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Ryszard S. Romaniuk
Conference Chair/Editor

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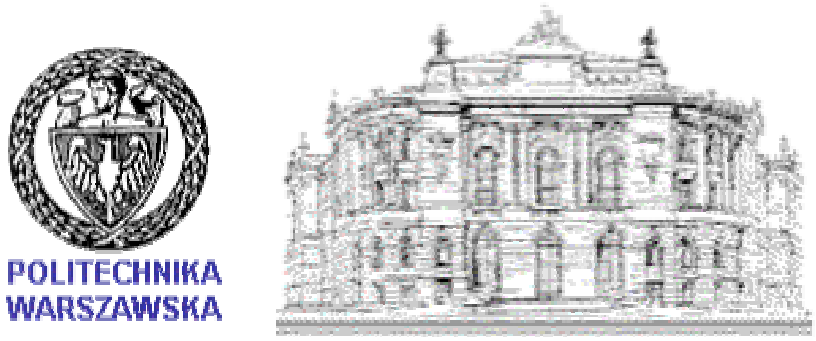

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XIVth IEEE - SPIE Symposium on „Photonics and Web Engineering and Electronics for High Energy Physics Experiments" WLGA 26-30 May 2004

FOREWORD BY EDITOR

Wilga, 29 May 2004. A group of participants of the XIVth Symposium on „Photonics and Web Engineering" after signing of the agreement of cooperation between the Poland Sections of IEEE (Institute of Electrical and Electronics Engineers, Piscataway, NJ, USA, www.ieee.org, www.ee.pw.edu.pl/ieee) and SPIE (The International Society for Optical Engineering, Bellingham, WA, USA, www.spie.org, www.spie.pl). Poland Sections of IEEE and SPIE have respectively above 600 and 300 active members, including in this over 100 student members each.

During the week of 26-30 May, 2004, in the WILGA Resort owned by the Warsaw University of Technology there was held the XIVth Symposium on "Photonics and Web Engineering". The title of the Symposium has now only a historical meaning. From this title on, the Symposium has started seven years ago. Now, the meeting covers the IEEE and SPIE areas. The Symposium, from its beginning, was directed towards well prepared presentations and peer reviewed papers by young scientists, as well as M.Sc. and Ph.Ds. The requirement to present a paper by a young scientist (originating mainly form the Faculties of Electronics, Computer Sciences, IT, Electrical Engineering, Mechatronics and Physics) is a strict professional supervision and tutor's opinion on their work. The meeting takes place two times a year: in January at the Faculty of Electronics and Information Technologies, Warsaw University of Technology and in May in Wilga upon Vistula near Warsaw. The information web page of the Symposium is under the following URL: http://nms.ise.pw.edu.pl. The whole Symposium is managed logistically (from participant registration to issuing of proceedings) solely in the electronic domain.

The Symposium is organized under the protectorate of the mentioned professional, international organizations, and in particular their Poland divisions like: IEEE Poland Section and SPIE Poland Chapter, as well as nuclear research centers CERN in Geneva and DESY in Hamburg. The national sponsoring organizations are: Committee of Electronics and Communications, Polish Academy of Sciences, Polish Committee of Optoelectronics, Association of Polish Electrical Engineers, Inter-Association Committee of Electronics, Communication and Information Technologies, Association of Polish Mechanical Engineers, Faculty of Electronics and Information Technologies, Warsaw University of Technology (WUT) and Institute of Electronic Systems (ISE). The organizers of the Symposium are: PERG and ELHEP Laboratories of ISE, IEEE Student Branch of WUT. There is cooperation at the Symposium organization from other IEEE and SPIE organizations in this country.

The Patronage Committee of the Symposium consists of persons who lead the abovementioned institutions, and is a permanent body. The Scientific Committee is different every year and consists only of the university professors who are present at the Symposium in particular year. This year the Wilga Symposium was honored by several deans of Electrical and Electronics Engineering Departments from all over the country.

From the left there are sitting the members of the Scientific Committee of WILGA 2004 Symposium: prof. Michał Żelechower, Silesian Univ. of Technology at Katowice; prof. Waldemar Wójcik, Lublin Univ. of Technology; prof. Ryszard S.Romaniuk, Wilga Symposium Chair, Warsaw Univ. of Technology; prof. Feliks Szczot, Opole Univ. of Technology; prof. Jan Dorosz, Wilga 2004 Symposium Scientific Committee Chair, Białystok Univ. of Technology.

