

Acoustical Engineering 2015

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Preface

Acoustics is a branch of physics theoretically and experimentally investigating the phenomenon of sound in a wide range of frequencies, including audible, ultrasonic, and infrasonic waves propagating in air and other media. World physicists and acousticians have common scientific ties. In Poland, the physics community is represented by the Polish Physical Society (PPS), the main mission of which is to popularise physics and encourage development of ties between physicists employed in education, science, and various branches of the national economy.

The Polish acoustical community is represented by the Polish Acoustical Society (PAS) which only recently celebrated its half century. It was founded in 1963 in Poznań during the ‘10th Open Seminar on Acoustics’. Since its beginning, PAS has been a scientific society of people involved in acoustics as an interdisciplinary field of science, technology, medicine, and their applications.

The first Chairman of PAS was Prof. Edmund Karaśkiewicz. The activities of the association are currently carried out by seven branches seated in Gdańsk, Gliwice, Kraków, Poznań, Rzeszów, Warszawa, and Wrocław.

The Congress of Delegates is the highest authority of the Polish Acoustical Society. The Delegates adopt the Association’s Statute, while the Management Board implements it and represents PAS in relationships with third parties.

Members of the Association are not only individuals actively interested in the issues of acoustics, but also institutions and companies which support the fight against noise and vibration as well as development of acoustics as a science. PAS is also co-editor of the quarterly journal ‘Archives of Acoustics’.

PAS has organised numerous national conferences on acoustics: the annual ‘Open Seminar on Acoustics’ (since 1954), ‘Structures Waves — Biomedical Engineering — Human Health’, ‘Wibrotech’, ‘The Symposium on Hydroacoustics’, ‘Winter School on Wave and Quantum Acoustics’ (since 1971), and ‘Winter School of Control Vibroacoustic Hazards’ (since 1972), to name only a few, and was the co-organiser of such international events as ‘Internoise’ (1979), ‘European Conference on Underwater Acoustics’ (2002), ‘International Congress on Sound and Vibrations’ (2009), ‘International Congress on Ultrasonics’ (2011), ‘Forum Acusticum’ (2014), and ‘Noise Control’ (1976–2013).

Polish Acoustical Society was one of the first organisations affiliated with Faculty IV (Science and Technology) of the Polish Academy of Sciences. A year later (in 1964), the Academy has appointed the Committee on Acoustics within its structures. In co-operation with the Committee, Polish Acoustical Society works proactively on establishing scientific links with other acoustic societies of Europe and the world through the International Commission for Acoustics (ICA), which operates within the framework of the International Union of Pure and Applied Physics (IUPAP). PAS is a full member of the European Acoustic Association (EAA).

Several years of co-operation between the two organisations, the Polish Physical Society and Polish Acoustical Society, resulted in publication of numerous papers on acoustics in *Acta Physica Polonica A*. In this volume of the journal, we explore the issues related to, inter alia, the radiation of sound, active vibration reduction, auditorium room acoustics, sound diffraction at the edge of the screen, the ultrasounds, and the problem of quietness in the natural environment.

We hope that the problems addressed in this issue will be interesting not only to acousticians, but also to many scientists active in other fields of physics, creating a platform for discussion and co-operation.

Janusz Piechowicz

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Agnieszka Ozga, *Secretary*