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TOWARDS THE CREATION OF AN IBERO-AMERICAN URBAN SOUNDSCAPE NETWORK FOR COLLABORATION, PRESERVATION AND PROMOTION OF SOUND ENVIRONMENTS

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ABSTRACT

The world is increasingly urbanized, a fact that challenges the inclusion of wellbeing and healthy environments in urban development. The history of cities is reflected in their historical and cultural heritage, with fundamental contributions from urban sounds that must be addressed and, in certain cases, preserved. The need to preserve the sounds that contribute to the identity and character of each city is combined with the challenge of designing acoustic environments that contribute to quality of life. Great importance approach and concept changes are required, which advise the adoption of globally harmonized analyses and procedures. In this context, the creation of an Ibero-American Urban Soundscape Network is presented as an opportunity for collaboration and encounter. A network to offer spaces for dialogue to address the important cultural differences among the countries that make it up and where common efforts are agreed on in these matters. The International Colloquium on Soundscape, Public Space and Citizenship in Urban Centers and Historic Centers was held last October 2024 in Mexico City, with an enthusiastic participation of international and Mexican experts and researchers. Important agreements emerged from this meeting for a soundscape research and intervention review in Iberian-speaking countries (Spanish/Portuguese), which are hereby shared.

Keywords: *Urban Soundscape, Ibero-American Network, sound environments, Spanish Portuguese speaking countries*

1. INTRODUCTION

This paper has been written with the intention of providing a comprehensive overview of the necessity for urban soundscape research to be strengthened within the geographical confines of Ibero-American countries. The objective is to establish a community that contributes results that can improve research on the topic at the global, regional, and national levels, and to foster practical and academic exchanges. In this regard, the paper provides a concise overview of the issue of increasing urbanization on a global scale and its implications for various countries, emphasizing its potential impact on population health and well-being. It is acknowledged that the urban soundscape can be adversely affected by this phenomenon, potentially impacting the health and social dimensions of communities.

The preservation of urban sounds is of paramount importance in the creation of the unique identity and character of each city. It is probably one of the fundamental criteria for urban soundscape research and practice, leading to the effective design of acoustic environments that enhance quality of life. This objective represents the pinnacle of research endeavours in this domain. A significant approach to be considered is the establishment of an Ibero-American research network on urban soundscapes. In order to achieve this objective, it is imperative to recognise that the endeavour does not entail the isolation of this research from the global context. Instead, it is concerned with the establishment of a network of researchers who share common language and

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cultural affinities while exhibiting diversity in their respective backgrounds. The dissemination of this type of research is also of crucial importance, given the implications for both the health and well-being of the population and urban image of the cities in this group of nations.

The present paper concludes with a seminal proposal, the antecedent of which was the organisation of an International Colloquium in Mexico City in October 2024. In addition to a significant number of papers presented at international and national levels, the event was graced by the presence of eminent international researchers and specialists in this subject as main speakers. Following the conclusion of the event, an agreement was reached with the participation of Dr. Jian Kang (UCL) as an observer and specialist on the subject, to promote the establishment of this important network, with the leadership of Mexico, Chile and Spain, the three countries represented by the authors of this article.

2. URBAN REALITY AND THE URBAN SOUNDSCAPE

2.1 The global urbanization trend

It is a fact that global urbanisation is increasing significantly. In Europe, it is almost 75% in France and more than 87% in Spain, although both are growing more slowly than in previous decades. In Mexico, the urbanised area has grown three times faster than the population and Latin America appears as the most urbanised region in the developing world. Global urbanisation continues to increase, although the rate and extent of urbanisation varies by region [1]. Urbanisation has a significant impact on physical and mental health, with both positive and negative effects depending on contextual factors [2]. Urban planning and design policies can emerge as key sectors for responding to health threats, promoting healthy behaviours and reducing inequalities [3]. Soundscapes are relevant to all these challenges, as urban soundscapes play a crucial role in contributing to the multi-sensory qualities of urban spaces [4] and expressing changing urban identities over time [5]. However, urban soundscapes are fragile and heterogeneous [6], facing the challenges of modernisation and 'sound globalization' [7]. A major change in approach and concept is required, recommending the adoption of globally harmonised analyses and procedures.

