



EXPERIENCES FROM THE INTERNATIONAL YEAR OF SOUND

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ABSTRACT

The International Year of Sound 2020-2021 (IYS) was an initiative of the International Commission for Acoustics (ICA) aimed at promoting the importance of sound in our world. Marion Burgess and Michael Taroudakis were given the task to lead the ICA initiative as co-organizers. The initial plan was just for the year of 2020, but due to the restrictions posed by the pandemic it was extended into 2021 and became the IYS 2020-2021. This paper describes the motivation and aims along with the structure and realization of the IYS. The outreach activities addressed both the scientists and the general public, with emphasis on the young generation. The number and diversity of the IYS related activities demonstrate the success of the IYS despite the challenges of the pandemic. The resources developed during the IYS will be freely available into the future as part of the legacy. In addition, the ICA IYS Outreach Award will be an annual award for the acoustics community to recognise excellence in outreach activities and will be an ongoing reminder of the IYS 2020-2021.

Keywords: sound; outreach; International Year of Sound; International Commission for Acoustics

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1. INTRODUCTION

The International Commission for Acoustics (ICA) was established in 1951 as an international scientific organization and today its membership includes more than 50 national acoustical societies and organisations around the world. The purpose of the ICA is to promote international development and collaboration in all fields of acoustics including research, development, education, and standardisation. While acoustics covers the broad spectrum from infrasound through to ultrasound, the majority of acousticians work on aspects of sound in the part of the spectrum relating to human hearing.

The International Year of Sound (IYS) over the period 2020 and 2021 is the most successful project of the last decade of the ICA as it mobilized across the world thousands of scientists and citizens (especially young people) to participate in IYS activities despite the restrictions of the pandemic plus develop resources that will increase the worldwide understanding of the importance of sound. In addition, the IYS strengthened and developed collaboration between ICA and allied international organizations.

2. MOTIVATION AND OBJECTIVES OF THE IYS

It is well understood that the sound environment shapes our personal and collective behaviour. Sound is an integral part of culture and society from the basic requirements for human communication and education, awareness of our environment, and expression of our culture, through to sophisticated scientific and technological instruments that have been created for a better exploitation of the properties of sound. For all these reasons, sound is in general

beneficial to human beings and other living organisms. Quality of hearing is an important factor for health (mental and physical). However, the intensification of urbanization on land as well as the increasing creation of sound and at high and harmful levels in our oceans, makes understanding and managing the soundscape a matter of concern for us all.

Almost a decade ago, the ICA decided that the initiative of an International Year of Sound would highlight the importance of sound in all aspects of life and lead towards an appreciation of sound-related issues at the national and international level. Following agreement by the ICA board and the membership, the work began in earnest for the co-organisers, Michael Taroudakis and Marion Burgess, to ensure that International Year of Sound would come to fruition in 2020 (IYS 2020). Collaboration was established with La Semaine du Son, a like-minded organisation based in Paris that hosts a Week of Sound around the world.

Founding partners of the IYS, were the member organisations and international affiliates of the ICA which, along with sponsors, provided the initial funding for the first steps on the road to the realisation of the celebration (see Acknowledgements section below). In addition, the ICA member societies and international affiliates were mobilised to work towards the goals of the UNESCO resolution 39 C/49 (2017) “The Importance of Sound in Today’s World: Promoting Best Practices” [1] which directs UNESCO members to recognise that “...*sound influenced the equilibrium of human beings and had ‘economic, environmental, societal, medical, industrial and cultural dimensions’, which relate to the work and mandates of a number of United Nations organizations.*” (<https://unesdoc.unesco.org/ark:/48223/pf0000259172>) In view of these, the motto of the IYS was determined as “Importance of Sound for Society and the World”.

3. ORGANIZATION

As coordination of events was an important part of the IYS, to keep everyone informed about what is being done across the world and to publicize the events, several committees were established:

- Liaison Committee to provide coordination between the ICA and the Semaine du Son organisations.
- Coordinating Committee with representation from all ICA Member Societies and International Affiliates

- Steering Committee to coordinate all activities of the IYS, including events managed by the Coordinating Committee and the Liaison Committee

A web-site, <https://sound2020.org>, was created and maintained by Mike Stinson. This website remains accessible and contains all the information on the IYS, its events and products.

The IYS 2020 started with a spectacular ceremony held at the Grand Amphitheatre de Sorbonne in Paris on 31 January, 2020. Jean-Dominique Polack was instrumental in arranging for this spectacular location and the photos from the opening can be seen on the website.

Many outreach activities were planned for the year, but soon the effects of the pandemic meant these could not be held in the manner planned. Some were postponed and others were hastily converted to virtual/on-line events. It became obvious that the postponed events needed time to pivot to virtual mode and there was enthusiasm for new types of events and resources using advances in virtual communications. The IYS Liaison Committee suggested, and the ICA Board approved, that the IYS should be extended to 2021 to become the International Year of Sound 2020-2021 (IYS 2020-2021). The logo was modified as shown in Figure 1.



