

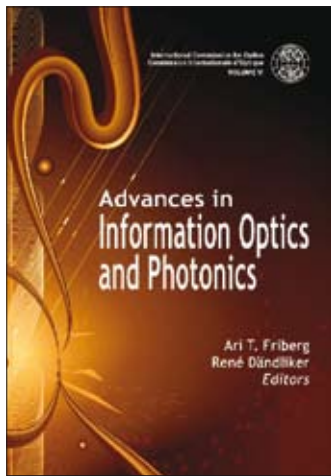


NEWSLETTER

COMMISSION INTERNATIONALE D'OPTIQUE • INTERNATIONAL COMMISSION FOR OPTICS

New book takes a good look at photonics

Volume VI – *Advances in Information Optics and Photonics* is the ICO's latest publication.



Cover of the latest publication in the ICO book series (volume VI).

Since 1989 the ICO has published a book series comprising five volumes under the heading Trends in Optics, releasing one every three years. The books are:

- JCDainty (ed) 1994 *Current Trends in Optics* (Academic Press)
- JWGoodman (ed) 1991 *Trends in Optics – International Trends in Optics* (Academic Press)
- A Consortini (ed) 1996 *Research, Developments and Applications* (Academic Press)
- T Asakura (ed) 1999 *International Trends in Optics and Photonics* (Springer)
- AHGuenther (ed) 2002 *International Trends in Applied Optics* (SPIE Press).

The contents of each book highlight the advances and trends in the research and development of optical sciences, technologies and applications at the time of their publication.

Now, to cover the growth in ICO activity, volume VI spans a six-year period (2003–2008).

In this age of the photon, information optics and photonics are key technologies that help to sustain our knowledge-based society. New concepts in classical and quantum-entangled light, coherent matter, and novel materials and processes have led to remarkable advances in today's information science and technology.

The ICO is closely involved with information optics, as exemplified by events such as the ICO Topical Meeting on Optoinformatics/Information Photonics (St Petersburg, Russia, 2006) and the many ICO prizes recently awarded for outstanding contributions on these topics. *Advances in Information Optics and Photonics* is in part based on these ICO activities.

Volume VI comprises 32 chapters written by

leading international scientists and researchers on various information optics and photonics topics. The chapters are divided into seven sections: Beam Optics; Laser Photonics and Components; Electromagnetic Coherence; Imaging, Microscopy, Holography and Materials; Photonics Processing; Quantum Information and Matter; and Communications and Networks. *Advances in Information Optics and Photonics* was edited by ICO president Ari T Friberg and René Dändliker (ICO president 2005–2008), and was published by SPIE Editions on 18 June.

It is worth noting this section of the preface: “Besides highlighting the main developments of international optics and photonics, the aim of this book series is to promote the general awareness of the ICO and raise funds for its global activities, in particular the travelling lecturer programme, which is aimed at enhancing optics in developing nations. Therefore, all royalties will go to the ICO for that purpose.”

Volume VI differs from its predecessors in at least three respects: it concentrates on a specific, though extremely important, topic within the broad field of optics and photonics; it does not have the words “International Trends” in the title; and it is a paperback. We hope that with these changes the book will become a standard reading and reference material.

This new volume should be presented at the ICO General Congress, ICO-21, which takes place on 7–10 July 2008 in Sydney, Australia, and some copies of the book will be available for viewing at the ICO's booth.

- To buy the book go to http://spie.org/x648.xml?product_id=793309 for more information.

Optics experts converge on Ghana for a Topical Meeting

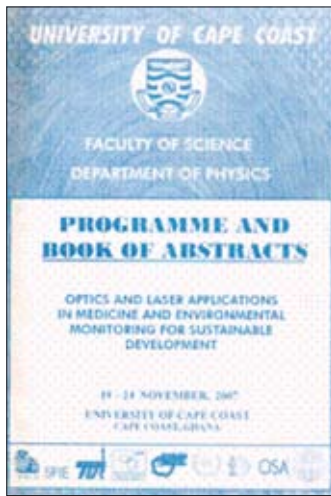
The ICO's 2007 Topical Meeting was held at the University of Cape Coast in Ghana, Africa.

Every year that the General Congress occurs, the ICO organizes Topical Meetings – major events dedicated to specific relevant subjects with a focus on industrial applications. For 2007 the Topical Meeting was held at the University of Cape Coast (UCC), Ghana, from 19 to 24 November. This is only the second time that an ICO Topical Meeting has been held in Africa (in 2000 one was held in Dakar, Senegal).