2.2 Where in the world is soundscape research done?

In contemporary times, the field of soundscape research has undergone significant expansion in nations that have established a community dedicated to this subject. This is particularly evident in Anglo-European countries and China. To gain a more comprehensive understanding of the contemporary state of soundscape research, a thorough examination was conducted utilising the Scopus® metrics database (2025). The “institutions involved” and “the funding sponsors” were the search parameters spanning the period from 1985 to 2025 used to get a detailed overview of the institutions responsible for conducting this type of research and the entities providing financial support. The relevant findings are shown in figures 1 and 2 below.

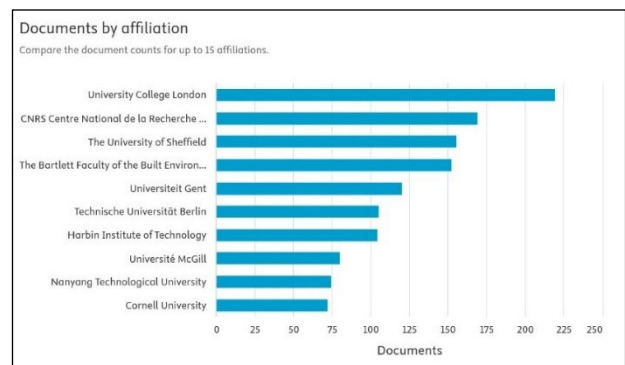


Figure 1. Scopus® database search of top soundscape research institutions in the period 1985-2025

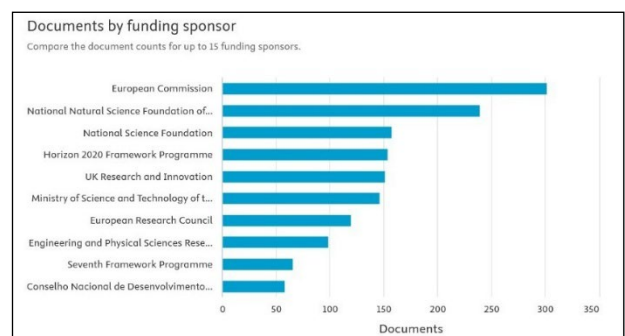


Figure 2. Scopus® database search of top funding bodies for soundscape research, period 1985-2025

Although there are several bibliographic databases, the search was centred on Scopus® as it is one of the most prominent databases in the world. The approach was to do a general search to get an idea of the state of soundscape research over the last few decades. What was found is



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relevant to this paper as it gives an idea of where soundscape research is being generated around the world. (Figure 1) and which institutions and countries are funding this type of research? (Figure 2). From this data, a map was created to illustrate the distribution of countries with institutions dedicated to soundscape research, as shown in Figure 3. Following the same procedure, map in Figure 4 illustrate institutions sponsoring soundscape research.

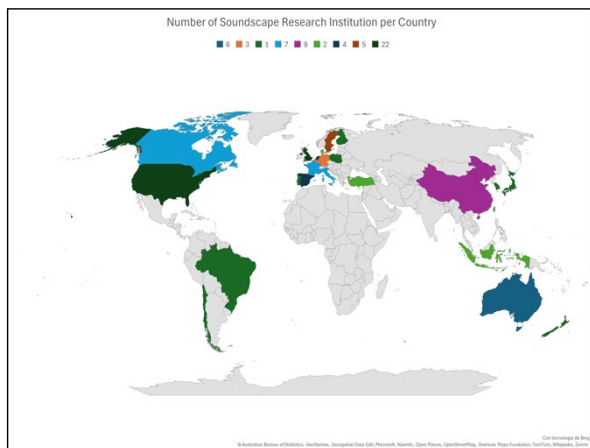


Figure 3. Distribution map of countries with institutions dedicated to soundscape research. Data processed from Scopus®

Figure 3 shows that the European area, including Spain and Portugal, are very strong, as it is with the United Kingdom, which is a real powerhouse in this type of research. North America, with the United States and Canada, is also strong. On the Asian continent, China and several South-East Asian countries stand out. Australia and New Zealand stand out in Oceania, and Chile and Brazil in Latin America. In this case, Latin America is very weak in terms of the number of institutions involved in soundscape research. This map is based on Scopus® metrics, including the top 150 institutions worldwide. In terms of soundscape research funding, Figure 4 shows the following: The European region is strengthened by the addition of Denmark, Norway and Hungary, in addition to Switzerland. It is noticeable that Latin America now includes three more countries: Colombia, Mexico and Argentina, in order of the number of institutions offering support.