The Symposium is attended mainly by young scientists, some of them accompanied by their tutors. The majority comes from this country but there are also numerable attendees from the Region 8 of the IEEE and the USA. The XIV Symposium gathered around 300 domestic participants and 20 from abroad. There were presented more than 200 papers by young scientists, M.Sc. and Ph.D. students as well as a few invited papers given by the tutors and research supervisors of the students. There were represented the following polytechnics and universitities from this country: Warsaw, Poznań, Łódź, Szczecin, Koszalin, Białystok, Lublin, Rzeszów, Kielce, Kraków, Opole, Wrocław, Zielona Góra, Siedlce, as well as governmental research laboratories: IOSTO, ITE, ITME, CFT PAN, IPJ from Warsaw and IBJ form Kraków. There were international guests from Germany, USA, France, England, Mexico and Belarus. The Symposium is a very low budget event. It is organized totally by students' volunteers, without any entrance fee. The only costs are accommodation and meals in WILGA resort. These costs are well below 15Euro per diem. Every day, there are nice evening grill and beer sessions sponsored by the IEEE Poland Section.

The major sessions of the XIV Symposium were:

- Hot topics of photonics: integrated optoelectronics, optical fiber communications, optoelectronic components and subsystems, photonic sensors, photonic and hybrid circuits;

- European, superconducting, X-ray, free electron laser; RF control, RF gun, measurement and diagnostics, electron and optical beam quality, bunch compression, femtosecond phase stability;
- Superconducting TESLA accelerator technology;
- Compact Muon Solenoid (CMS) for Large Hadron Collider (LHC); development of trigger electronics;
- Gamma (GRB) and optical ray bursts of the whole sky;
- Photonics applications in astronomy; low-noise front end CCD systems, image processing in astronomy;
- FPGA/VHDL technology and multi-gigabit optical fiber transmission; signal multiplexing and demultiplexing, multichannel ADC-DAC systems, serial-light standard;
- Radiation hardness of electronics and photonics; tests of discrete components and FPGA based subsystems; hardware - voting redundancy solutions, software solutions;
- Integrated microsystems: mechatronics, photonics and electronics; multi-system integration, solutions of basic system blocks;
- Digital holography, 3D object recognition, image processing, foundations of digital optics;
- Photonic metrology; circuits, systems, networks;
- Laser technology; laser development and applications, laser systems;
- Semiconductor optoelectronics; materials, technologies, components, applications, measurements;
- Infrared technology;
- Integration and optimization of hardware – software systems; design balancing between hardware and software layers, development of middleware layer, flexibility and parameterization of hardware-software designs;
- Application of integrated systems in industry, municipal technology, environment and biomedical;
- Ultra-broadband optical Internet; 40Gb/s and 160Gb/s systems, new standards;
- Optical networks of the ultimate throughput: LAN, SAN, synchronous and asynchronous systems;
- Optical computing, photonic switching, architecture of optical computers, photonic and hybrid processors;
- GRID computing, cluster techniques, neural networks and fuzzy logic;
- Software development techniques for large systems;
- Internet based measurement-control systems;
- Internet development – safety, transmission quality, new protocols, new services;
- Industrial applications of the web;

Wilga, 29 May 2004. Signature of the MOU between SPIE Poland Chapter and IEEE Poland Section. From the left: prof. dr hab. Marian P.Kaźmierkowski – Chairman of IEEE Poland Section, dr hab. Ryszard S.Romaniuk – Wilga Sympozium Chair, prof. dr hab. Tomasz R.Woliński – Chairman of SPIE Poland Chapter.

Exceptionally broad topical scope of the Symposium (what is sometimes used as an argument by some opponents) is defined by the character of the meeting. The Symposium is totally devoted to present the work of young scientists, domestic and from abroad. The previous trials to narrow the scope were not approved by the research community and resulted temporarily in lowering the attendance, and to the surprise of the organizers, did not result in the better quality of symposium presentations and papers. The breadth of the topical scope is supported by the sponsors – the IEEE and SPIE, and is well received by the young participants. It has turned out that the wide exchange of information is possible between the young scientists originating from different regions and making different research. The participants are debating how to present your results in the most efficient way, how to write a Ph.D. thesis, etc. The 2004 annual Symposium in Wilga for young researchers addressed ideally the needs of the regional market for research results on advanced photonic and electronic systems and information technologies.

The level of the Symposium for young researchers is build by several factors:

- Presenting the papers in English,
- Supervision of the papers by the tutors and the universities,
- Reviewing by the Scientific Committee of the Symposium,
- Publication in SPIE Proceedings.

