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PART I:

ICO TRIENNIAL REPORT

TRIENNIAL REPORT OF THE ICO TO IUPAP

Duncan T. Moore, ICO President 2011-2014

Evolving With an Evolving World



Like any organization that thrives across more than a few decades, the ICO has grown and evolved to match the changes in the world in which it operates. It was founded as an affiliated commission of the International Union of Pure and Applied Physics in 1947, and since its inception, the ICO has grown to become a truly global society, including members from 52 territories around the world. Despite this success, we must constantly strive to expand the ICO to other members to offer them support for their optics endeavors, and to benefit in turn from the advances that will be made increasingly possible with cross-boundary collaborations. Last year at the ICO's Strategic Planning Committee Meeting in Tokyo, key proposals were set forth to help strengthen the international reach and nature of the organization.

Global economies continue to recover from some of the most challenging economic times that the world has faced since the ICO was founded. Aiding economies and creating jobs are among the greatest needs across the globe and must be a primary focus for the ICO now and in the years ahead. To that end, a number of ICO members, myself included, worked with the National Research Council last year to help lay out its review of the future of optics and critically, its economic impact, which can help the ICO to educate policy makers about the advantages of supporting optics and photonics research.

The Global Reach of the ICO

Former ICO President Anna Consortini once called the ICO “The United Nations of Optics.” The ICO has been devoted to bringing together optics researchers from around the globe since the first day it was founded, but as always, more can be done. One of the attributes that sets the ICO apart from other major optical organizations is that the ICO's annual meetings are held throughout the world instead of only within the borders of the United States. At the 2013 Tokyo meeting, a great deal of discussion was given to ensuring our annual meeting would be held in a developing nation every third general assembly. This is something no other optics organization does, and is an endeavor the ICO must necessarily take upon itself, both for the good of the organization and the good of optics research as a whole.

Hosting in developing countries provides a unique opportunity for all members of the ICO. The prestige of hosting an international conference of this sort can bring a great deal of attention to optics in these countries, and helps raise the level of support for the researchers there. Many scientists conducting exceptional work in countries such as Cuba or Iran find it extremely difficult to meet scientists from the field from the U.S. and other developed countries for political reasons. Often, financial resources are limited, and travel isn't an option. By bringing the ICO into those countries, we foster the ability to talk directly with fellow researchers when we might not otherwise be able to. That exchange of knowledge will pay great dividends in the years to come.

The discussion of international reach included the way in which the ICO assesses dues, and while that may appear to be a minor consideration, it can have a profound effect on the success of optics and photonics programs in countries that are limited in the resources they can dedicate to optics research.

The first dues system was developed after the Second World War and was based strictly on population. It was updated several years later to the current system, which was designed to ensure that a country such as the U.S. does not dominate the commission, but that system has not kept pace with changes in demographics or research abilities.

A number of new algorithms for fee assessment are now under consideration. The exact formula is still being discussed, but they all take into account a combination of the gross national product of a country and the H-Factor of the country. GNP is used as an indicator of how productive a country is, and the H-Factor—a metric of frequency of citations—gives an indicator of the quality of the research being performed. With these two key indicators, representing quantity and quality, we believe we can create a method of determining fees in a way that is much more equitable across countries.

Photonics in the New ICO Objective

If inclusiveness was the theme of the Tokyo meeting, it certainly didn't stop at the issues surrounding political borders. Much discussion centered on the term "photonics" and whether photonics is a distinct discipline apart from optics, or whether optics is a wide umbrella that includes photonics. Clearly, this is an important question as it drives directly to the name of our organization. At length, the decision was made to keep the ICO's name intact but to rewrite the commission's objective statement to expressly include photonics.

The first sentence of the new ICO Objective is: "The objective of the International Commission for Optics (ICO) is to contribute, on an international basis, to the progress of the science of Optics and Photonics and its applications." The entire objective statement likewise reflects the addition of photonics wherever applicable.

The Economics of Optics

Though most members of the American public stare at phone and computer displays hundreds of times a day, or use lighting and data storage, or benefit from medical science, far too few have a true awareness of the fundamental role optics and photonics plays in

these technologies. The economic benefit of optics and photonics research to governments around the world needs to be underscored. An initiative to heighten general appreciation for our research by American and European countries can motivate other countries to launch their own campaigns to strengthen and support optics research and education.

