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Ryszard S. Romaniuk
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XIIth IEEE-SPIE Sympozjum "Photonics and Web Engineering" WILGA, 21-25 May 2003



Participants of the XII IEEE-SPIE Symposium in front of the WILGA Village, Warsaw University of Technology Resort meeting hall. There are sitting in the middle, from left: dr Ryszard S. Romaniuk, WILGA Symposium Chair; prof. Jan Dorosz, Białystok University of Technology; prof. Tadeusz Kaczorek, IEEE Poland Section, Warsaw University of Technology; prof. Danuta Bauman, Poznań University of Technology; prof. Tomasz Woliński, SPIE Poland Chapter Chair; dr Andrzej Domański, SPIE Poland Chapter Treasurer; Specificity of the symposium is that there are nearly all different participants each day. Various university groups from all parts of the country and international arrive and depart for certain topical sessions. Total number of participants was near 200 persons.

The international M.Sc. and Ph.D. students Symposium gathers in Warsaw University of Technology Resort in Wilga numerable representatives of technical universities from this country and the IEEE Region 8. The high patronage over this symposium is held by IEEE, SPIE, Polish Academy of Sciences and Warsaw University of Technology. The event is held, since several years, annually, during the last weekend of May. This year the Symposium was participated by over 200 participants, quite a number of them from the IEEE Region 8.

The Wilga Symposium created a specific form of appointing the Technical Program Committee. The permanent members are leaders of the patronage institutions. The changing members are senior representatives of technical universities and industrial laboratories from this country and IEEE R8, which are present at the Symposium

The Symposium is usually attended by quite a large groups of M.Sc. and Ph.D. students as well as young researchers from technical universities and corporate laboratories. These groups come frequently under the supervision of a senior research worker. Wilga Symposium is one of not very numerable meetings in the IEEE R8 totally designed for the young scientists and organized by young scientists and engineers, many of them members of the IEEE and SPIE. Wilga Symposium is an effective forum of exchange for research results and information on work conditions at different places in the IEEE R8. The students are interested in the similarities and differences in the curricula and

employment opportunities over the region. The Ph.D. students are seriously interested in the study subjects in the relevant fields of their colleagues from other universities in the IEEE R8. This knowledge facilitates considerably their work on the thesis. The Wilga Symposium facilitates exchange of personal information during the IEEE sponsored, informal, social meeting at the grill. The nice specialty of the local kitchen are extremely tasty Wilga cakes, specially fit a to semi-sweet Hungarian Tokay wine.

Not all of the standard research conferences enable such efficient meetings of young researchers. The financial problems are the basic cause. The young researcher problems are treated as marginal at many conferences. A lot of the communications of young researchers are presented only during the poster sessions. Wilga is quite different in this respect. All papers are presented orally in English with an obligatory discussion following the presentation. Frequently, hot discussions are continued during the coffee breaks. All the sessions are lead by young researchers, while the senior research staff work as judges. The presentations are judged by the colleagues, sometimes quite deeply, not only in respect of the research content but also of the graphical form. The presentations are sent to the organizers only in the electronic form and presented in this way. They are then distributed on the CDs or available on the web.

The fundamental assumption for the international Wilga Symposium is to keep the minimal costs for a young participant. The organizers offer full accommodation at a very competitive price. There is no conference fee at all. The second assumption is to keep the program level of the Symposium as high as possible. For the most of the participants, members of IEEE and SPIE the participation costs are close to zero, as it is comparatively easy to get the organizational support. No conference fee is possible, only when the event is organized wholly on the voluntary base. It has to be valued at a Symposium of this extent and size. The organization is facilitated by the fact that Wilga is nearly an ideal spot. The Warsaw University of Technology resort is located at the outlet of the Wilga River to the big Vistula River in the middle of the big pine forests. The accommodation conditions are modest but acceptable. The local food is very good. These conditions isolate the participants ideally from the influence of the external world. A good and cheap bus communications to/from Warsaw assures that the Symposium attracts numerable young researcher participation.

To assure the highest level of the Symposium the papers are selected first for the presentation and next for the publication. The papers submitted for the Symposium have to be recommended by the supervisors of the young researchers, symposium participants. After the presentation and discussion, the best papers are chosen for publication in the IEEE professional press. Usually the organizers publish a special edition of one of the local professional journals additionally to issuing a separate volume of well known series Proceeding of SPIE. Prior to the publication, the papers are peer reviewed. The announcements about the Wilga symposium are published in the IEEE and SPIE press as well as in the local professional journals.