This reinforces the previous situation where only two Latin American countries had institutions doing soundscape research. This means that these countries are receiving funding for this type of research, which is a very important

point. They are not in the top institutions doing soundscape research, but this is an indicator that these countries are doing soundscape research.

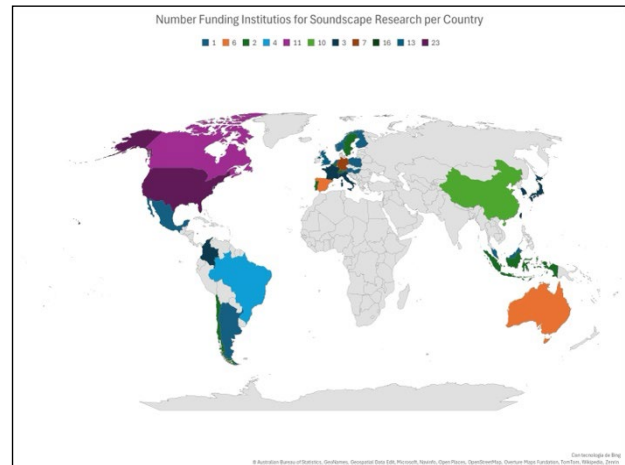


Figure 4. Distribution map of countries with institutions funding soundscape research. Data handled from Scopus®

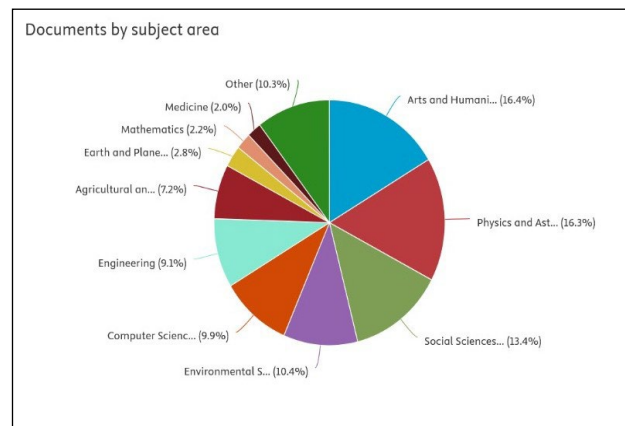


Figure 5. The diversity of disciplines involved in soundscape research. Data processed from Scopus®

An important aspect of these data is that they cover all types of soundscape research, reflecting the great diversity that exists, as shown in Figure 5. Most of the research is in the arts and humanities, followed by physics, social sciences, environmental sciences, computer science, engineering and biology, as well as other disciplines related to the topic, including medicine and health. In this context, it is important



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for our purpose to know more about the research on our main theme: Urban Soundscape.

2.3 The current state of urban soundscape research

Urban soundscape research, a branch of the general soundscape theme, has grown significantly in the last decade. Methodologies have evolved significantly between 2010 and 2023, with emerging trends focusing on multisensory experiences, big data identification, and technological advancements [8-10]. Standardized protocols, such as the ISO/TS 12913 [11-13], have been introduced to improve data collection consistency, though full compliance remains limited [14-16]. Bridging academic research with practical applications remains a key challenge in the field.

3. URBAN SOUNDSCAPE AND IBEROAMERICAN CITIES

Research on urban soundscapes in Ibero-America has evolved from focusing solely on noise pollution to a more holistic approach considering both physical and perceptual characteristics [17,18]. The concept of soundscape is increasingly recognized as a valuable resource for urban planning and design, promoting healthier and more balanced acoustic environments [19]. Some researchers have explored the relationship between soundscapes and cultural heritage, emphasizing their role in preserving identity and developing territorial intelligence [20]. Studies in Iberoamerican metropolitan areas were done offering insight into urban soundscapes. In Córdoba, in Argentina [21], evaluations reveal that traffic noise and natural sounds dominate the acoustic environment. In this last case authors generate the Green Soundscape Index, soundscapes classified into three perceptual ranges: (1) predominance of traffic noise, (2) balanced perception, and (3) predominance of natural sounds.