The International Conference on Optics

and Laser Applications in Medicine and Environmental Monitoring for Sustainable Development was hosted by the Laser and Fiber Optics Centre at UCC, and proceedings from the meeting have been used to compile a book of abstracts, edited by the university.

The African Laser Atomic and Molecular (LAM) Network, in collaboration with UCC and the government of Ghana, organized the Topical Meeting to expose African participants



A book of abstracts from the 2007 ICO Topical Meeting, edited by the University of Cape Coast, Ghana.

to current developments in lasers for medicine and environmental monitoring.

The ICO and the International Society on Optics within Life Sciences (OWLS) were using the same gathering as the ICO Topical Meeting. The Optical Society of America (OSA) sponsored the training programme, while the International Society for Optical Engineering (SPIE) provided prizes for the best oral presentations and posters.

The conference involved 15 plenary lectures, 12 invited talks, 28 contributed papers and five papers from participants. The major topics addressed were:

- optical spectroscopic techniques and sensors in environmental monitoring, medical diagnostics and therapeutics;
- photonics and optical nanotechnologies;
- laser sources and techniques in laser-matter interactions;
- laser and optical technologies in medicine, environmental monitoring and biophotonics;
- environmental forensics.

The regional distribution of participants and lecturers (in the order of region, country and then the number of lectures) were as follows:

Europe: France 3; Germany 4; Ireland 1; Italy 2; Russia 3; Scotland 1; Spain 1; Sweden 6; UK 1

Asia: Japan 1; China 2; India 2; Sri Lanka 1; Vietnam 2

America: USA 5

Central Africa: Cameroon 3; Gabon 1

North Africa: Egypt 3; Morocco 1; Tunisia 1

Southern Africa: South Africa 3; Zimbabwe 2

East Africa: Rwanda 1; Ethiopia 3; Kenya 2

West Africa: Nigeria 5; Ghana 10; Côte d'Ivoire 4; Senegal 3.

Meeting chair and local organizer Prof. Paul Buah-Bassuah and LAM president A Wagué, expressed, on behalf of the advisory board, national organizing committee and local organizing committee, their thanks to the international organizations that sponsored the conference – ICO, ICTP, IUPAP, OSA, OWLS and SPIE. Other institutions and entities – such as Tema Oil Refinery, The Association of Oil Marketing Companies, and the Laser and Fibre Optics Centre at UCC – also provided financial and strategic support.

Prof. Buah-Bassuah also thanked the conference participants for contributing to its success.

The 2006 ICO Galileo Galilei Award ceremony also took place at the meeting. Prof. Mohammed Shabat from the Islamic University of Ghaza received the prize and delivered his lecture on “Education and Research in Palestine: Challenges and outlook”.

A special session dedicated to the memory of the late Arthur H Guenther, former ICO president, and the late Gallieno Denardo (who was responsible for the optics programme at



Pictured here are the meeting's prize winners and their panel of judges. The prizes were awarded as follows.

Best student poster presentation: Gwamuri Jephias (second from the left) from the Department of Applied Physics, Bulawayo, Zimbabwe for his poster on “Investigating Light Propagation in Turbid Media by Evaluating Optical Properties of Phantom Tissues”. The best student oral presentations went to: Kassahun Ture (third from the left) from the Department of Physics at Addis Ababa University, Ethiopia for his paper on “Optical Properties of Coffee and Caffeine”; Märta Cassel-Engquist (second from the right, back row) from the Department of Physics at Lund University, Sweden, for her paper on “Diode Laser Based Techniques for Measuring Gas in Human Sinuses”; and Mikkel Brydegaard (third from the right, back row), also from the Department of Physics at Lund University, for his paper on “Contrast Functions and Spectral Data Handling”. The panel were (from the right): Yehia Badr, Ichirou Yamaguchi, Katarina Svanberg and Maria Calvo. Meeting chair Paul Buah-Bassuah is in the centre.



Prof. Sune Svanberg, from Lund Institute of Technology – a member of the Royal Swedish Academy of Sciences and the Nobel prize committee – delivering a plenary lecture entitled “The Nobel Prize in Physics: Science, Selection and Celebration”.

the Abdus Salam International Centre for Theoretical Physics in Italy) was a very moving event during which colleagues and friends remembered the outstanding contributions that they had both made to the optics community.

A round-table event was chaired by P Chavel on the last day of the meeting. Fruitful discussions took place about arranging future activities to ensure the continued support for research into optics and photonics, as well as education programmes in African countries.

The ICO bureau also met in Accra, Ghana, on 17 and 18 November for its 2007 annual bureau meeting.