The topical area of the symposium was initially confined to the photonics, optical communications and the optical Internet. With time, it was broadened to the advanced electronic systems, digital signal processing, mechatronics, automation, etc. Broadening of the scope was very favorable for the level of the contributions, especially from the Ph.D. students. The analysis methods used in quite different branches of the modern technology are sometimes analogous and it is possible to transfer efficiently the experience between the young researchers. The successive symposia receive more and more better contributions from the whole IEEE R8. The organizers consider edition of more than one volume of international proceedings next year.

The patronage of large international organizations like the IEEE and SPIE over the Wilga symposium is very important not only for the organizers but also for the individual participants. The mentioned organizations are represented, in this country, by their national Sections and Chapters. Both organizations the IEEE and SPIE have rich libraries in this country, accessible freely for the members. The libraries are located at the central technical library of Warsaw University of Technology. The IEEE and SPIE patronage assures international meaning of the Symposium. It is possible to publish the Symposium papers in the press of these organizations, which assures the worldwide access. The organizers try to make Wilga Symposium as an official event of IEEE and SPIE in this geographical region. Now Wilga is supported by the regional Student Activity Committees of the both institutes.

The WILGA Symposium is prepared in cooperation with the two large European physics institutes CERN in Geneva and DESY in Hamburg. The organizers of the Symposium cooperate closely with several research groups working at

a number of experiments there, including the Large Hadron Collider and the TESLA X-Ray FEL. The participants of the Symposium include members of these institutes and researchers from the international groups working in the field of advanced electronics and optoelectronics for high energy physics. This year Symposium has a special invited paper on TESLA accelerator and laser development authored by dr S. Simrock from the DESY institute.

The major topical subject of Wilga 2003 Symposium was photonics. The biggest centers presenting these subjects were Technical Universities in Warsaw, Białystok and Wrocław, Institute of Electron Technology and Military Academy of Technology in Warsaw. A group of papers concerned developments in the construction of the biggest world X-ray, free electron laser TESLA (DESY, Hamburg). These papers were in between such branches as mechatronics, advanced electronics, UV and RTG photonics. The photonics was also represented in the papers from the TU of Kielce (photonic materials), TU of Lublin (industrial applications) and TU of Gdansk (sensors). Some papers described particular photonic sub-systems applied in the industrial conditions.



The Warsaw ELHEP Team with the colleagues from DESY and Łódź University of Technology after success celebration of the FPGA based X-Ray FEL and TESLA cavity SIMCON. Dr Stefan Simrock, head of the TESLA LLRF Group, is sitting next to the editor of this volume. Dr S. Simrock was an invited speaker to the WILGA Symposium.

Traditionally, one of the major subjects of the Wilga Symposium is advanced electronics and photonics for high energy physics experiments. Apart from the TESLA, the current developments of two major world experiments are recorded. One is in the state of creation – the LHC and one of its detectors the CMS and the second – the HERA and ZEUS has been working for the last ten years. In case of the Backing Calorimeter (which is a part of ZEUS) a major upgrade of this detector has been undertaken very recently. During the shutdown of the HERA accelerator (dedicated to increase the luminosity of the collider which will significantly enhance its "discovery potential") the BAC detector was equipped with new trigger especially sensitive to muons. The diagnostic system of the detector was also substantially improved to monitor the performance of the detector and to provide the reliable trigger information.

The CMS is a large barrel like multi-detector consisting of several detection layers sensitive to different particles and energetic phenomena. A group of papers on the CMS concern electronic and photonic systems design for multi-

channel data readout, sorting and acquisition. The large CMS detector is just under construction and all of these moved topics are very hot.

The papers concerning the (optical) Internet touched such problems as: optical network architecture, modern protocols for optical networks, optical network reliability, QoS, etc. Other papers concerned; massive data acquisition systems, distance learning, data bases for WWW servers, hardware remote control over the Internet, etc. A separate session was organized with the aid of the Industrial Institute of Telecommunication in Warsaw about the DSP for industrial and military applications.

Other topical groups during the 2003 Wilga Symposium were: image recognition, optical mapping of 3D objects, electronics and photonic for astronomy and accelerator technology, laser technology, calculation grids, complex measurement systems and networks.

In order to further decrease the costs for the users and make the symposium more comfortable for the users the sessions were organized not according to the topics but the papers from particular TUs were gathered. It was customary for the TU groups to come to and leave the symposium together. Topical sessions will be created in the proceedings. Each topical session has a supervisor - a member of the patronage committee.

WILGA 2004 SYMPOSIUM

The organizers invite interested persons, member and non-members of the IEEE and SPIE institutes to participate actively in the IEEE-SPIE Symposium Wilga 2004. The Symposium is scheduled for 26-30 May 2004. More detailed information is available on the web under the following URL address <http://nms.ise.pw.edu.pl/wilga>.

