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Ryszard S. Romaniuk
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Introduction

The Optical Fibers and Their Applications symposia is a forum for national science in this branch of photonics. It is organized every year and a half by two major optical fiber technology and application centers located in Białystok at Białystok University of Technology, and in Lublin at Maria Curie-Skłodowska University and Technical University of Lublin. The conference belongs to a bigger circle of national conferences on optoelectronics, optics, photonics, sensors, and laser technology which are under a general patronage of professional community organizations like Polish Ceramic Society, Photonics Society of Poland, Polish Optoelectronics Committee, and Section of Optoelectronics in the Committee of Electronics and Telecommunications of Polish Academy of Science.

The 15th iteration of this symposia, Optical Fibers and Their Applications 2014, was held between January 29 and February 1. The conference opened at the Electrical Engineering Faculty of Białystok University of Technology and was continued in Lipowy Most—located in the heart of Knyszyńska Primeval Forest National Park. The conference began in 1976 the Jabłonna Village Palace near Warsaw, and then it continued in a two-year cycle taking place in Białowieża and now in Lipowy Most, recently (chaired by Białystok University of Technology, Prof. Jan Dorosz, emphasis on applications, especially of non-telecom ones), in Krasnobród, and now in Natęczów (by UMCS Lublin, the late Dr. Jan Wójcik and Prof. J. Rayss, now by Dr. P. Mergo, and Lublin University of Technology, emphasis on technology and telecom applications). The first conference in Białowieża focused on non-telecommunication application of optical fibers was held in 1982. During this period the conferences in Lublin and then Krasnobród were more focused on technology and metrology of optical fibers: supplementing the application and construction topics moved in Białowieża. The conference series on Optical Fibers and Their Applications has been organized in this country for nearly 40 years now. It was initiated by the late professors: J. Groszkowski, A. Smoliński, A. Waksmundzki, M. Pluta, B. Paszkowski, and Z. Szpigler. The conference always gathers the national optical fiber and optoelectronics experts, a large number of students, and international guests.

The conference was opened by Prof. R. S. Romaniuk at the Pro-Rector for Science of Białystok University of Technology along with Prof. Jan Dorosz. The national expertise in optical fibers gathered during the recent years around several big organizations, some of them with international roots: Section of Optoelectronics, Committee of Electronics and Telecommunications, Polish Academy of Sciences; Polish Committee of Optoelectronics, Association of Polish Electrical Engineers; and the Polish Chapter of SPIE. The Polish Chapter of SPIE transformed in 2008 when it registered as the Photonics Society of Poland. These organizations cooperate with IEEE Poland Section and IEEE Photonics Society Chapter, Section of Optics by Polish Physical Society, and the Polish Ceramic Society.

This year's opening ceremony shared the Białystok Optical Fiber Conference history. The national experts of guided wave, laser and semiconductor optoelectronics meeting in Krasnobród, Białowieża, Świnoujście (Laser Technology Symposium) and WILGA (Photonics Applications) integrated their activities in the frame of numerous optoelectronics research programs carried out including national, central, departmental, priority, university, and the recent addition of European and other international partners. Realizing these programs lead to numerous scientific and technical achievements, and contributed to a number of the photonics firm establishments in this country.

The Białystok and Lipowy Most conference gathered around 120 participants. Ninety papers in oral and poster sessions were presented. The biggest groups of papers originated from such optoelectronic university centers as WAT University in Warsaw, Silesian University of Technology in Gliwice, Białystok, Warsaw and Lublin, as well as UMCS in Lublin. The topics covered at the symposium included materials for optoelectronics—in particular active materials for optical fiber technology, fabrication of optical fibers—photonic fibers, components and sub-assemblies for optoelectronics, metrology of optical fibers, metrology of optoelectronic components and devices, applications of optical fibers, education in optoelectronics and photonics. Plenary paper presentations also touched on some current problems in optoelectronics.

The technical sessions included work from the three main national centers where optical fibers are pulled: the Faculty of Electrical Engineering at Białystok University of Technology; the Faculty of Chemistry, University of Maria Curie Skłodowska in Lublin; and the Institute of Electronic Materials Technology in Warsaw. A number of research centers in this country and internationally use these optical fibers for optical fiber sensors and photonic instrumentation devices. A large group of applications concerned optical fibers filled or impregnated with liquid crystals, which are highly nonlinear optical substances—much more nonlinear than glasses. This group of papers originated from the laboratories at Warsaw and Wrocław Universities of Technology.

The organizers provided many active-participation opportunities for Ph.D. and M.Sc. students, and they did in significant numbers. The majority of the papers were presented by young researchers, which supports the belief that this branch of technology is vivid and promises for the future development. The Editors would like to thank all authors of papers published in this volume and presented during the 2014 conference on Optical Fibers and Their Applications.

Jan Dorosz
Ryszard S. Romaniuk