In the 2013 edition of the National Research Council's report, *Optics and Photonics, Essential Technologies for Our Nation*, the impact of the optics and photonics industry on the U.S. economy was considered in depth for the first time. For this report, economists were enlisted to properly catalog the effect our discipline has on national industry.

One of the key findings in the NRC's report is the need for industry participation in furthering optics and photonics research. For both intellectual and financial reasons, industry cooperation is key to accelerating exploration with real-world implications, but given how broadly optics spans disciplines, smaller companies are more likely to be the participants than the larger firms of the past, such as the famed Bell Labs or Eastman Kodak. This dispersion of talent and resources makes meaningful collaborations more difficult.

Lastly, such consortia may not necessarily align well with the long-term research goals of basic-research-focused entities if industry plays the predominant role in setting the agenda. Given the clear benefits of working closely with industry, a way of mitigating the issues surrounding research consortia needs to be addressed. Economic opportunities will be hard to come by if R&D investment for long-term optics and photonics research is not coordinated at a national level, mitigating the risks to industry of far-horizon research aims and bringing together the wide array of photonics applications under a single, addressable umbrella.

To that end, the NRC report states: "Accordingly, the committee's judgment is that the time is overdue for a federal initiative in photonics that seeks to engage industry, academic, and government researchers and policy makers in the design and oversight of R&D and related programs that include federal as well as industry funding."

Toward a National Photonics Initiative

Despite the ubiquitous and critical nature of optics and photonic applications in every aspect of modern life, data on the industry's output, employment, and R&D investment are not reported by U.S. government statistical agencies. The diversity of optics applications, while a demonstrated strength for the field, complicates accurate reporting and analysis of the field's economic impact. Even the government's own research investment dollars are not collectively measured, making it difficult to state the case that such investment has a measurable economic benefit to the nation.

Likewise, private organizations that monitor venture capital investment are limited in their scope of what constitutes photonics-based or photonics-enabled research because, like the U.S. government agencies, they have no umbrella definitions under which to categorize the myriad applications that optics impacts. As direct government investment gives way to

industry-collaboration incentives, monitoring the private sector investment in photonics becomes increasingly crucial.

To overcome these issues, the NRC committee recommends that the federal government develop a *National Photonics Initiative* to collect all the academic, industrial, and government research data in one place, as well as enlist the researchers and policy makers to work together to lay out a properly integrated method of managing R&D spending on optics and photonics across all industries and government agencies. We on the committee believe, as do so many of us in the ICO, that our field is growing at an extremely rapid rate, with advances and applications that tend to be indicative of a nascent discipline, rather than a well-established one. That swift pace of progress comes in large part from the breadth of applications of which optics and photonics has been a key component over the last decade, but that same breadth of applications has impeded government and industry gaining an overarching grasp of the field. Without proper quantification of the impact of optics and photonics, it's difficult to chart a strategy to nurture the field on the large scale.

One key recommendation to improve the analysis of data in the optics and photonics sector is to develop a set of North American Industry Classification System (NAICS) codes that cover all aspects of the field. The NAICS is the standard used by federal agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. Such a system would include the reporting of federal photonics-related R&D investment for all federal agencies and programs.

A national photonics initiative would not only aid all parties in measuring and monitoring optics and photonics activity and impact, but it would also offer the federal government a tool to justify programs that provide matching funds for industry-led research consortia. By identifying critical technical priorities for long-term R&D funding, proper coordination across industries, academia, and government laboratories will allow for greater progress in the field. The committee even suggested an area that would likely win early interest and approval; large-scale data communications and storage. Using the National Nanotechnology Initiative as a template, we believe a National Photonics Initiative will have a dramatic effect on the state of U.S. optics and photonics R&D funding, which may then serve as a template for our members around the globe.

The International Year of Light

One last point I'd like to touch on in this report is a look toward the future; 2015 to be exact. I had the distinct privilege of presenting the proposal for the International Year of Light and Light-Based Technologies to the IUPAP General Assembly, which along with several international organizations, including the EPS, ICTP, and the LAM Network, supported the idea to the United Nations General Assembly. The assembly has officially proclaimed 2015 to be the International Year of Light, recognizing "the importance of light and light-based technologies in the lives of the citizens of the world and for the future of development of the global society on many levels."

