



NEWSLETTER

COMMISSION INTERNATIONALE D'OPTIQUE • INTERNATIONAL COMMISSION FOR OPTICS

ICO solicits bids for organizing ICO-22

Territorial Committees are invited to host the 2011 ICO Congress.



Prof. Gert von Bally of ICO.

The ICO Congress is organized every three years and comprises the general business meeting, as requested by the ICO statutes, and a scientific conference that should cover the wide disciplinary field of optics in its entirety.

ICO is now soliciting bids for organizing the 22nd ICO Congress to be held in 2011. The Congresses are usually held in August or in early September.

While ICO prefers that Congresses alternate between the various parts of the world, qualified proposals from all areas are encouraged and all bids will be considered.

The 21st ICO Congress will be held in July 2008 in Sydney, Australia, whereas the ICO-20 Congress was in Changchun, China, with the title: "Challenging Optics in Science and

Technology". The 2002 Congress (ICO-19) was in Florence, Italy, and in 1999 (ICO-18) and 1996 (ICO-17) the Congresses took place in San Francisco, California (US), and Taejeon, Korea, respectively.

Applicants preparing their bids should refer to the information and questionnaire on ICO Congresses and other major ICO events that can be found on the ICO website: www.ico-optics.org/meetings.html.

Please submit your bid by completing the questionnaire and sending it to me with the necessary enclosures, either electronically or by airmail, by 15 April 2007.

Prof. Gert von Bally, ICO associate secretary (in charge of meetings), LBiophys@uni-muenster.de.

Svetlana Boriskina wins ICO/ICTP Prize

The 2007 ICO/ICTP Prize has been won by Dr Svetlana V Boriskina for her contribution to optics and photonics in the Ukraine.



Dr Svetlana Boriskina with prize diploma in hand at the award ceremony at ICTP in Trieste, Italy.

Dr Svetlana V Boriskina, from the School of Radiophysics, VKarazin Kharkov National University (KNU) in Kharkov, Ukraine, has been awarded the ICO/ICTP Prize for 2007. Dr Boriskina is recognized for "her original work in the development of numerical modelling techniques for optoelectronic devices, micro-optical resonators, dielectric lenses and waveguides and for her active commitment aimed at the diffusion of research in optics in Ukraine".

The ICO/ICTP Prize was established to recognize young researchers from developing countries (as defined by the United Nations), who conduct their research in these countries. The prize is awarded to a scientist younger than 40 years of age (on 31 December of the year for which the award is given), who is active in research in optics and has contributed to the promotion of research activities in optics in their own or another developing country.

Dr Boriskina received her MSc (hons) and PhD in radiophysics from KNU in 1995 and 1999. Between 2000 and 2005 she worked in the School of Electrical and Electronic Engineering at the University of Nottingham, UK, first as a postdoctoral fellow, and then as a research fellow. In 2005 she returned to KNU and is currently working there as a senior research scientist.

In the 1990s, Dr Boriskina's research at KNU focused on developing rigorous analytical methods and advanced software tools based on boundary integral equation techniques. These tools were initially applied to modelling reflector antennas and narrow-band dielectric waveguide filters. Later on, her research interests shifted to the field of optics and photonics, and now include micro- and nanophotonics and plasmonics.

During the last two years, Dr Boriskina has established an original research programme in micro- and nanophotonics at KNU. Her ongoing research focuses on the development of a theoretical framework and software tools for the spectral design and modelling of photonic and plasmonic micro- and nanostructures, both ordered and disordered. The results of this research hold great promise for improving the performance of existing photonic devices, as well as creating new photonic devices such as low-threshold semiconductor microlasers, wavelength-selective optical filters and temperature-sensitive switches, near-field imaging systems and biochemical sensors.

Dr Boriskina developed an innovative lecture course entitled "Electromagnetic theory on micro- and nanoscale", which was awarded



Dr Boriskina, a senior research scientist at V Karazin Kharkov National University (KNU), Ukraine.



Organizers and participants at the Young Researchers Career Development Workshop at KNU.



KNU OSA Student Chapter members.

an International Society for Optical Engineering (SPIE) educational grant (2006). She is also supervising several graduate and undergraduate student projects.

Dr Boriskina has contributed to around 90 journal and conference publications, and coordinated or participated in several international research projects. She has made numerous regular and invited talks at major international conferences and held tutorials at Ukrainian seminars for young researchers. She is the organizer of the Special Session on Micro-resonators and Photonic Molecules at the International Conference on Transparent Optical Networks (ICTON, www.itl.waw.pl/icton).

