

**EDITORIAL**

Introduction to the Special Issue on Perspectives on Soundscape and Challenges of Noise Pollution: A Multidisciplinary Approach to Sustainable Environmental Solutions

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Over the past two decades, research on the subject of noise pollution and urban soundscapes has seen significant growth [1,2]. The goal of these studies was to gain a better understanding of the urban acoustic environment by employing various methodologies and techniques to delve into the complexity of this topic. These research efforts have primarily revolved around two fundamental axes [3].

On one hand, the first axis focused on combating noise pollution [4–6], emphasizing the reduction of unwanted sounds and compliance with sound levels set by environmental and health protection organizations [7,8]. On the other hand, the second axis delved into how individuals perceive and interpret sounds in their environment, highlighting the significance of sound perception [9]. This sound perception plays a critical role in evaluating soundscapes and raises various questions, including those related to measurement techniques, their limitations, sampling biases, and social influences [10]. These elements provide valuable insights for shaping the design of soundscapes according to social objectives and desired outcomes.

In the context of increasing and rapid urbanization, the complex interaction between human activities and the acoustic environment has become a major concern [6,11,12]. As urban landscapes expand and lifestyles evolve, the prevalence of noise pollution has significantly increased, affecting both individual well-being and public health, while also jeopardizing the delicate balance of the urban ecosystem [13–15]. Recognizing the pressing need for sustainable solutions, this special issue, titled “Perspectives on Soundscape and Challenges of Noise Pollution: A Multidisciplinary Approach to Sustainable Environmental Solutions,” aims to shed light on the complexity of the soundscape and the issues related to noise pollution. It brings together various disciplines with the aim of creating harmonious, healthy, and comfortable acoustic environments.

With the ambition to enhance our understanding of soundscape dynamics and the complexities of noise pollution, we have developed this special issue that bridges gaps across diverse research domains. By assembling experts from distinct fields, our objective is to present a multidisciplinary panorama of noise management and soundscape design. We prioritize the exploration of innovative techniques and sustainable strategies capable of reducing noise pollution and improving acoustic comfort.

This special issue invites contributions that shed light on a range of dimensions related to soundscape perspectives and challenges posed by noise pollution. We welcome a wide array of submissions, including



original research articles, review papers, and case studies. Some key themes within this framework include effects on human health, environmental impacts, noise mitigation strategies, soundscape design and urban planning, psychoacoustics and perception, cultural perspectives, legal and policy frameworks, as well as innovative approaches to education and awareness.

As we compile the ideas from this collection, our ambition extends beyond the academic realm. We aspire to provide a resource that resonates with decision-makers, urban planners, designers, researchers, and citizens alike. By weaving together, the diverse threads of soundscape perspectives and challenges posed by noise pollution, our intention is to inspire sustainable planning and harmonious coexistence in both urban and rural settings. Our aspiration is that this compilation fosters a deeper understanding of the nuances of noise pollution and encourages a holistic approach to crafting acoustic environments that enrich lives while preserving the environment. Through this special issue, we invite you to join us on a journey towards acoustic equilibrium and sustainable acoustic horizons.

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