With the importance clearly demonstrated by the NRC report on how public awareness of optics and photonics is an important driver in the global economy as well as everyday life, it is tremendously exciting to have this opportunity right before us to reach the wider public and policymakers and demonstrate how our discipline plays—and will play—a vital role in the standards of living around the world.

The international optics community will realize that for them, and ICO, this is also the greatest opportunity in our lifetime to gain strong visibility and respect for optics as a separate discipline within the scientific community.

And for the general public, a year where the people are made aware of light's integral function in energy, climate change, communications, agriculture, architecture, archeology, entertainment, art, and culture will have a dramatic and far-reaching effect on how funding and research in our beloved field of optics and photonics is carried out in the decades to come.

It's truly an exciting time to be part of the ICO.



OBITUARIES

IN MEMORIAN OF GUOGUANG MU (1931-2012)

THE ICO MOURNS THE PASSING OF A PIONEERING ICO LEADER



Guoguang Mu shall be remembered by the teachers and students of Nankai University. His spirit will continue to influence more and more scientists, especially the teachers and researchers who are engaged in optics and optical engineering. He was survived by his wife Mrs Yuanxiang Chi, his daughter Xiaohong Mu, his son-in-law Zhigang He, his daughter-in-law Peiyang Yan, his grandson Weiyu Mu, Guangwei He, his granddaughter Weihuang Mu and Guangyue He.

It is with great sadness that we report the passing of Prof. Guoguang Mu on April 12, 2012, at the age of 81. Guoguang Mu was one of the early pioneers of optics, applied optics,

and optical instrumentation in China, and made distinguished contributions to white light information processing. He served as ICO Vice President from 1993 to 1999 and continued his commitment to ICO thereafter. At his death, he was serving as the representative of the ICO Chinese Territorial Committee.

Guoguang Mu was born in Jinxi (current day Hu Lu Dao City), Liao Ning Province, on January 22, 1931. He graduated from the Physics Department of Nankai University in 1952. From 1986 to 1995, he was the president of Nankai University. From 1993 to 2005, he was the president of the Chinese Optical Society (COS). In 1991, he was elected a member of the Chinese Academy of Sciences (CAS). In 1994, he was elected as a fellow of the Academy of Sciences for the Developing World. Guoguang Mu was fellow of OSA, SPIE and a Vice President (1993-1999) of the International Commission for Optics.

Guoguang Mu was a famous optician with an international reputation. He designed and manufactured many novel optical instruments. He presented many important novel concepts and technologies in white light information processing, pattern recognition, colour image coding and decoding, and colour photography, which have been widely used. He published more than 100 scientific research papers on internationally renowned optical journals and owned 2 very valuable patents. He received 3 national scientific and technological prizes and the Ho Leung Ho Lee Prize for exceptional Chinese scientists.

Guoguang Mu engaged in optical teaching and research for 60 years and trained many excellent optical professionals who work both in China and in many foreign countries. He played a major role in the developments of Chinese optical teaching and optical researching. The book "Optics" that he and Yuan Lin Zhan wrote and compiled in 1964 was the first classical fundamental book for optical physics, which has been a commonly used textbook for undergraduate students and has had a pervasive influence on Chinese optical teaching. When he was the president of COS, he actively promoted the academic exchanges between

Chinese Optical Society and many international optical societies, including the Optical Society of America (OSA) and SPIE.

Guoguang Mu was an excellent education and university leader, who was deeply respected and loved by the teachers and students of Nankai University. He promoted the structural reforms of education and teaching in Nankai University. These included the general subject distributions of arts, sciences, and technologies, paying more attention to constructing an elite group of teachers, which produced very successful results. He strongly believed in open teaching and promoted wider and closer association and collaboration between Nankai University and many internationally renowned universities.



A TRIBUTE TO H. JOHN CAULFIELD (1936-2012)

A REGULAR ICO COLLABORATOR

On February 2012, while attending the annual Winter College in Optics at the Abdus Salam International Center for Theoretical Physics (ICTP), Trieste, Italy, I received the sad news of the passing away on 31 January of H. John Caulfield.

