

# The Institute of Noise Control Engineering of the United States of America

Joe Cuschieri, 2004 President INCE/USA

The Institute of Noise Control Engineering of the United States of America (INCE/USA) was established in 1971 June as a professional society sensitive to the needs and responsibilities of noise control engineers and dedicated to a leadership role in the application of noise control technology. It was through predominantly the efforts of four individuals – Leo Beranek (Charter President), George Maling (Charter Secretary), Malcolm Crocker (longest serving NCEJ Editor-in-Chief), and Bill Lang. These individuals were responsible for organizing the first Arden House (Harriman, NY) workshop in 1971 with 150 invited participants. The first Arden House workshop served as the organizational meeting that led to the formation of INCE/USA. There were in total four Arden House workshops, which were invitational workshops on Noise Control Engineering, with the last workshop being held in 1974. The topics of these workshops covered some of the early interests of INCE/USA. One can find details of these topics in the early issues of Noise News. INCE/USA was established to help American engineers respond to the increasing demands for action to control the levels of environmental noise. The first INTERNOISE Congress was held in the Nation's Capital early in the month of October, 1972. This INTERNOISE Congress was influential in forming the US noise bill that was adopted by the US Congress and the US senate in 1972. The early seventies were the formative years of INCE/USA with the critical noise issues at the time centering on environmental noise.

The interests of INCE/USA are not limited to just the US. Section 5 of its Articles of Incorporation states: "As interest in noise control engineering develops in other parts of the world, the Institute shall encourage and participate in the establishment of national institutes in other countries leading to an eventual federation of institutes of noise control engineering." INCE/USA played a major role in the establishment in October of 1974 of the International Institute of Noise Control Engineering (I-INCE). With the formation of International INCE, responsibility for organizing the INTER-NOISE series of international congresses was transferred by the Board of Directors of INCE/USA to I-INCE. With the INTERNOISE Congresses now being organized in all parts of the world, INCE/USA sponsors a series of national conferences (NOISECON) on noise control engineering that are held in those years that an INTERNOISE Congresses are held outside the U.S.A. The first NOISECON was held in Washington, D.C., in October of 1973.

Technical interests of INCE/USA have evolved and expanded from these initial formation years of INCE/USA and now incorporate a number of other topics and areas of interests. The topics of interests are represented by the technical committees that form the Technical Advisory Board of INCE/USA. At present there are twelve technical committees that include:

- Sources and Propagation – source alteration techniques, indoor/outdoor propagation, scattering and diffraction.
- Passive Control – reactive, dissipative and hybrid muffler and silencer design and analysis, absorption materials, damping materials, isolation, and sound barriers.

- Active Control – algorithms, transducers, sensing and actuating techniques, hardware design and sound/vibration field reconstruction.
- Perception and Effects of Noise – sound quality modeling, binaural sound quality, environmental sound, products sound design.
- Instrumentation and Measurements techniques – evaluation and development of new instrumentation and experimental methods.
- Transportation Noise – analysis and measurement processes related to surface transportation.
- Industrial Noise – management and control of occupational and community exposure to noise from industrial processes, facilities and equipment.
- Community Noise – promotion of the use of engineering technologies to reduce noise exposure in the community for the protection of health and welfare.
- Information Technology Equipment – development of acoustical measurement technologies, methodology and standardization applicable to information technology equipment.
- Prediction and Modeling Techniques – development and evaluation of numerical and analytical modeling tools.
- Building Acoustics – performance and evaluation of building components, materials and systems, and the prediction of sound levels and propagation in building from HVAC, electric and plumbing systems.
- Standards – interest of INCE/USA in ANSI committee S12 on Noise.

Some of these committees are more active than the others, for example at the last NOISECON 2004 meeting in Baltimore, the conference was organized in cooperation with the Noise Committee of the National Transportation Research Board of the USA, with a number of papers presented on pavement and tire noise. NOISECON 2004 also included a very successful first workshop on Noise Policy that considered the challenges of a national noise policy and other state policies, with discussions on aircraft and airport noise, surface transportation noise, industrial noise, occupational noise, and consumer product noise. Transportation and noise policy are just two of the very active areas; a number of sessions were organized on noise from information technology equipment and on sound quality, with a specialized Sound Quality symposium in the plans. Active Control is another area of great interest and a specialized symposium dedicated to Active Control (Active 04) is scheduled for this September (2004) in Williamsburg, Virginia, USA, with almost a 100 invited and contributed papers. An area which has seen a lot of activity in recent years is that of industrial noise and the impact of industrial noise on the community. One expects to see more papers, conference sessions and workshops on this topic in the very near future.

INCE/USA is very active in a number of aspects of noise control engineering and cited here are some of the more recent technical activities as reflected in the topics presented at the last annual national conference of INCE/USA. Another window into the activities of INCE/USA is the archival technical journal NCEJ (Noise Control Engineering Journal) which is published bimonthly and is solely dedicated to noise control engineering papers. NCEJ began publication in 1973 as Noise Control Engineering. The “Journal” was added to its title in 1982. NCEJ is published in cooperation with the Acoustical Society of America (ASA) with whom INCE/USA has a close working relationship.