Dr Boriskina is also active in conducting various outreach activities for educating young people about optics, including adapting optics educational materials for non-English-speaking audiences and organizing outreach events for grade-school and university students.

She was a founder of the KNU Student Chapters of the Optical Society of America (www.radiophys.univer.kharkov.ua/theor/OSA/) and SPIE. She now serves as the faculty advisor for the chapters. Among their activities in 2006, the chapters organized a Young Researchers Career Development Workshop in Kharkov, which was partially supported by ICTP and

brought together Student Chapters not only from various regions of the Ukraine, but also from the US and Australia.

Dr Boriskina has received numerous fellowships and scholarships including a graduate fellowship in advanced electromagnetics from the SUMMA Foundation; a graduate-student scholarship from the Institute of Electrical and Electronics Engineers' (IEEE's) Microwave Theory and Techniques Society (MTT); a postdoctoral fellowship from the Royal Society/NATO; scholarships from the ISSEP Foundation; and numerous travel grants to attend topical meetings. She is a senior member of the IEEE, and a member of the OSA and SPIE.

Dr Boriskina received the diploma and cash award at a special ceremony during the Winter College on Fibre Optics, Fibre Lasers and Sensors held at the Abdus Salam ICTP in Trieste, Italy, on 14 February 2007. She delivered the invited ICO/ICTP Award Lecture on "Scattering theory and modelling of light propagation in nanophotonic devices based upon boundary integral equations (BIE)".

The ICO/ICTP Prize Committee consists of A Wagué (chair), A Consortini, G Denardo and M Danailov. The prize is now open for nominations for 2008. Information can be found at www.ico-optics.org/awards.html.

2006 ICO Topical Meeting focuses on optoinformatics

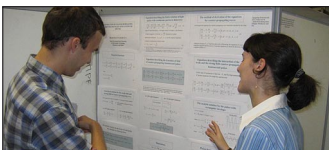
A report on the 2006 ICO Topical Meeting.



Prof. Vasilev opening the meeting. To the right, the three co-chairs: APavlov, ML Calvo and JJahns.



Valentin L Vlad receives the 2005 Galileo Galilei Award diploma and medal from Anna Corsortini, president of the Italian Society for Optics and Photonics, while Ichirou Yamaguchi, chair of the ICO Galileo Galilei Award Committee, looks on.



Discussion at the poster session.

The International Commission for Optics (ICO) organizes every year one Topical Meeting (except for the years coinciding with the General Assembly), dedicated to specific topics of current interest to the global community. Continuing from the optoinformatics workshops held in previous years at Saint Petersburg State University of Information Technologies, Mechanics and Optics (ITMO), the 2006 ICO Topical Meeting on Optoinformatics and Information Photonics revealed the enormous activity and potential of this field.

The Topical Meeting was held on 4–7 September 2006 and was co-located with the Information Photonics 2006 series of meetings. Information Photonics is organized every two years under the ICO and Optical Society of America (OSA) Steering Committee initiative. The two meetings were organized within the framework of the IV International Optical Congress, "Optics – XXI Century", and were sponsored by ICO, the International Union of Pure and Applied Physics (IUPAP), OSA, the European Optical Society (EOS), INTAS and the Dynasty Foundation.

Prof. Vladimir N Vasilev, president of ITMO, opened the meeting. A total of 500 participants from all over the world attended the various parallel focus sessions:

- Applications of Optoinformatics;

- Bio-optics, Bio-photonics, High Resolution Imaging, Vision and Photoreceptors;
- In Memoriam of Emmet Leith and Yuri Denisyuk: Enlightening the World of Holography (to honour two of the three founders of holography – the third being Denis Gabor);
- Optical Microscopy and Metrology;
- Optical Transformations and their Applications in Optical Signal Processing;
- Quantum Optics and Quantum Information;
- Recent Advances in Femto-second Laser Technology;
- Signal and Image Processing and Digital Holography.

The speakers invited to present papers were specialists in the field: H John Caulfield, Michael Lebby, Ventseslav Sainov, Ichirou Yamaguchi, Hans I Bjelkhagen, Kevin Curtis, Asher Friesem, Rainer Hagen, Norbert Hampf, Dimitri Psaltis, Elena Korchemskaya, Levent Onural, Adrian Podoleanu, Arnaud Dubois, Dan Ferguson, Bahram Jalali, Yoshiaki Yasuno, Gerhard Birkel, Maria Chekhova, Claude Fabre, Serge A Massar, Eugene Polzik, Anastasia Rodichkina, Vladimir P Tychinsky, Brian Vohnsen, Gabriel Cristóbal, Ari T Friberg, Kurt Bernardo Wolf, Zeev Zalevsky and Christof Debaes.