Caulfield, born March 1936 in Hallettsville, Texas, received his PhD in physics from Iowa State University. In an illustrious career, he worked for industry, served as founder and director of the Center for Applied Optics at the University of Alabama, and continued his academic work at the Alabama A&M University Research Institute as chief scientist. In his long and fruitful professional career he contributed greatly in both academic and industry arenas.



Caulfield was a highly respected scientist, known worldwide for his technical and organizational achievements in optical computing, speckle, holography, correlation optics, visual processing of information, optoelectronics and other related areas. He was the editor-in-chief of the Journal of Holography and Speckle and editor or co-editor of numerous books. His most recent book, *New Directions in Holography and Speckle*, was co-edited in 2006 with Chandra S Vikram. In the area of optical computing,

he worked to solve a 40-year-old problem of making practical optical circuits that consume no energy and can work at any bandwidth that the optical beam carries. During his almost 50 years of research work he reignited interest in optical Fourier pattern recognition by showing how to maintain its ability to recognize and locate objects while doing much more

powerful discrimination than was ever thought possible. In the area of metrology, he applied his invention of fuzzy metrology to wavelength meters, non-imaging location of points, and spectral discrimination. In a field closely related to optics, he and Andrew Parker of Oxford University recently solved a fundamental problem in the evolution of visual systems. His theory on the evolution of consciousness seemed to be gathering supporters. Caulfield received many awards and medals, including The Gabor Award and the Gold Medal from SPIE, the highest award of that society. Working with the Gordon Research Conferences, he organized and chaired the first of many meetings on holography and optical computing that benefited the optics community greatly for a generation of scientists and engineers.

Caulfield was a great collaborator with ICO. He was co-chair of the special session dedicated to Holography in the 2006 ICO Topical Meeting on Optoinformatics/Information Photonics held in St Petersburg (Russia). He organized sessions dedicated to the late Emmet Leith and the late Yuri Denisyuk, both pioneers of holography. In both conference organization and as an invited speaker he served as a great inspiration for many young researchers.

In this short tribute to Caulfield it is difficult to summarize his enormous contributions, to convey an idea of his original mind, and to describe the great richness of the ideas that he liked to share with colleagues and friends. It is certain that those attributes of his will be greatly appreciated through the loss of his presence.

ICO would like to contribute to honouring his memory with this tribute and to extend its condolences to family and collaborators.

Maria L Calvo, ICO President 2008-2011



ICO OFFERS CONDOLENCES TO THE SPANISH TERRITORIAL COMMITTEE FOR THE PASSING OF

PROFESSOR CARLOS REINO CARNOTA (1946-2012)

Carlos Gomez-Reino Carnota, Professor of Optics at the University of Santiago de Compostela (USC), passed away the 25th July, 2012 due to a sudden illness. He was the representative of the Spanish ICO Territorial Committee during the period 2001-2004. He belonged to the leaders that promoted the establishment of the series of Spanish National Meeting on Optics (RNO), and organized the second meeting of the series in 1990. At ICO'11 in Quebec, the idea of creating a new Iberian American Meeting was proposed. Carlos was very supportive of the idea and the Third Spanish Meeting joined indeed with the 1st RIAO, celebrated in 1992 in Barcelona.

Six years later when the Iberian American community saw the need of joining RIAO and OPTILAS (The Latin American Meeting on Optics, Lasers and applications), Carlos

supported the initiative. Since then the Spanish research community in Optics have a well-established three year periodicity for national, regional, and ICO General Meetings. Carlos was member of the Spanish Royal Society of Physics and member of its Editorial Council.



For those who worked with him daily, we have lost a colleague, a friend, someone we trusted completely and who gave us the opportunity to start our careers in the world of teaching and researching, in short, a true master. It is difficult to summarize in a few lines the life and career of Carlos. Carlos was born the 1st of September 1946 in Pontevedra, Spain. He left this town when he was one year old moving to Madrid with his family. He graduated in Physics from the Universidad Complutense de Madrid (UCM) in 1968, obtaining a PhD in Physics (receiving a special award of PhD) from the same university in 1975. He joined the Department of Optics of the UCM, headed in that moment by Professor Armando Durán Miranda, one of the pioneers of researching in Optics and Vision in our country. During the 70s and with a group of

young researchers, scholars and teachers among whom was his wife, Maria Victoria Perez Martin (USC Professor, died the 22th of May 2010), Carlos began to improve and upgrade the optics lab, opening new researching lines on holography and interferometry.