Paul Buah-Bassuah, meeting chair

RIAS/OPTILAS 2007 gets a good write-up

AIP publishes the proceedings of the 2007 RIAO/OPTILAS conference.



Cover of the AIP Conference Proceedings, volume 992, which records the proceedings of the RIAO/OPTILAS 2007 conference.

The proceedings of the RIAO/OPTILAS 2007 conference – held in Campinas, São Paulo, Brazil on 21–26 October 2007 (*ICO Newsletter* April 2008) – have been published in the American Institute of Physics (AIP) Conference Proceedings Series. The proceedings were edited by Niklaus Ursus Wetter from the Institute for Nuclear and Energetic Research, Center for Lasers and Applications in São Paulo, Brazil, and Jaime Frejlich from IFGW-UNICAMP, Laboratório de Óptica, Campinas-SP, Brazil.

The proceedings, which can be found in volume 992 of the journal, are part of a sub-series on Atomic, Molecular and Optical Physics. It was published in May 2008 as one volume with a hard cover and a total of 1364 pages.

The editors suggest that all researchers who are interested in research and education in optics, mainly in Latin-American and Iberian countries, would be interested in the contents. It could also be of interest to researchers, scholars and government development agencies in any country that is interested in the optics activity in their region of the world. It might also interest members of the international scientific community who are looking for partners for joint optics projects and for the opportunity for researcher and student exchanges.

All of the papers have been peer-reviewed. The conference focused on research activi-

ties in all areas of optics, but mainly in Latin-American and Iberian countries. A specific session for education in optics was also included. All countries in the Latin-America region were well represented, including senior and junior researchers as well as graduate students talking about their PhD and MSc thesis work. This offered a good general view of research trends and activities in that region. Topics discussed included atmospheric optics; colour, vision and radiometry; diffractive optics; education for optics; guided optics; holography and interferometry; lasers and quantum optics; metamaterials; nonlinear optics; optical instruments; optical materials and applications; optical metrology; optical processing; optical spectroscopy; and thin films.

The ICO welcomes these types of publications that provide a clear sign of activity and dynamism in the field of optics and photonics in the Latin-American region. The ICO therefore congratulates the editors and scientists participating in this event, and encourages similar activities for the near future (for which the ICO will be always be interested in providing the necessary support).

• The complete table of contents is available at <http://proceedings.aip.org/getpdf/servlet/GetPDFServlet?filetype=pdf&id=APCPCS@stand/992toc.pdf&idtype=standpdf>.

Participants flock to Indonesia for ICOLA

A report from ICOLA 2007 in Indonesia confirms the dynamism of optics and photonics activities in east Asia.

The 2nd International Conference on Optics and Laser Applications (ICOLA) 2007 was organized by the optoelectrotechniques and laser application study programme at the electrical engineering department of the University of Indonesia. It took place on 5–7 September 2007 at the Inna Garuda Hotel, Yogyakarta, Indonesia, in conjunction with the 30th anniversary of the study programme.

ICOLA 2007 was supported technically by the ICO, SPIE and the ICTP, in co-operation with other local professional societies. Participants came from the US, Japan, South Korea, China, Taiwan, Thailand, Singapore, Malaysia, Bangladesh, India, Iran, Yemen, Algiers, Moldova, Ukraine and the Netherlands. Around 75 extended abstracts (invited, overseas and domestic), and about 55 selected or reviewed papers were presented at the conference. Those papers were divided into three categories: nanotechnology, biomedical optics and optical communication; general optics, holography and laser technology; and photonics devices/materials, design and applications.



Participants at ICOLA 2007, in Yogyakarta, Indonesia.

The conference was formally opened by Prof. Rinaldy Dalimi, dean of the faculty of engineering at the University of Indonesia. Keynote speaker Prof. Bambang Hidayat, chair of the Indonesian Academy of Sciences, gave a talk entitled “Scientists and their society, between advocacy and arbitration”, which can be downloaded from <http://icola2007.net/invited.php>.

The invited speakers and other participants signed a **YOGIA ACCORD** at the farewell dinner near Parambanan Temple before the Ramayana ballet performance. One item of the accord stated that ICOLA 2009 will be held in Singapore, and that the event will continue to alternate between Indonesia and other regions. **Sar Sardy, general chair of ICOLA 2007**

India confirms its premier optics team

The Optical Society of India elects a new executive council.

The Optical Society of India held its annual general meeting at Tezpur University, Tezpur, Assam, in December 2007. A new executive council was elected for the term running from 1 April 2008 to 31 March 2009. The successful candidates are as follows:

President – Dr TK Alex, director of Laser & Electro Optics Systems at the Indian Space Research Organisation, Bangalore.

