

PROSPECTUS *Draft at July 2015*
INTERNATIONAL YEAR OF SOUND
2019

**Logo for International
Year of Sound**

*Currently in progress is
competition for student
acousticians from around the
world to design logo.*

Education and Outreach on Sound for Society and the World

**Science – Technology – Nature – Culture – Creativity –Health -
Development – Education – History**

MISSION

The International Year of Sound will be a global initiative to highlight the importance of sound and related sciences and technologies as well as the contrast for quietness and peace in the lives for all in society.

The International Year of Sound will consist of coordinated activities on regional, national and international levels.

These activities will aim to stimulate the understanding throughout the world of the important role that sound plays in all aspects of our society. As well, these activities will also encourage an understanding of the need for the control of noise in nature, in the built environment and in the workplace.

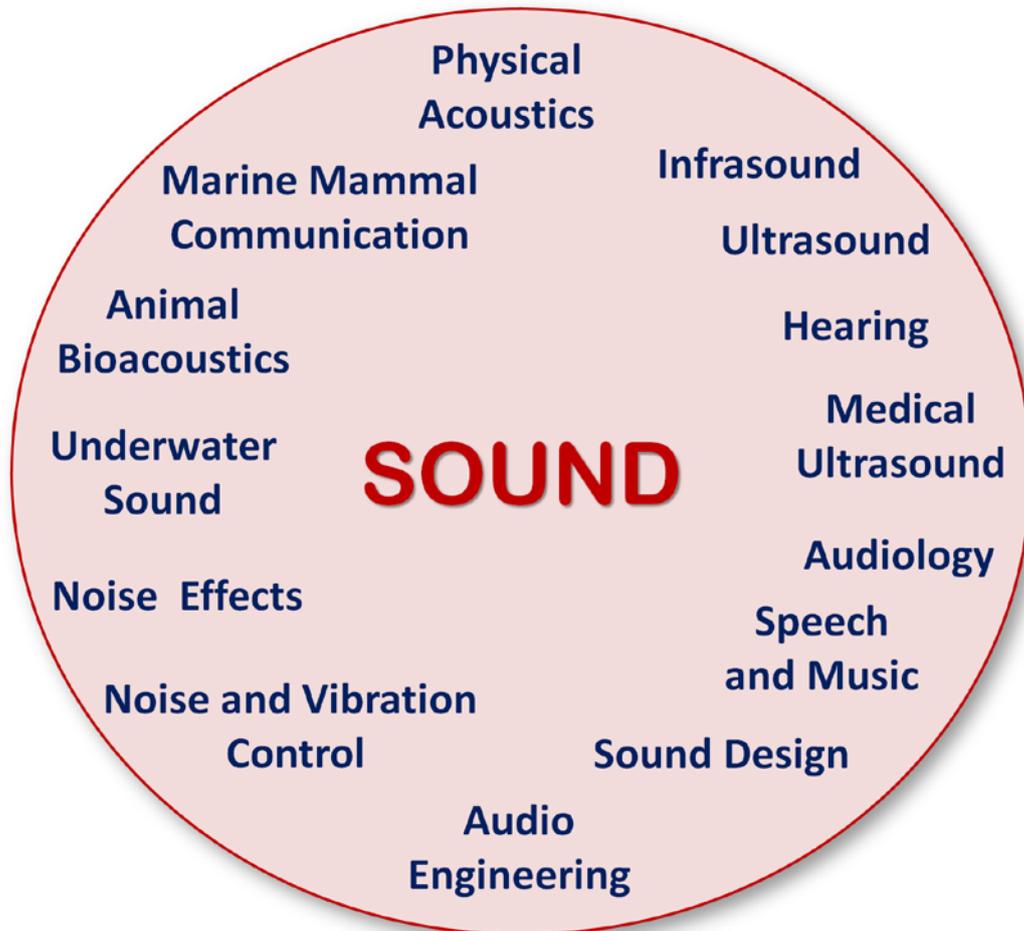
The International Year of Sound is planned for 2019.