In 1979, the couple Carlos-M.Victoria moved to the USC. At that time there was not in the Physics section any group devoted to the field of Optics. During his early years spent in Santiago, they launched the first Optics laboratory for students and began to develop a research laboratory on Optics. Their efforts are now reflected in a front row research laboratory. His main areas of research were: GRIN optics, zone plates, physiological optics, spatial and temporal Optics, Laser Treatment of materials, being principal investigator on research projects nationally and internationally. As a researcher was really bright, as evidenced by the more than a hundred publications in international journals, a book titled "Gradient Index Optics: Fundamentals and Applications" published by Springer-Verlag in 2002, several book chapters and patents. His excellence in research was recognized by the Optical Society of America who appointed him OSA Fellow for his contribution to the progress in Optics. He was member of national and international scientific associations as SEDO, OSA and SPIE. Carlos held important management positions, in July 1989; he was appointed Director of the Professional School of Ophthalmic Optics and Acoustics Audiometric USC in order to carry out the transformation of the Professional School in School University. From 1994 to 1998 he was Vice-Chancellor of the USC. In the last years, he collaborated with several quality agencies for the assessment of the excellence of teaching staff and Spanish degrees. Carlos was a friendly person with great hobbies like reading, listening music, swimming and sailing. Dear Carlos, we all owe you our sincere thanks for all you have taught us. You will always be in our memories. For all of us that worked with him throughout his life, and for the whole Spanish optics community, has passed away a part of the history of the Optics in Spain.

The ICO Community will miss him when meeting at the ICO General Assembly in 2014 in Santiago de Compostela, the site of his home institution.

*Maite Flores Arias, Carmen Bao Varela,
University of Santiago de Compostela, Spain*



ICO MOURNS THE PASSING AWAY OF PROFESSOR NESTOR GAGGIOLI

ICO VICE PRESIDENT 2002-2005



Néstor Gaggioli, an Argentinean scientist devoted to Optics and Photonics passed away on January 22, 2014. Néstor was actively involved in the Optical Community, serving over the years as Vice-president of the International Commission for Optics (ICO) between 2002 and 2005, Vice-president of the Argentine chapter of the International Society for Optical Engineering (SPIE), President of the Latin-American Federation of Physical Societies (FELASOFI), President of the Argentine Physics Association (AFA), member of the Argentine Territorial Committee on Optics, member of the Group for Science and Technology State Policy

Steering Committee of Argentine, and member of the ICO Galileo Galilei Award Committee 2006.

He graduated from the University of Buenos Aires in 1976, receiving his PhD in Physics. His postgraduate studies were in France. During his career, as a member of the Argentinean Research Council, he published more than 100 papers in international peer-reviewed journals, and presented over 150 contributions in national and international conference proceedings. He delivered around 100 talks in national and international events related to his field of expertise, and some of them regarding science policy, both in Argentina and abroad.

Néstor was highly involved in the areas of Optics, Metrology, Acoustics, Holography, Interferometry, Speckle, Lasers and Optical Sensors, Optical Methods for Processing Control and Non-destructive Testing. Among his relevant contributions, together with other co-workers, we may mention the construction of the first He-Ne laser in Latin-American (1964), together with the first audio and video transmissions using a He-Ne laser (1964).

He founded the Optics Laboratory at the National Institute for Industrial Technology, and was Director of the Group of applied research in non-destructive testing in the National Atomic Energy Commission of Argentina.

Néstor was a beloved colleague and partner, and was a passionate promoter of the development of a national scientific policy specifically oriented to address the country needs. Particularly, he was engaged with the development and application of Optics and Photonics in Argentina and Latin-American, which he consequently followed during his appointment at ICO.

He was a guide to all of us in human, scientific, and political aspects. Above all, he paved a road to regroup us, share experiences and fight for our ideals.

ICO Territorial Committee, Argentina



ICO MOURNS THE PASSING AWAY OF

ADOLF LOHMAN (1934-2013)

ICO PRESIDENT 1978-1981



It is with great sadness that we have to inform the worldwide optics community of the passing away of Professor Adolf W Lohmann on 15 December 2013, at the age of 87.