This is evidence that research in Ibero-American countries is being conducted on the urban soundscape of their major cities. This makes it important to establish working ties between the various Ibero-American institutions to share both methods and results, thus contributing to the creation of a community that is both culturally diverse and scientifically homogeneous.

4. ENVIRONMENTAL NOISE MANAGEMENT IN EUROPE AND IN LATIN AMERICA

Since 2002 in Europe, with the publication of Directive 2002/49/EC on the assessment and management of environmental noise in European countries [22], a line of

work was defined that considered the problems of ambient sound in these cities. This particular situation does not exist in Latin America, as the region is not unified. Subsequent to the aforementioned Directive, the establishment of quiet areas and their significance for population well-being was contemplated. Consequently, the European population, along with that of Great Britain, which had previously been part of the community but is now outside of it, were provided with clear information regarding the topic of ambient sound. This served as a fundamental reference point for comprehending the concept of urban soundscape and fostering awareness of it.

On the other hand, in Latin America the situation is very different and somewhat unequal among the different countries that make up the region. The Latin American country that has made the greatest progress in environmental noise and soundscape research and practice is undoubtedly Chile, specifically within the Universidad Austral de Chile in the city of Valdivia in the south of the country. Brazil and Argentina follow, but to a much lesser extent, followed by Colombia and finally Mexico, which is very weak, since materially a single academic institution, the Universidad Autónoma Metropolitana, is the one that is located on the one hand in the research of the Urban Soundscape on its Azcapotzalco campus, the natural soundscape on the Xochimilco campus, the Sound Art in its Lerma campus, and somehow eventually the anthropologists from the Iztapalapa campus.

5. URBAN SOUNDSCAPE RESEARCH IN LATINO-AMERICAN CITIES

Urban soundscapes in Latin American cities have gained increasing attention in recent research. Studies have examined the influence of soundscapes on urban quality in Colombian cities [17] and the role of sound art installations in redefining public spaces across Latin America [23]. Methodologies for documenting intangible aspects of urban environments, such as sound mapping, have been developed. Additionally, gender perspectives have been applied to understand how men and women differently inhabit and interpret urban spaces in Latin America [24]. These studies collectively emphasize the significance of soundscapes in urban planning, cultural experiences, and social interactions in Latin American cities.

Urban soundscapes in Latin America reflect complex cultural identities and social dynamics. They encompass traditional sounds that characterize local heritage [25] as well





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as modern urban noises that sometimes overshadow cultural sonic elements [26]. Sound installation art has been used to reclaim public spaces and engage audiences in urban contexts [23]. Urban parks' soundscapes vary based on geography, climate, and sociocultural factors [27]. The transformation of listening and sounding cultures has been integral to urban modernization processes in Latin American cities [28]. Underground music scenes have emerged as spaces for youth resistance against social inequalities and neoliberalism [29]. Sound and sonic media play crucial roles in shaping citizenship, nationalism, and political discourse [30]. Urban environments serve as platforms for cultural experiences, learning, and the expression of identity [31]. These studies collectively emphasize the significance of soundscapes in urban planning, cultural experiences, and social interactions in Latin American cities.

6. THE MEXICAN EVENT ON SOUNDSCAPE

The International Colloquium on Soundscape, Public Space, and Citizenship in Urban and Historic Centers was held in Mexico City from October 14 to 18, 2024 (Figure 6). This unique event in Mexico and Spanish-speaking countries represented a convergence of diverse approaches to the topic, presenting acoustic, urban, social, biological, cultural, and art-related aspects. Proposals were made for the study of the city's soundscape from different perspectives. The importance of this event goes beyond that of a simple gathering of specialists or speakers, as it has raised significant expectations with regard to the soundscape at the Ibero-American level.

Six keynote lectures addressed topics such as the relationship of sound to public life; social uses and the relationship between sounds, territory, history, and emotions; the design of soundscapes and the city's public spaces; artificial intelligence, applications, and citizen participation; and the acoustic planning of cities considering the soundscape. Other presentations focused on biological-acoustic, ecological, and cultural aspects in the Lacandon region, and public space in Mexico's historic centers, particularly in Mérida, Morelia, Puebla, Querétaro, and Mexico City. Musical and sound art topics, including two electroacoustic concerts evocative of the city, were also addressed.