BACKGROUND

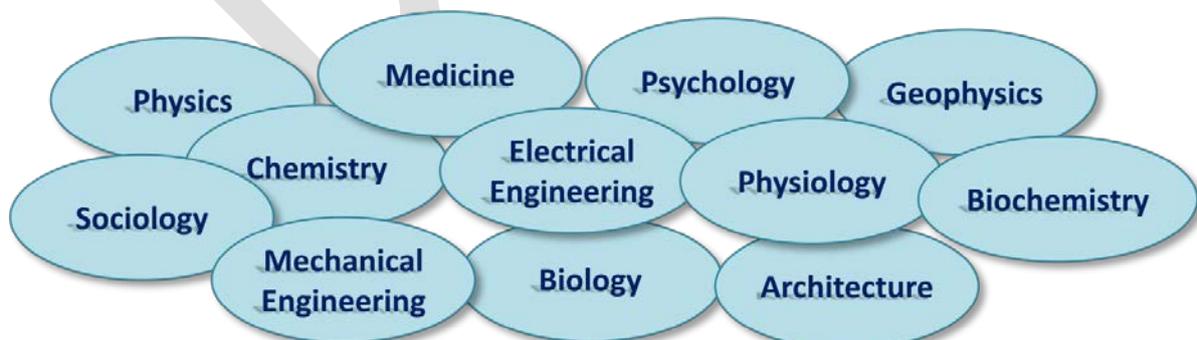
The concept of the International Year of Sound has been initiated by the International Commission for Acoustics (ICA). The ICA is a Scientific Associate of the International Council for Science (ICSU) and is the primary organisation for the national and affiliated organisations that focus on the varied aspects of acoustics, i.e., all aspects of sound and vibration. The ICA promotes international development and collaboration in all fields of acoustics including research, development, education, and standardization. As well as sponsoring and encouraging symposia and meetings to advance the understanding of all aspects of sound and vibration, the ICA holds a major congress every third year and ICA 2013 was attended by over 2,200.

The ICA comprises almost 50 national societies from around the world. The membership of these societies ranges from a small number in developing countries through to almost 10,000 members in USA. In addition the ICA has 8 international affiliated organisations involved directly with sound. All of these organisations have their own membership and further expand the involvement of the ICA activities.

Sound is all around us and sound influences our life



The study and applications of Sound involve people from many disciplines:



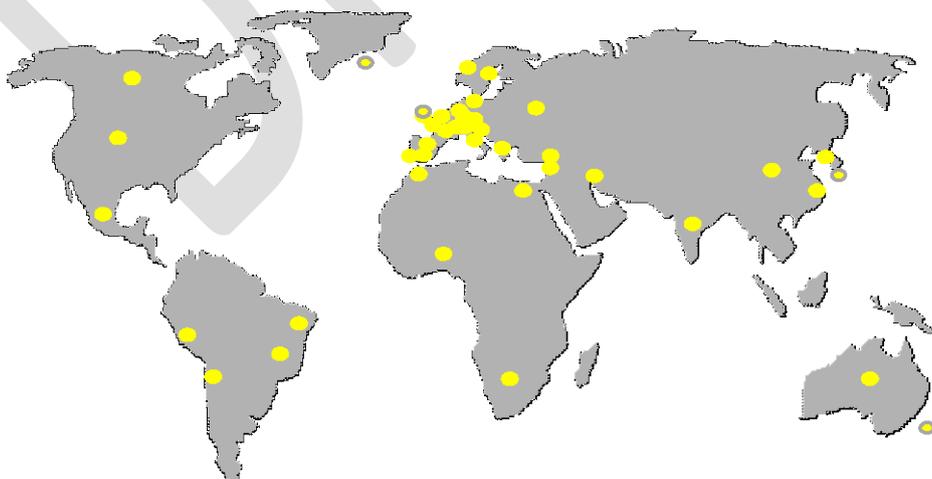
SUPPORTERS

In addition to the organisations dedicated to some aspect of sound, the ICA is continuing to gather support from technological, scientific and creative organisations which have the capacity to initiate exciting outreach activities which in 2019 would be focussed on sound.

The following sections are being completed as organisations formally confirm that they are supportive of the ICA initiative to seek approval for an International Year of Sound in 2019 and that they would use this as a focus for special activities during that year.