Adolf, an internationally distinguished scientist, was perhaps the world's foremost pioneer and leader in the area of optical information processing. His many seminal contributions helped develop the fields of holography and computer holography, classical interferometry, speckle interferometry, a better understanding of 3D wave fields, self-imaging, partially coherent optical processing, digital optical computing, the Wigner distribution and fractional transformations in information optics, super resolution, temporal optical processing, optical similarity, and a

subject that he liked to call flatland optics.

His highly original ideas, which linked optics with signal processing, were always delivered with a great sense of joy and in an intellectually elegant manner. Adolf was not simply ingenious; he was also a fundamentally good and hardworking person with a magnetic personality and a profound sense of generosity. Over a period spanning decades, Adolf

inspired and attracted students and visiting scientists from around the world to work with him and members of his prestigious groups, first at the University of California at San Diego in La Jolla, USA, and subsequently at the Friedrich-Alexander University in Erlangen, Germany.

The Applied Optics group in Erlangen was a truly outstanding international centre for the conduct of research in a friendly environment that was notable for its ability to inspire original developments. For many of his students and visiting researchers, he instilled, seemingly effortlessly and without evident intent, a sense of family that continued into his retirement years and even today. It came as no great surprise to his friends and colleagues that nearly 100 “Lohmann optics” people attended a symposium in 2006 celebrating his 80th birthday.

For many years Adolf participated as speaker and as a German delegate at ICO meetings. He served as an ICO vice-president from 1975 to 1978, and at the 11th triennial meeting of the ICO, held in Madrid, Spain, in 1978, he was elected ICO President, a position that he held from 1978 to 1981. Adolf organized the ICO Topical Meeting “Optics in 4-Dimensions,” held in Ensenada, Mexico, in 1980, and the ICO-15 triennial meeting held at Garmisch-Partenkirchen, Germany, in 1990. Thereafter, in multiple ways, Adolf continued in his commitment to ICO.

He exhibited a sky-clear style when writing scientific papers. Often he dared to explore nonconventional topics in novel ways, always favouring visual representations. For many good examples of such presentations we direct interested persons to his book *Optical Information Processing*, which for several years was privately printed and is now available as a publication of the Technical University of Ilmenau.

His many scientific achievements were recognized through the following distinctions: IBM Invention Award, 1964; IBM Outstanding Invention Award, 1967; Federal Medal of Merit (Bundesverdienstkreuz, Germany), 1981; SPIE President’s Award, 1983; Max Born Award of the Optical Society of America, 1984; C.E.K. Mees Medal of the Optical Society of America, 1987; and the Emmet Leith medal of the Optical Society of America, 2008.

He was also honored by the 2002 publication by SPIE of the book *Optical Information Processing: A Tribute to Adolf Lohmann*. Despite his many achievements, Adolf was at heart a humble person, ready to share his accolades with others. He insisted that he and his co-authors of journal papers be listed in alphabetical order in order to assure that his name not be over-emphasized.

The international optics community will remember Adolf and his lasting contributions. He is survived by daughters Sabine, Johanna, Luise and Eva and grandchildren Franka and Max.

Johannes Schwider, Gerd Häusler and Jorge Ojeda-Castañeda

ICO & THE INTERNATIONAL YEAR OF LIGHT 2015

ICO, PARTNER IN THE CELEBRATION OF THE IYL 2015



The United Nations (UN) General Assembly proclaimed 2015 as The International Year of Light and Light-based Technologies (IYL 2015). In so-proclaiming, the UN recognizes “the importance of light and light-based technologies in the lives of the citizens of the world and for the future of development of global society on many levels”.

Since its creation in 1947, the International Commission for Optics (ICO) has dedicated itself to the progress and diffusion of knowledge in the field of optics – optics being defined as that branch of science and engineering encompassing the physical phenomena and technologies associated with the generation, transmission, manipulation, detection, and utilization of light, including photonics. ICO consistently strives to enhance recognition of optics as a field of science and engineering with a significant impact on the economy. To achieve such recognition by a broad audience is one of the main goals of the IYL.