Vice-president – Prof. Anurag Sharma, Department of Physics at the Indian Institute of Technology, Delhi.

General secretary – Prof. LN Hazra, Department of Applied Optics & Photonics, Calcutta University.

Treasurer – Dr K Bhattacharya, Department of Applied Optics & Photonics, Calcutta University.

Members – Dr AK Gupta, Photonics Division, Instruments Research & Development Establishment, Raipur Road, Dehradun; Prof. BP Pal, Department of Physics, Indian Institute of Tech-

nology, Delhi; Dr N Krishna Mohan, Department of Physics, Indian Institute of Technology, Madras Chennai; Dr SV Ramgopal, Central Scientific Instruments Organisation, Chandigarh; Prof. RM Vasu, Instrumentation Department, Indian Institute of Science, Bangalore; Prof. CS Narayanamurthy, Department of Space (Government of India), ATF Campus, VSSC, ISRO (PO), Thiruvananthapuram; Dr SK Bhadra, Optical Communications, Fibre Division, Central Glass & Ceramic Research Institute, Kolkata; Prof. D Narayana Rao, School of Physics, University of Hyderabad, Hyderabad; Dr KR Suresh Nair, Director, NEST R & D Centre, Cochin Special Economic Zone, Kakkannad, Cochin; Dr PP Sahu, Department of ECE, Tezpur University, Napam, Tezpur; Dr PT Ajithkumar, Light Logics Holography & Optics Pvt. Ltd., Crescent Hill, Thiruvallam.

For further information about the elections see the Optical Society of India's website at <http://www.osiindia.org>.

Contacts

International Commission for Optics (www.ico-optics.org).

Bureau members (2005–2008)

President A T Friberg

Past-president R Dändliker

Treasurer A Sawchuk

Secretary M L Calvo, Departamento de Óptica, Universidad Complutense, 28040 Madrid, Spain.

E-mail mlcalvo@fis.ucm.es.

Associate secretary G von Bally

Vice-presidents, elected

S N Bagayev, A M Guzmán,

G F Jin, B Y Kim,

M Kujawinska, H Lefèvre,

J Love, I Yamaguchi

Vice-presidents, appointed

J Braat, M Gu, I C Khoo,

G Sincerbox, P Stahl,

A Wagué

Senior adviser (ad personam)

P Chavel

IUPAP Council representative

Y Petroff

Forthcoming events with ICO participation

Below is a list of events with ICO participation that are coming up in 2008. For further information, see www.ico-optics.org/events.html.

27–29 August

The 6th International Conference on Photonics, Devices and Systems IV “Photonics Prague 2008” (ICO support to be decided)

Prague, Czech Republic

Contact: Prof. Pavel Tomanek, tel +420 541 143 278, fax +420 541 143 133, tomanek@feec.vutbr.cz, <http://prague2008photon-czsk.org/>

15–18 September

Topical Meeting on Optoinformatics 2008

St Petersburg, Russia

Contact: Alexander V Pavlov, tel +7 812 328 1467, fax +7-812-3281467, pavlov@ysa.ifmo.ru, <http://ysa.ifmo.ru/tmo2008>

15–20 September

Fourth International Conference on Singular Optics (Optical Vortices): Fundamentals and Applications “SO’2008”

Alushta, Crimea, Ukraine

Contact: Prof. Alexander V Volyar, tel +380 (652) 230 248, fax +380 (652) 63 75 89, volyar@

crimea.edu, www.vortex.crimea.edu/so2008

13–16 October

10th International Conference on New Developments and Applications in Optical Radiometry (NEWRAD 2008). (ICO support to be decided)

Daejeon, Korea

Contact: Prof. Erkki Ikonen, tel +358 5055 02283, fax +358 9451 2222, Erkki.ikonen@tkk.fi, <http://newrad2008.kriss.re.kr/>

16–20 November

International Topical Meeting on Information Photonics 2008

Awaji, Hyogo, Japan

Contact: Jun Tanida, tanida@ist.osaka-u.ac.jp, <http://ip2008.i-photonics.jp/>

14–17 December

PHOTONICS 2008 9TH International Conference on Fiber Optics and Photonics, (ICO support to be decided)

New Delhi, India

Contact: Prof. Bishnu Pal, tel +91 11 2659 1327, fax +91 11 2686 5039, bishnupal@gmail.com, <http://web.iitd.ac.in/~photonics2008>

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.



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