Figure 1. The logo of the IYS 2020-2021.

4. PRODUCTS-EVENTS-ACTIVITIES

4.1 The Film “Sounds of our life”

The first centrally produced product of the IYS was the film entitled “Sounds of our life”. It was created especially for the IYS, produced by Antonio Fischetti and sponsored by International Institute of Noise Control Engineering (I-INCE). The film outlines the various uses of sound in our

lives giving emphasis to its proper exploitation for communication, education and entertainment. It was shown for the first time during the Opening Ceremony, and it is freely available for downloading and viewing. Details of the various versions of the film and terms for its use can be found at <https://www.sound2020.org/resources/online/>

4.2 Student Competition

The Student competition, sponsored by the HEAD-Genuit Foundation, was launched in late 2019 with the view to having entries in the first half of 2020 and the selection of winning entries and production of presentations towards the end of 2020. This tight schedule was extended in 2021 to allow for the teachers and students to cope with the changes in the operation of schools due to the restrictions. The student competition was coordinated by Sergio Luzzi and his team.

The students of the primary schools were asked to produce a drawing inspired by the motto of the IYS “Importance of Sound for Society and the World” and by the melody and refrain of the song “The Sound of the World” which was especially composed for the IYS. The high school students were asked to write a stanza of 4 verses (lines) in their own language and/or in English, inspired by the melody and the refrain of the song. The students/schools were also encouraged to produce videos and audio files motivated by the motto of the IYS. The objectives of the competition were to raise the awareness among young students of the most appropriate use of sound.

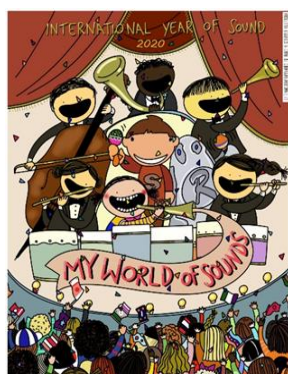


Figure 2. The English version of the poster used to promote the student competition and the version created in Chile.

The competition was promoted to schools all over the world and there was a great response from countries from all continents. The ICA member societies promoted the competition in their own language. For example Figure 2 shows the English language version of the poster along with the version used in Chile.

Eventually, the competition organizing committee received over 650 entries for the primary school level and almost 100 stanzas and videos for the high school level from all over the world. The evaluation of the competition was carried out by both an expert jury consisting of members of the IYS Steering Committee and by public vote through social media. The winners of the competition appear below:

Category I — DRAWINGS (Primary Schools)

- 1st prize Turkey (Istanbul) Nesly Ergün – School: Çekmeköy Final Middle School
- 2nd prize Chile (Melipilla) – Laura Isabel Paredes Catalan – School: Colegio Melipilla
- 3rd prize Hong Kong (Tung Chung) – Cheung Han Ching – School: Ching Chung Hau Po Woom

Category II — STANZAS (Middle and Secondary Schools) two first prizes were awarded :

- 1st prize Italy (Florence) – class 3^oE – School: IC “Puccini”
- 1st prize Spain (Besalù) – Roger Cortés, Laia Cuesta, and Coral Coll – School: Institut Escola Salvador Vilarrasa
- 3rd prize Spain (Valladolid) – Leader Alba Sánchez Domínguez – Class 3rd D/E.S.O. – School: I.E.S. La Merced

The winning entries can be found in the IYS web-site <https://www.sound2020.org/society/winners/>

4.3 Major Conferences

Outreach sessions to allow the experts present at the meeting to engage more widely with the community had been planned for the major national and international conferences during 2020. Unfortunately, with the arrival of the pandemic, those plans were limited as the conferences were held in virtual mode. However the IYS organisers were given an opportunity to present the message of the IYS directly to the scientific community through these events.

4.4 Events

An important component of the organization of the IYS was the mobilization of the member societies and allied organisations to host outreach events. At the time of the opening the majority of these events were planned as in-person gatherings to engage with the local communities to spread the message of the importance of sound in our world. Of course the pandemic restrictions could not allow these to proceed in the manner planned, however the enthusiasm among the organisations remained. So there was a lull initially but they soon adjusted their plans to utilize the range of virtual platforms that became widely available during 2020. In many respects this was a bonus for geography no longer limited the participation. So after checking time zones, anyone with internet could access any events. As well the recording of the events allows for viewing into the future.