Finally, three workshops were organized: one in-person and two hybrid workshops, with practical topics covering soundscape assessments by means of a soundwalk following the ISO 12913 standard and also the Daumal method with the aid of cell phone applications. This resulted in a well-rounded event focused on the diverse approaches cultivated

in Mexico, and a source of great learning for participants and attendees, thanks to the keynote speakers' presentations, which significantly expanded the horizon of what is being thought, researched, and practiced in other countries around the world, such as England, Spain, Chile and France.



Figure 6. Poster announcing the International Colloquium on Soundscape, Public Space and Citizenship in Urban and Historic Centers.

6.1 The Agreements

In a collaborative session attended by the authors of this paper and in the presence of Dr. Jian Kang as an observer, the ISO 12913 standard [11-13] was seen as an essential tool to guide the development of soundscape studies in Latin America, as it is now operational in Spain and Portugal. One of the most important challenges is the translation of the emotional model of the ISO12913 standard, originally defined in English, into as many languages as possible so that it is understood and used in the same way in all communities. On the other hand, there is a need to use non-specialized



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language (lay languages) throughout the drafting of the standard in its various sections. This is done with the aim of contributing as much as possible to citizen science that clearly understands the purpose of the standard. Ultimately, the goal is for the standard to be applicable with as little specialized advice as possible. Clearly, a guide will always be necessary to assist in the correct application of the standard. Another very important aspect is to take into account the peculiarities and culture of the populations of Ibero-American countries, at least in large cities with more than 250,000 inhabitants, where the sound environment is important due to their urban configuration.

Finally, the agreement also considered the need to disseminate the topic at both the university and professional levels, as well as among the general population, to raise awareness of the sound environment they experience daily and in specific locations such as significant public spaces in cities. In this context, the need to also train specialist teams who will be able to make proposals for the design, improvement, and preservation of urban soundscapes was raised.

Therefore, the agreement makes a call for training programs, including elective courses, extracurricular courses, diplomas, and even specializations and postgraduate degrees, to establish, as far as possible, a specialized network over time that will contribute to improving the sound environment of our cities. As immediate actions, it is considered necessary to call for the creation of national study groups that will form networks for research and dissemination on issues specific to the urban soundscape in Spanish and Portuguese speaking countries.

6.2 The desired outcome

Following an examination of extant research in the field of soundscape analysis and the urban context, as well as an analysis of ongoing developments in Ibero-American nations, it is evident that significant opportunities for advancement in this domain exist in Mexico, Latin America, and the Iberian Peninsula. The International Colloquium in Mexico City served to underscore the potential inherent in urban soundscape research, so the establishment of an Ibero-American Network would be the primary outcome of these accords.

This initiative should be constructed with the following fundamental concepts in mind:

Focus on Ibero-American cities

- Need to preserve urban soundscapes.
- Need to document unique sounds
- To understand cultural differences in Ibero-American countries and cities
- To understand the ways in which soundscapes are heard, understood, and evaluated in Ibero-American cities.
- To study the applicability of the ISO 12913 standard in Ibero-American cities.

Preliminary Research

- Incorporation of Ibero-American researchers into the network
- Generation of studies in Ibero-American cities
- Identification of key soundscapes
- Methods: recordings, interviews, and analysis

Pilot Projects

- Implementation in selected Iberoamerican cities
- Evaluation of preservation and enhancement models
- Shared results to improve strategies

Expansion and Collaboration

- Linking more communities and researchers
- Joint projects to expand reach
- Promoting sound education and awareness

Team Formation

- Interdisciplinary group of experts
- Includes specialists in sound, culture, and urban planning
- Objective: Design preservation and enhancement strategies

Network Creation

- Network formally established in 2026
- Connection between researchers and communities
- Promotion of urban sound preservation
- Launch of an Ibero-American competition on urban soundscape projects and studies in various categories.

Digital Platform

- Development of a Web Page
- Creation of an interactive database
- Includes sound recordings and studies
- Accessible to researchers and the public

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