Special Issue

Scaling and Small-Sample Techniques for Building Acoustics

Message from the Guest Editors

In recent years, new acoustic materials and construction solutions have emerged. One reason for this progress is the need to keep waste to a minimum so as to reuse and recycle materials, while another is to enable new bio- or eco-materials to be obtained through non-polluting processes. For acoustic applications, it is necessary to understand the properties of the materials being used. In many cases, measurements over large surfaces are required. An example is the measurement of sound insulation or sound absorption in standardized chambers. However, manufacturing new materials at the laboratory level can be costly and risky, as there are no guarantees that the potential solutions will have acoustic properties. In such circumstances, the use of scaled cameras, wave tube estimates, or hybrid techniques between measurement and prediction can help to reduce costs and improve the final samples. The purpose of this Special Issue is to develop possible scaling techniques at an experimental or theoretical level that allow for the estimation or prediction of the behavior of new acoustic materials or construction solutions.

Guest Editors

Prof. Dr. Jesús Alba Fernández
Higher Polytechnic School of Gandia, Universitat Politècnica de València, 46730 Gandia, Spain

Prof. Dr. Ignacio Enrique Guillén Guillamón
School of Architecture, Universitat Politècnica de València, 46022 València, Spain

Deadline for manuscript submissions

31 January 2026

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/244801

Buildings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
buildings@mdpi.com

mdpi.com/journal/buildings

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/journal/buildings

About the Journal

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.

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

Author Benefits

High Visibility:

indexed within SCIE (Web of Science), Scopus, Ei Compendex, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Construction and Building Technology) / CiteScore - Q1 (Architecture)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).