techniques and computational methods in improving building energy efficiency. With increasing trends in global energy consumption and the escalating impact of climate change, reliable predictive modeling of building performance and energy consumption has become a critical part of sustainable construction. This Reprint gathers the state-of-the-art research that fills the gap between theoretical modeling and practice in the energy management and environmental performance of buildings. This collection includes a variety of methodological approaches, such as machine learning models for predicting thermal loads and advanced computation methods used to optimize an HVAC system. The presented studies have explored diverse building typologies in diverse climate regions, covering retrofit impact in various climatic regions, energy disaggregation for buildings, and improved methods of thermal bridge analysis. Collectively, these contributions extend the scientific understanding of optimizing building performance using advanced modeling approaches, facilitating the shift toward a net-zero energy future and sustainable development for the building sector.

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.