Realizing the benefits of the on-line events was a major reason for supporting the extension through to 2021. As organizations became more skilled at using different platforms, more events became available. The IYS website, www.sound2020.org became even more important as the means of promoting and raising awareness around the world of events. We remain indebted to Mike Stinson who set up the website and managed the updating throughout the entire period. Figure 3 demonstrates the number of hits throughout the main period of the IYS.

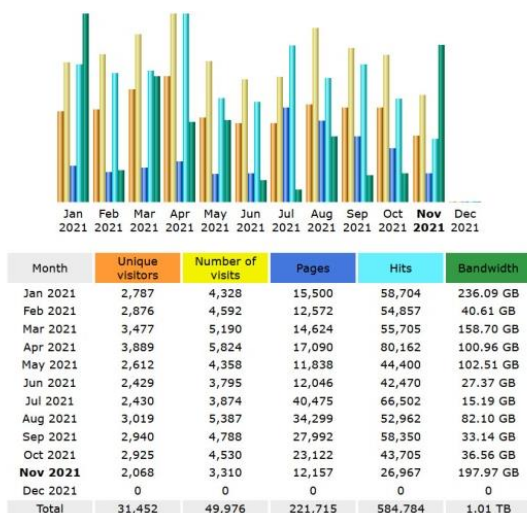


Figure 3. Record of website hits on 2021.

4.5 Resources

In addition to the mobilization of the member societies to host events there was the encouragement to all those involved with the IYS to develop resources that would be freely available not only during 2020-21 but into the future as part of the legacy of the IYS. Again we are grateful for the work by Mike Stinson for the ongoing task of cataloguing and posting the resources onto the website. These include a wide range of materials, including video, articles, weblinks etc highlighting various topics on sound. See <https://www.sound2020.org/resources/online/>

4.5.1 Education related resources

This section of the website includes a wide range of education related activities that were inspired by the IYS. Among the 28 listings some relate to youth, others to general population with others are of interest for higher level education. While the majority are in English, others are technical publications prepared with the support of national societies and in their language. Just two examples of education resources follow:

An innovative project involved setting up of the WIKI for Sound which aimed to improve Wikipedia content related to acoustics, sound, human communication, music, noise its effect and control, and soundscapes. On-line workshops were held on how to provide updates and participants were also encouraged to translate pages from the English Wikipedia into other languages. This involved collaboration of a wide range of allied organisations as can be seen from Figure 4.



Figure 4. The collaborating organisations involved with the Wiki for Sound project.

Another project that involved collaboration across countries was the development of content for a section of the Frontiers of Science on Our World of Sound. This was initiated by the UK Acoustics Network and the support of the IYS helped to ensure content was provided from around the world. It includes 24 fun articles aimed at introducing young people to concepts of sound as diverse as “Snapping Shrimp and Their Crustaceous Cacophony”, “I Can’t Hear Myself Think! How the Brain Deals With Talking in Noisy Environments” and “Levitating Objects Using Sound”. This site currently has over 500,000 views.

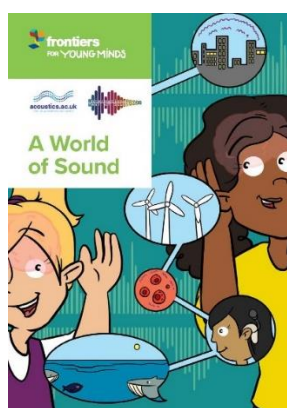


Figure 5. Frontiers for Young Minds special collection on sound.
<https://kids.frontiersin.org/collections/17985/a-world-of-sound>

4.5.2 Special Projects

The special projects website has over 30 listings. A number of these relate to noise awareness day projects and soundscape maps. The change in soundscape during the pandemic has been recorded in various ways and many involved citizen science. It is worth mentioning two of the special projects inspired by the IYS.

The UK’s Interactive ‘Year of Sound’ Exhibition was organized by the Winchester Science Centre and Planetarium. This interactive exhibition about sound, vibration and hearing continues excite, and inspire children and adults.

In combination for the IYS and the 1-year memorial of the Notre-Dame cathedral fire, a team of researchers and sound engineers created a virtual reconstruction of a recent performance recording made in the cathedral.

4.5.3 Media Communications

Several articles presenting the objectives of the IYS appeared in published or electronic newspapers and journals. In addition, there were interviews with journalists in various countries by ICA and IYS officials describing the organization and the messages of the IYS. Two examples are summarized below.

The Acoustical Society of America produced a special issue of Acoustics Today dedicated to the IYS (Figure 6). This magazine is freely available from the ASA website

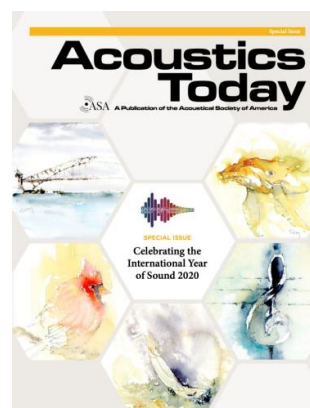


Figure 6. Special issue of the Acoustics Today (ASA) dedicated to the IYS. <https://acousticstoday.org/>

The Rest is Just Noise is a monthly podcast produced on behalf of the UK Acoustics Network. Episode 3 was devoted to an interview with the co organisers and Jean-Dominic Polack who was instrumental in the collaboration with La Semaine du Son (Figure 7).