Senior researchers are invited to bring along younger colleagues, organize topical or panel sessions and suggest invited papers. M.Sc. and Ph.D. students are invited to present the results of their research on theoretical and practical problems, which are subjects of their theses. The IEEE-SPIE Wilga Symposium is a magnificent place to test your ability to present ones own results and to defend the thesis in the fire of research discussion in an international environment. It is just the best way to begin the difficult way of gathering ones own achievements on a difficult but fascinating way of technical research. This start may be done under the magnificent wings of the professional international engineering organizations – the SPIE and the IEEE.

The XIVth IEEE-SPIE Symposium on Photonics and Web Engineering will take place in WILGA Village near Warsaw, a resort center owned by the Warsaw University of Technology, on 26-30 May 2004. The XIIIth Symposium will take place on 25 January 2004 in the Faculty of Electronics and Information Technology of WUT. The WILGA Symposium will gather around 200 specialists next year. The participants come from academia and research institutes – domestic and international.

The WILGA 2004 Symposium will be organized by: IEEE Poland Section – Student Branch, SPIE Poland Chapter, PERG and ELHEP Laboratories of Institute of Electronic Systems, WUT. The WILGA 2004 Symposium is organized under the auspices of: IEEE Poland Section and SPIE Poland Chapter, Institute of Electronic Systems, Warsaw University of Technology, Committee of Electronics and Telecommunications, Polish Academy of Sciences, Polish Optoelectronics Committee, Association of Polish Electrical Engineers, Inter-Association Committee of Informatics, Electronics and Telecommunications, SEP-SIMP. The WILGA 2004 Symposium Patronage Committee will also consist of persons leading the above-mentioned institutions, as during the previous meetings of this series.

The Symposium possesses each year a slightly different scope. The major topical emphasis in 2004 is work development on the biggest planned free electron laser (FEL). The broad area of the Symposium are advanced photonic and electronic systems in hardware and software aspects.

The WILGA 2004 Symposium will have the following topical Sessions:

- Optical Fiber Technology - multi-gigabit transmission systems and distributed multi-sensor hybrid telemetric networks; basics of optical networks; Optical Internet;
- Optoelectronics – materials, technologies and components; Lighting technology;
- Digital holography; Measurements and recognition of 3D objects;

- Advanced measurement systems for biomedicine and environment protection;
- Measurement and functional systems for high energy physics experiments and astronomy;
- Software and new functionalities of optical networks and the Internet;
- Global calculation networks – GRID;
- Organization of other topical sessions is not excluded, and depends on input from their organizers as well as on number and quality of submitted papers.

The Organizers of the topical sessions are renowned domestic and international experts in relevant branches of science and technology. Particular topical sessions are filled with papers invited by Session Organizers and by presentations submitted by young researchers, M.Sc. and Ph.D. students. The supervisors or tutors of young researchers should recommend the submitted papers.

The main aim of the WILGA 2004 Symposium is to build a nation wide debating forum for young researchers and Ph.D. students with strong participation of experts and young research fellows from abroad. Membership of young scientists in IEEE (students and GOLD members) and SPIE will be emphasized during a special Society Evening and IEEE B-B-Q Reception.

The Symposium publications are subject to a standardized peer reviewing process, as in archival journals, and are printed in renowned series Proceedings of SPIE (www.spie.org and www.spie.pl) in English language. Some papers are also published in Elektronika Monthly, a journal of Association of Polish Electrical Engineers. Elektronika is a medial patron of the Symposium. The official language of the Symposium is English. The presentations are allowed also in Polish, Russian and German.

The WILGA 2004 Symposium Organizers invite experts in relevant subject, embracing the widely understood Symposium scope, to declare organization of topical sessions.

The WILGA 2004 Symposium Organizers invite warmly students (Eng., M.Sc., Ph.D.), young researchers from academia, research institutions, innovative spin-offs and industry to submit papers and participate in WILGA meeting. WILGA is an unforgettable and irreplaceable experience for young people.

The WILGA 2004 Symposium Organizers invite high technology firms, spin-offs and all interested businesses to meet with around 200 young researchers, the best ones in the area of photonics applications, advanced electronics, optical communications, HEP experiments and optical Internet engineering.

All information about the Symposium, organization problems, session proposal, paper submission, participation questions are available only through electronic way under the address: photonics@ise.pw.edu.pl.

The Symposium participation costs are just minimal. There is no fee. The only costs are accommodation in WILGA WUT Resort Centre. These costs are estimated for 2003 to be 55 Polish Złoty per day, for night and three meals a day. That is around 14\$. The participants book the rooms in WILGA of their own, under the telephone number 0-prefix-25-685-30-17 (45,47). The information about the WILGA WUT Resort Centre is available on the web: <http://www.info1.pl/Noclegi/osrodki/mazowieckie/wilga/start.htm>



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