Below are the **Acoustical Societies** from around the world that are members of the ICA plus a map showing the global involvement.

Argentina	Australia	Austria
Belarus	Belgium	Brazil
Canada	Chile	China
Croatia	Czech Republic	Denmark
Egypt	Finland	France
Germany	Greece	Hong Kong
Hungary	Iceland	India
Iran	Israel	Italy
Japan	Korea	Latvia
Lithuania	Morocco	Mexico
Netherlands	New Zealand	Nigeria
Norway	Peru	Poland
Portugal	Russia	Serbia
Slovakia	Slovenia	South Africa
Spain	Sweden	Switzerland
Turkey	USA (ASA and INCE)	United Kingdom



The following **International Organisations** support the actions by the ICA to achieve an International Year of Sound in 2019 and will encourage a focus on related activities during that year.

Formal confirmations of support are currently being sought from the following international and national organisations

- International Council for Science (ICSU)
- International Union of Pure and Applied Physics (IUPAP)
- International Union of Theoretical and Applied Mechanics (IUTAM)
- International Phonics Society
- Institute of Physics (UK)
- European Acoustics Association
- Iberoamerican Federation of Acoustics
- Western Pacific Acoustics Commission
- International Institute of Noise Control Engineering
- International Institute for Acoustics and Vibration
- International Congress on Ultrasonics
- International Commission on Biological Effects of Noise
- Audio Engineering Society

Inset montage of logos

MOTIVATION

Sound plays an important role in all human activities and applications of acoustics are found in almost all aspects of modern society. Subdisciplines include aeroacoustics, audio, signal processing, architectural acoustics, bioacoustics, electro-acoustics, environmental noise, musical acoustics, noise control, hearing and psychoacoustics, physical acoustics, speech, ultrasound, underwater sound and vibration. Sound is an essential part of communication between humans - in the form of speech, as a sound of warning and also in music and creative sounds. However there is a concern about too much sound, which then becomes noise and needs to be controlled to ensure acceptable and safe living and working environments.

References to sound can be found throughout history. Before 6000 B.C., water wave designs had already appeared on potteries of the Yangshao culture. Musical scales and instruments have been studied officially in China for 3000 years. One of the first references of sound as a wave is found in a statement made by Aristotle when he indicated that "air motion is generated by a source, thrusting forward so that the sound travels as far as the disturbance in the air manages to reach". The technological developments in the 19th and 20th centuries allowed for the collection of sound by microphones in the air and hydrophones under water. As well as being used to reproduce sound, including the phonograph and telephone, the development of the microphone opened the way to the analysis of sound and hence the development of passive and active noise control techniques. Into the 21st century, exciting new areas for the application of studies of sound include High Intensity Focussed Ultrasound (HIFU) for medical applications and low frequency sound detected from space which can identify earthquakes.

So sound plays an essential part of society. The motivation for the application for the International Year of Sound is to create a worldwide awareness both of the role of sound and vibration in all aspects of our life and in nature, and the importance of using sound and controlling noise for the benefit of the community.

GOALS

An International Year of Sound will enable coordination of international and national activities to achieve the following goals:

- Improve the public understanding of the wide application of sound in our daily life.
- Highlight the link between sound, music and culture.
- Identify and maintain soundscapes (the sound that is part of different environments) as part of cultural heritage.
- Highlight the importance of the use and benefits of sound while controlling the unwanted noise.
- Raise understanding of those in society with hearing or speech impairment.
- Promote the importance of protecting hearing – especially in the workplace and in recreational activities.
- Increase worldwide education with activities targeted on science and technology for young people.
- Enhance international cooperation between learned societies, educational establishments and industry.
- Promote the important role that sound plays in medicine and the improvement that brings to the health of the community.
- Raise the knowledge of the applications and impact of sound underwater.
- Maintain these goals and achievements into the future beyond the International Year of Sound.

An International Year of Sound will contribute significantly to fulfilling the missions of UNESCO in building peace and understanding around the world, sustainable development and intercultural dialogue through education, science, culture and communication.

Themes and Activities

Sound and its partner vibration cut across science, culture and society. An International Year of Sound will focus the world on how sound has impacted society and inspired art, music, literature and philosophy across the centuries. The year will also promote the applications of science and technology in dealing with sound and vibration and using it for the benefit of mankind.

