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Ryszard S. Romaniuk
Waldemar Wójcik
Editors

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Introduction

The Symposium on Optical Fibers and Their Application is a kind of a forum of national science in this branch of Photonics. The Symposium usually hosts many guests from this geographical region, especially from Ukraine and Belarus. 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 the Polish Ceramic Society, Photonics Society of Poland, Polish Optoelectronics Committee of the Association of Polish Electrical Engineers, and Section of Optoelectronics in the Committee of Electronics and Telecommunications, and the Polish Academy of Sciences.

The XIV Conference on Optical Fibers and Their Applications was held the 9–12 October 2012. The Conference was opened at the Energetyk Resort in Nałęczów, near Lublin, and the accompanying School/Workshop on Optical Fiber Technology was held in Lublin at UMCS OFT Laboratory. The conference series has been organized since 1976, from the beginning in the Jabłonna Village Palace near Warsaw, and then in a two year cycle conversely in Białowieża by the Białystok University of Technology (Prof. Jan Dorosz, with emphasis on applications, especially non-telecom ones) and in Krasnobród – now in Nałęczów by UMCS Lublin (the late Dr Jan Wójcik, Prof. J. Rayss, now Dr. W. Podkościelny and Dr P. Mergo) and Lublin University of Technology (Prof. W. Wójcik, with emphasis on technology and telecom applications). The first conference in Białowieża, held in 1982, focused on non-telecommunication application of optical fibers. During this period the conferences in Lublin and then Krasnobród – now in Nałęczów 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 more than 30 years. It was initiated by the late professors: J. Groszkowski, A. Smoliński, A. Waksmundzki, M. Pluta, B. Paszkowski, and Z. Szpigler. These conferences mostly gather the whole country's researchers and optical fiber and optoelectronics experts as well as a large number of students and international guests.

The XIV Conference was opened by Prof W. Wójcik at the Pro-Rector of Lublin University of Technology and Dean of the Faculty of Chemistry of UMCS. The national expertise in optical fibers was 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; the Polish Chapter of SPIE. The latter organization registered in this country as a Society was transformed in 2008 to the Photonics Society of Poland. These organizations cooperate with SPIE, IEEE Poland Section and Photonics Chapter, Section of Optics by Polish Physical Society and Polish Ceramic Society.

During the conference opening ceremony Prof. W. Wójcik reminisced about the past contributors and participants of the Lublin – Krasnobród (now Nałęczów) Conferences. The national experts of guided wave, laser, and semiconductor optoelectronics meeting in Krasnobród, Nałęczów, Białowieża and Świnoujście (Laser Technology Symposia) managed to integrate their activities in the frame of many optoelectronics research programs carried out during these years. These were programs were realized with partners national, central, departmental, priority, university and recently from Europe. Continuing work on these projects lead to numerous scientific and technical achievements as well, and were a major factor in building many photonic firms in this country and modernizing the teaching at technical universities.

The Nałęczów Conference gathered around 100 participants. Over 60 papers in oral and poster sessions were presented. Most papers originated from university centers active in optoelectronics such as: Silesian University of Technology in Gliwice, Białystok, Warsaw and Lublin as well as UMCS in Lublin. The topical coverage of the meeting was materials for optoelectronics: in particular materials for optical fiber technology, fabrication of optical fibers, components and sub-assemblies for optoelectronics, metrology of optical fibers, metrology of optoelectronic components and devices, applications of optical fibers, and education in optoelectronics and photonics. A few plenary papers presented touched on very current and hot problems in optoelectronics.

The technological sessions of the Symposium presented the works from three main national centers where optical fibers are pulled. These are Faculty of Chemistry, University of Maria Curie Skłodowska in Lublin, Faculty of Electrical Engineering at Białystok University of Technology and 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 microstructural photonic 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, but the fibers were manufactured at UMCS in Lublin and at ITME in Warsaw.

The Symposium organizers have provided very favorable participation conditions for Ph.D. and M.Sc. students; who were significant participators in the symposium. The majority of the papers were presented by young researchers, which supports the belief that this branch of technology is vivid and promises future development. The Editors would like to thank Dr. Andrzej Smolarz from Lublin

University of Technology for his devoted help as a Technical Editor of this volume of Proceedings from the XIV Conference on Optical Fibers and Their Applications, Nałęczów 2012.

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