The award ceremonies for the 2005 ICO Prize and 2005 ICO Galileo Galilei Award also took place at the meeting. Winners Immanuel Bloch



Immanuel Bloch receives the 2005 ICO Prize diploma and Ernst Abbe Medal from Ari T Friberg, ICO president, in the presence of Yoon Kim, chair of the ICO Prize.



Participants after the special session dedicated to PHOTONICS 21 and the closing ceremony.

and Valentin L Vlad delivered award lectures on “Exploring quantum matter in crystals of light” and “Spatial solitons and soliton waveguides in photorefractive crystals”, respectively.

The meeting closed with a special session dedicated to PHOTONICS 21, the European Technology Platform, with contributions from Chris Dainty, Georg Kelm and Malgorzata Kujawinska. This was followed by a lively discussion between the attendees.

Owing to the high number of contributed papers, many had to be accommodated in the poster session. The result was a very interesting poster session with more than 100 posters.

Social activities comprised a visit to the Saint Petersburg monuments and a boat trip by night on the Neva River.

A special issue of *Optics and Spectroscopy* will appear by November 2007 with selections from

the contributions to the 2006 Topical Meeting. It will reflect, to some degree at least, the results and subjects discussed most in the eight general focus sessions.

We would like to thank all our colleagues who participated in the event. Without their work, the meeting could not have been such a success. In particular, we thank the local organizers, the ITMO academic authorities for their hospitality, all the chairs of the focus sessions, the participants and attendees. The magnificence of Saint Petersburg was an additional benefit.

An important challenge for ICO is to organize international forums in which senior and junior researchers from all over the world can meet in a fruitful and creative atmosphere. We will do our best to achieve this goal.

Maria L Calvo, Jürgen Jahns and Alexander Pavlov, co-chairs.

ROMOPTO 2006 highlights Romanian success in optics

Clementina Timus, Valentin Vlad and Nikos Vainos review the conference held on 28–31 August 2006.



Norbert Kroo, vice-president of the Hungarian Academy of Sciences, addresses the audience at the conference's opening ceremony.



Some of the participants at the gate of the “Hermann Oberth” Faculty of Engineering at the “Lucian Blaga” University of Sibiu, Romania, where the conference was held.

The ROMOPTO 2006 international conference on optics and photonics was the eighth in a series of conferences in Romania initiated in 1982 by Prof. Ioan Ursu and academician Alexandr Michailovich Prohorov. The 2006 conference was organized by the National Institute of Laser, Plasma and Radiation Physics, Bucharest, and the “Hermann Oberth” Faculty of Engineering at the “Lucian Blaga” University of Sibiu. The chair of the conference was Prof. Valentin Vlad.

The conference topics were related to recent applications of modern micro- and nanophotonics in materials science, information science and technology, optoelectronics, biology and the environment, sensing and metrology. The conference provided scientists of all ages with the opportunity to share experiences, discuss results, stimulate interdisciplinary research and consider the prospects of applications.

As a partner in many international projects and activities, Romania works with institutes and universities in other countries and plays an active role in the promotion of scientific contacts. Collaborators become friends, admire and appreciate the culture of Romania, and are interested in learning about developments resulting from the country's recent admission to the European Union.

To introduce participants to different areas of the country, the organizing committee hosts the conference in different Romanian cities, such as Constanta on the border of the Black Sea (2003) and now in Sibiu, Transylvania, one of the best-preserved medieval cities in Romania. Sibiu is also one of the 2007 European Capitals of Culture (the other is Luxembourg).

More than 180 papers were submitted on the six topics, which were organized into three parallel sessions and six plenary sessions. In addition,

Prof. V Lupei coordinated a workshop on Advanced Photonics Materials and Sources and Prof. V Vlad chaired a panel on “Photonic nonlinear devices and circuits”.

The plenary sessions were honoured by the involvement of the following distinguished professors: MJ Soileau, University of Central Florida, Orlando (US); Norbert Kroo, vice-president of the Hungarian Academy of Sciences; Guenter Huber, Institut für Laser-Physik, Universität Hamburg, Germany; Reshef Tenne, the Weizmann Institute, Israel; and Joseph Zyss, École Normale Supérieure, Cachan, France.

The contributed papers were organized into 36 invited lectures, 52 oral presentations and 76 posters. The plenary sessions had a very large audience, as the topics proposed by the authors were of great interest. It was a pleasure to notice the high level of international involvement in this conference, with 72 participants from 18 countries as well as about 90 Romanians.