The Rest Is Just Noise

Ep.3 2020 was The Year of Sound (among other things) with Marion Burgess, Michael Taroudakis, & Jean-Dominique Polack

MARCH 02, 2021 SEASON 1 EPISODE 3



Figure 7. Podcast for the IYS organized by UK Acoustics Network. <https://www.justnoisepod.com/>

5. COLLABORATION WITH INTERNATIONAL ORGANIZATIONS

In the early preparation of the IYS, the ICA began collaboration with UNESCO and La Semaine du Son. Following the realization of the IYS, collaboration with major International Organizations was substantially enhanced. Two examples follow:

The WHO has focus on health and that includes healthy hearing. Thus they support initiatives towards the reduction of noise induced hearing loss and the improvement of life for those with hearing disabilities. The IYS opening ceremony hosted message by Shelly Chadha, who is responsible for WHO's work on prevention of deafness and hearing loss. In addition, the IYS web-site hosted a top-story by Shelly on the WHO "World Hearing Day" as part of the IYS promotion for this day in 2020 and 2021.

The International Noise Awareness Day (INAD) was initiated by the Center for Hearing and Communication (CHC). Its aim is to raise awareness among citizens about the consequences of exposure to excess noise. A direct collaboration between CHC and ICA has been established and the INAD for 2020 and 2021 were promoted through the IYS on a reciprocal basis.

The International Science Council (ISC) is the peak international science organization. The ISC devoted a newsletter on the IYS (Figure 8). This ensured that all areas of the scientific community became aware of the message of the IYS. The International Union of Pure and Applied Physics (IUPAP) and the International Union of Theoretical and Applied Mechanics (IUTAM) also supported the IYS and brought to the attention of their members.

6. THE LEGACY OF THE INTERNATIONAL YEAR OF SOUND

The IYS came to an official end in 2021, however it was among the objectives of the celebration that the message of the importance of sound would continue after the end of the year. This will be achieved in a number of ways.

The ICA will maintain the content of the website, www.sound2020. Thus the listing of events plus the educational resources will be freely accessible into the future. A report on the planning and realization of the IYS is in preparation and will be posted to the site and perhaps provide guidance to those planning another International Year of Sound in a decade or so.

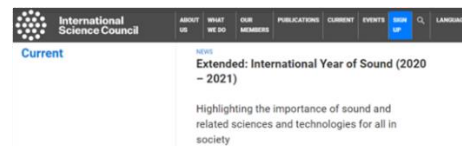


Figure 8. The IYS on the web-site of the ISC.

The IYS triggered the collaboration/communication among international institutions and various groups dealing with sound. These collaborations will continue to strengthen cohesion among the acoustics community and assist the promotion of the importance of sound.

While not all the ICA member societies organized events themselves, the sharing of the information via the website of the range of activities and innovative events will help all member societies to consider new ways of remaining in contact with their membership base. This will also encourage undertaking more outreach activities for the broader community with like-minded national organizations.

Despite the challenges of 2020/2021, the ICA member organizations and supporters found new and innovative ways to promote the motto of the IYS, thus highlighting the importance of sound in our world. To recognize and encourage member societies to continue the momentum for such outreach activities, the ICA has established an annual award to recognize an outstanding outreach activity undertaken on behalf of an ICA Member Society.

A key feature of this award is that it is retrospective, i.e. the award is made to recognize the achievement by a group, a committee or an individual member of a national Member Society or an International Affiliate. The Member Society or International Affiliate receiving the award can choose to spend the amount of award in whatever manner it chooses but it is hoped that it will be used to encourage and enhance future outreach activities.



7. ACKNOWLEDGMENTS

We wish to express our thanks to all the partners and the sponsors of the IYS. Without their help the realization of the IYS would not have been possible.

Founding partners: International Commission for Acoustics (ICA), European Acoustics Association (EAA), International Institute of Acoustics and Vibration (IIAV), Acoustical Society of America (ASA) International Institute of Noise Control Engineering (I-INCE).

General Sponsors: Head Genuit Foundation, ECOPHON, I-INCE, INCE-USA, Acoustics First, CESVA

Sponsors of special events: Sorbonne University, Société Française d'Acoustique (SFA).

In addition, many organizations, companies, institutes and societies contributed via their own resources to the celebration. To all of them we are deeply grateful.

