

Collection of papers  
Acoustic and Biomedical Engineering

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## Preface

The papers presented in this issue of *Acta Physica Polonica* are of interdisciplinary character. They are an outcome of the authors' knowledge and experience acquired in their long-lasting, intensive research work full of passion and perseverance. The works in the area of Acoustic Engineering and Bio-Medical Engineering have been developed in co-operation of researchers from several technological universities and institutions (i.a., AGH University of Science and Technology in Cracow, Cracow University of Technology, Rzeszow University of Technology, CTM Gdynia, Lublin University of Technology), medical universities (K. Marcinkowski Medical University in Poznań) and traditional universities (Institute of Acoustics of A. Mickiewicz University in Poznań, Chair of Biophysics of L. Rydygier Collegium Medicum of the Nicolaus Copernicus University, Institute of Physics of the University of Szczecin).

The initiative of uniting the efforts and expertise of the highly specialized researchers in the work on projects resulting with a broad range of applications has started in Cracow. The exchange of the expertise is organized by the Polish Acoustical Society, Cracow Division, and the quality of research is supervised by coordinators of interdisciplinary issues from the following areas of study: vibroacoustic diagnostics, physical methods in biomedicine, acoustics of hearing and audiology as well as vibroacoustic methods for the blind, numerical methods in acoustics, active methods of damping and reduction of structural sounds, infrasounds and low-frequency vibrations, and hydroacoustics.

The collection of forty three papers published in the resent issue constitutes a description of a fragment of the above described initiative, and comprises studies from various domains of physics intended for application in biology, medicine and vibroacoustics. The studies are focused on human health. They are meant to improve the quality of life of the deaf, blind and ill persons and seal with the problems like noise and vibrations that influence us all.

The experience acquired during the cooperation of various research centers has not only indicated new directions for development of acoustic engineering, but it has also resulted in founding of the Research Centre for Acoustic Engineering at the AGH University of Science and Technology. The major tasks of the Centre will include analyses and reports concerning new developments and prospects of acoustic engineering in Poland and in Europe, research into theoretical and practical solutions in acoustic engineering, propagation of research output of the scientists from the AGH University of Science and Technology in the area of acoustic engineering both in Poland and abroad, supporting of new transdisciplinary and interdisciplinary developments in acoustic engineering as well as cooperation in interdisciplinary consortia and coordination of their projects.

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