

“Acousto-Optics and Applications”

Druskininkai, Lithuania, June 29–July 3, 2014

Guest Editors:

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WARSAW

POLISH ACADEMY OF SCIENCES
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Preface

It is our great pleasure to present here the materials of the 12th School on Acousto-Optics and Applications held in Druskininkai, Lithuania, from 29 June to 3 July, 2014. It was a remarkable event where many professionals in the field of sound and light interaction and related areas reported their latest scientific and experimental results, and discussed the most advanced theories, technologies and applications.

The tradition of Schools on Acousto-Optics and Applications dates back to 1980, since when they were organised every three years by the Institute of Experimental Physics of the University of Gdańsk, and held in various places in Pomeranian region of Poland. This was the first time the School took place in Lithuania. The School site was the cozy resort town Druskininkai on the Nemunas river bank, rich of mineral springs and surrounded by a natural forest reserve.

The 12th School on Acousto-Optics and Application was organized by Vilnius University in common with the University of Gdańsk under the auspices of the Division of Mathematics, Physics and Chemistry of the Lithuanian Academy of Sciences, Committee on Acoustics of the Polish Academy of Sciences, Lithuanian Acoustical Society, and Polish Acoustical Society. The School was supported by Acoustical Society of America and International Commission for Acoustics, Lietuvos Mokslo taryba — Research Council of Lithuania, and Strategisk program for forsknings – og undervisningssamarbeid (SPIRE), Norway. The IntraAction Corporation (USA) exhibited at the School.

The topics of the School comprised: theoretical and experimental studies of light diffraction by ultrasound, acousto-optic devices for light modulation and deflection, signal processing, ultrasonic imaging and tomography; acousto-optic materials and structures; photoacoustic spectroscopy, optoacoustics and laser ultrasonics. The progress in science is often achieved by merging different branches of research. It was believed that including other topics related to acoustics and ultrasonics would perfectly serve to this goal. The 2nd Workshop on Micro-Acoustics in Marine and Medical Research was held as a special session at the 12th School on Acousto-Optics and Applications. Another interesting special session was devoted to the acoustic properties of wood.

During the School, in total 55 talks were given by both advanced scientists and young researchers from 15 countries. The present issue of *Acta Physica Polonica A* is an official publication of the School Proceedings, which contains 37 articles corresponding to the plenary lectures and regular papers presented. All the submitted manuscripts were subjected to the peer review procedure. We appreciate all the authors and reviewers for their hard work and valuable contribution in order to achieve a publication of high scientific quality.

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