Till now the Wilga Symposium on Photonics Applications has published the following volumes of Proc. SPIE: 5125 (2003) and 5484 (2004). Apart of that a special issue of Electronics and Communications Quarterly by PAS was prepared as No 2/2002 and a few special issues (2001-2004) of the Electronics Monthly, a national professional journal by Association of Polish Electrical Engineers. All the proceedings cover more than 250 papers. The proceedings of previous Wilga Symposia were issued in the form of CD-roms, as internal editions of ISE WUT.

During the XIVth Wilga Symposium a Memorandum of Understanding was officially signed by the Presidents of both cooperating organizations IEEE Poland Section and SPIE Poland Chapter. The extent of cooperation defined by the MOU covers research, technical and administrative activities on behalf of the regional development of electro-technology, electronics, telecommunications, information technologies, optoelectronics, photonics and optics. The following forms of activities are named: conferences, workshops, awards for outstanding research achievements, editing of journals and monographs, conference materials. Both societies will help each other in achieving the highest grade of its members – the Fellowship in IEEE and SPIE. The MOU was signed in witness of a few tens of Wilga Symposium participants.

A big SPIE Congress on Optics and Optoelectronics is organized in Warsaw on 28 August – 03 September 2005 at the central campus premises of Warsaw University of Technology. The congress consists of Hot Topics in Optoelectronics Session and 13 topical conferences: Liquid Crystals Optics and Applications; Photonics Applications in Astronomy, Communications, Industry and High-Energy Physics Experiments; Nonlinear Optics; Photonic Crystals and Fibers; Optical Fibers; Acousto-Optics and Photoacoustics; Optical Security; Metamaterials; Integrated Optics; Infrared Photoelectronics; Lasers and Applications; Medical Imaging. The Congress is associated with technical exhibition. The Warsaw SPIE COO Conference on Photonics Applications is directly related to the tradition of WILGA Symposium and is organized in cooperation with IEEE Poland Section and IEEE Student Branch.

The IEEE-SPIE WILGA 2005 Symposium is planned for 31 May – 05 June 2005. The best papers from WILGA, delivered by young scientists and students, are going to be awarded presentation during the Warsaw SPIE COO. The Program Committees of WILGA Symposium and Photonics Applications Conference of Warsaw COO are considering preparation of a common volume of SPIE Proceedings from the both related events. You are invited to participate.

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THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING
POLAND CHAPTER

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UMOWA O WSPÓŁPRACY
pomiędzy
POLSKĄ SEKCJĄ SPIE oraz POLSKĄ SEKCJĄ IEEE

Strony uzgadniają współpracę w zakresie działalności naukowo-badawczej oraz organizacyjnej na rzecz krzewienia i popierania rozwoju elektrotechniki, elektroniki, optoelektroniki, fotoniki i optyki.

Współpracą zostaną objęte następujące formy działalności:

- ***konferencje, seminaria, sympozja, warsztaty naukowe,***
- ***zebrania naukowe,***
- ***konkursy naukowe oraz przyznawanie nagród za wyróżniające się osiągnięcia naukowo-badawcze,***
- ***wydawanie monografii, materiałów konferencyjnych, czasopism i informatorów.***

Zakres współdziałania przy realizacji poszczególnych przedsięwzięć będzie przedmiotem indywidualnych ustaleń.

Ponadto oba Stowarzyszenia, Polska Sekcja IEEE i Polska Sekcja SPIE, dołożą starań do wzajemnego wzmacniania swoich działań o uzyskiwanie najwyższej klasy członkostwa indywidualnego Fellow IEEE oraz Fellow SPIE.

Przewodniczący Polskiej Sekcji IEEE
/prof. dr hab. Marian Piotr Kaźmierkowski/

Przewodniczący Polskiej Sekcji SPIE
/prof. dr hab. Tomasz Ryszard Woliński/

Warszawa - Wilga, 29 Maja 2004

Poland Section

IEEE THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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Warszawa - Wilga, 29 Maja 2004

Memorandum of Understanding
between
SPIE Poland Chapter and IEEE Poland Section

Both Sides agree to cooperate in the fields of research and education, organization and dissemination of electrical and optical engineering. In particular, the following actions may be undertaken as common ones:

- conferences, seminars, symposia, research workshops,
- research and scientific meetings, conventions and lobbying,
- research competitions and awards for outstanding scientific achievements,
- editorial work on common monographs, conference proceedings, professional journals, informative printed and Internet materials,

The extent of cooperation may be a subject of separate agreements.

Both Professional Societies will support mutual endeavors on behalf of their Members for the highest ranks of the individual membership.

Signed by the Presidents of both Societies in Wilga on 29 May 2004 during the XIVth SPIE-IEEE Symposium on Photonics Applications.