The participation of many young scientists was made possible by the generous support of the International Society for Optical Engineering (SPIE), PhOREMOST, ICTP and ICO. Young scientists were invited to make oral presentations, giving them the opportunity to convince the auditorium about their own research. Many of these young scientists have contributed high-quality work in laboratories around the world in the framework of NATO or EU projects. The conference also aimed to educate young scientists and give them the opportunity to be in contact with the most prestigious professionals in the field, and defend their results.

Posters, magazines and leaflets were sent by SPIE and ICO so that participants could inform themselves about the professional societies and facilities offered to full members, especially for young scientists. It is necessary to mention that

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the Romanian SPIE chapter was organized in 1992, and since 1994 there has been an ICO Territorial Committee. The SPIE Student Chapter was established in 2001.

During the conference a trip was organized to visit Sighisoara, a well-preserved 15th-century city, which is on UNESCO's protected World

Heritage List. The participants also enjoyed the Saxon churches in villages in Transylvania.

We would like to thank the local committee for their excellent organization and hospitality, which everyone greatly appreciated.

Clementina Timus, secretary, Valentin Vlad, chair, and Nikos Vainos, ICO representative.

Travelling Lecturer visits Brazilian centres

Dr Héctor Rabal visited several research centres in Brazil from 9 to 23 December 2006 through the ICO Travelling Lecturer Programme: the Federal University of Lavras (UFLA), the University of Campinas and the University of São Paulo.

Dr Rabal is a fellow of the National Council of Science and Technology (CONICET) and professor at the University of La Plata (UNLP), Argentina, and is currently ICO's Argentinian representative.

At UFLA, Minas Gerais State, he delivered a series of talks on topics relating to Fourier optics, including digital-speckle patterns interferometry (DSPI) and dynamic-speckle methods and applications, that were grouped into a brief course for engineering and computer-science students. He also had the opportunity to speak with several students who were preparing their graduation and post-graduation works on dynamic-speckle applications.

Dr Rabal's administrative tasks, involving the creation of a book on dynamic speckle, were carried out with Dr Roberto Alves Braga Jr, who runs the Laboratory of Lasers and Optics with Dr Giovanni Rabelo. In this laboratory several experiments are being conducted that use dynamic-speckle phenomena for biomedical and environmental-science applications.

At the University of Campinas, Dr Rabal participated in a meeting organized by the Brazilian Local Territorial Committee on Optics. Dr Jaime Frejlich coordinated the meeting, which was devoted to the organization of the forthcoming Ibero-American Conference on Optics (VI Reunión Iberoamericana de Optica – VI RIAO) and the Latin-American Meeting on Optics, Lasers and Applications (IX Encuentro Latinoamericano de Optica, Láseres y sus Aplicaciones – IX OPTILAS) to be held at the university on 21–26 October 2007. Dr Rabal



Dr Rabal delivering a lecture at the Department of Physics of the University of São Paulo in Brazil.

also spoke with Dr Dal Fabbro and other local researchers about dynamic speckle and moiré.

At the University of Sao Pãulo, Dr Rabal was welcomed by Dr M Muramatsu, head of the Optics Laboratory. Dr Rabal delivered a talk on “Dynamic speckle: fundamentals and applications” at the physics department. He sat in on an interdisciplinary meeting of members of the Optics Group and the Hearth Institute (Instituto do Coração – InCor) and participated in an actual application of low-power laser therapy to the monitoring of the cicatrization process, using laser-speckle techniques.

Many fruitful talks were held with Dr M Muramatsu, Dr Armando Tavares (National University of Rio de Janeiro), Dr Walter Pontuschka and several enthusiastic students on dynamic-speckle characterization tools, optics measurement instruments and didactic experiments for teaching optics, in particular image formation and hand-drawn holograms. He also observed a workshop for undergraduate students in the Teaching Laboratory coordinated by Claudio Furukawa, which demonstrated concepts in optics, thermodynamics and mechanics.

Dr Rabal was very grateful for the warm hospitality and interest that he received in the centres, and made several useful contacts.

See www.ico-optics.org/travlecture.html for more on the Travelling Lecturer Programme.

Héctor Rabal

To find out information about forthcoming events with ICO participation, see the events page of the ICO website at www.ico-optics.org/events.html

Responsibility for the accuracy of this information rests with ICO. President: Ari T Friberg, Royal Institute of Technology, Optics, Electrum 229, SE-164 40 Kista, Sweden; e-mail: ari.friberg@imit.kth.se. Associate secretary: Gert von Bally, Laboratory of Biophysics, Medical Centre, University of Münster, Robert-Koch-Str. 45, D-48129 Münster, Germany; e-mail: lbiophys@uni-muenster.de.