- Sound has and will continue to be a foundation for society. Voice and music have immense power and contribute to unifying humanity.
- Understand sound in culture and nature, describe and preserve sounds of extinct species and languages.
- The understanding of sound and its interaction with the surrounding environment leads to the creation of optimum acoustic environments for creative activities like music and voice as well as acceptable environments in the home and in the workplace.
- Noise needs to be controlled. Studies by the World Health Organisation have shown that *"Excessive noise seriously harms human health and interferes with people's daily activities at school, at work, at home and during leisure time"*. Noise produced through the activities of society and can be managed through education, measurement, analysis and the development of effective noise control solutions. The outcome can improved social environment.
- Sound can be harnessed as an aid to the benefit of mankind. This can range from the use of sound in remote sensing both in the air and underwater through to the use of ultrasonic waves in medicine and biology.

EXAMPLES OF ACTIVITIES

The International Year of Sound will include a range of activities focussed on sound and related technologies. Some will be internationally coordinated and others will be arranged locally once the year has been announced and promoted. The following is a preliminary listing of some of the proposed coordinated events. The educational related activities will result in resources that will be made freely available into the future from the ICA website and from the partner websites.

<p>Song to unify the world A Song will be commissioned to capture the essence of sound and its significance for humanity. Groups and choirs around the world will be invited to sing it in their regional style and interpretation. This could be synchronised around the world with the aim to achieve a world record.</p>	<p>Hearing Awareness Day The International Year of Sound will provide additional focus for the day of Hearing Awareness. This day will highlight living with a hearing loss and the achievements from techniques such as cochlear implants. This day will also emphasise the importance of controlling and reducing noise at work and in recreation.</p>
<p>Major achievements in Sound A major scientific and technological achievement in sound will be the focus for each month of the International Year of Sound. The provision of the consolidated information on each achievement will provide a focus for exhibitions, museums and education in schools.</p>	<p>Listening to our world Guided "sound walks" will be coordinated around the world. These will aim to encourage the community to listen to the sounds that are around them, to appreciate what they represent and to understand how they are created.</p>
<p>Sound Science and Technology Using our partner activities, educational kits illustrating the principles of sound will be developed for a range of levels of education.</p>	<p>Sound that you don't hear Ultrasound and infrasound cannot be heard in the normal manner. The varied uses of these 'sounds' including medical and industry and geophysics will be one of the promotions during the year.</p>

2019

The year of 2019 is the preferred candidate for the International Year of Sound.

International Congress on Acoustics will be held in Aachen, Germany in September. This will provide a critical boost to activities related to sound for the later quarter of the year. This congress and its associated meeting on music and on room acoustic design are expected to attract close to 3,000 participants.

2019 marks 50 years since:

- the first verbal communication from space: from the Apollo 11 mission when Neil Armstrong and Edwin "Buzz" Aldrin become the first men to walk on the Moon;
- the first Woodstock Music Festival, attended by over ½ million people, and a pivotal moment in popular music.

2019 marks 100 years since the births, deaths and achievements of key pioneers in sound:

- Lord Rayleigh; the father of the study of sound and wave motion;
- Wallace Clement Sabine; the father of the study of ideal acoustic properties for concert rooms and the unit of sound absorption;
- Lamar Worzel, one of the fathers of underwater acoustics and whose discoveries included the existence of shadow zones in the water which have been used for hiding submarines;
- Henry Higginson; the philanthropist whose generosity led to the foundation of the prestigious Boston Symphony Orchestra;
- Johannes Stark was awarded the Nobel prize for his discovery of the Doppler effect and the splitting of spectral lines in electrical fields; which provides an understanding of physics and analysis of sound.

2019 marks 120 years since:

- the birth of Georg von Békésy, who was awarded a Nobel Prize for his research on the function of the cochlea in the hearing organ.

2019 marks 200 years since:

- the publication on the invention of the stethoscope by Laennec.

2019 marks 500 years since:

- death of Leonardo da Vinci whose observations led to the description of sound waves with a definite value of velocity and of resonance.