The proposal for an International Year of Light initiated in 2009 by the European and African physical societies with central support from ICO as a founding partner since its inception. ICO played an important role in obtaining IUPAP and ICSU support as the dossier passed through UNESCO and UN committee stages. In September 2011, the then ICO president Maria L Calvo was invited by Luisa Cifarelli, president of the European Physical Society, to attend the event “Passion for Light” at the Villa Monasterio, Varenna, Italy, where the Year of the Light platform was launched. In November 2011 current ICO president Duncan Moore attended the IUPAP General Assembly and supported the presentation of the initiative to IUPAP in an essential step on the way to securing the support of the UNESCO Executive Board.

J M Dudley, F K A Allotey, and A M Cetto, accompanied by representatives from UNESCO (incl. J P Ngame Abiaga) prepared the IYL dossier presented to the ministries of

foreign affairs of Ghana and Mexico, nations that lead the initiative within UNESCO, and with the help from the many volunteers that make up the ICO community assembled a broad consensus of international partners, representing a much wider and truly global consortium of over 40 other scientific societies, academies and other institutions.



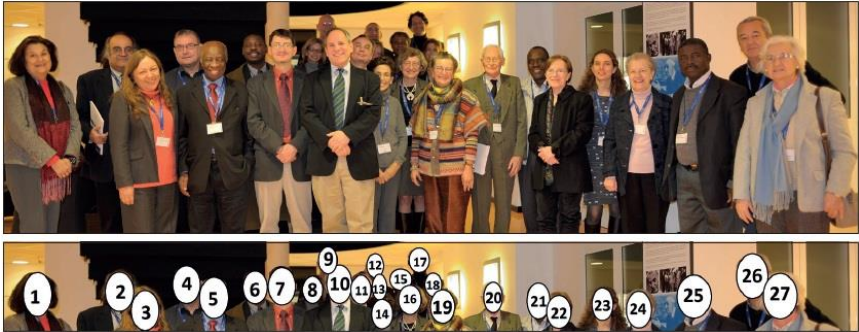
Science – Technology – Nature – Culture – Development – Sustainability – Education – History

A draft resolution was initially introduced to the UN by the representative of Mexico, on behalf of Chile, Israel, Mexico, New Zealand, the Russian Federation, Sri Lanka and the United States of America, and joined by China, Cuba and Ukraine. A revised version submitted by Argentina, Australia, Azerbaijan, Chile, China, Cuba, the Dominican Republic, France, Ghana, Haiti, Honduras, Israel, Italy, Japan, Mexico, New Zealand, Nicaragua, the Republic of Korea, the Russian Federation, Somalia, Spain, Sri Lanka, Turkey, Ukraine and the United States of America was approved on December 3rd, 2013. At the same meeting, the representative of Mexico made a statement and announced that Colombia, Mauritius, Nepal and Palau had joined in sponsoring the revised draft resolution. Subsequently, Bosnia and Herzegovina, Ecuador, Guinea, Montenegro, Morocco and Tunisia also joined in sponsoring the draft resolution, for a total of 35 sponsoring UN member states, between them 21 ICO Territories.

The International Year of Light is intended to raise public awareness of the importance of light and light-based technologies to science, development, education and culture. Light is at the origin of all life, it plays a central role in human activities, and has revolutionized society through medicine and communications, entertainment and culture. Industries based on light are major economic drivers; they create jobs, and provide solutions to global challenges in energy, education, agriculture and health. Light is also important in our appreciation of art, and optical technologies are essential in understanding and preserving cultural heritage. As the study of light-based technologies becomes a key crosscutting discipline of science in the 21st century, it is essential that its importance is fully appreciated. It is equally vital that the brightest young minds from all areas of the world continue to be attracted to careers in this field, and thus support the missions and priorities of UNESCO in building capacity in education, science and technology for poverty eradication, responding to critical global social challenges, promoting universal access to information, and safeguarding culture.

When planning the annual meeting of the Advisory Group of the Trieste System on Optical Science and Applications (TSOSA) in 2013, the TSOSA chair and ICO secretary, Angela Guzmán, suggested scheduling the First 2013 International Planning Meeting of the International Year of Light 2015 to meet at the International Center for Theoretical Physics in Trieste (ICTP) on the day prior to the TSOSA meeting. John Dudley, chair of the IYL and President of the quantum electronics and optics division of the European Optical

Society, and Joseph Niemela, co-ordinator of optics and photonics at ICTP, head of the Office of External Activities of the ICTP, agreed on having ICTP host the meeting.



Participants in the First 2013 International Planning Meeting of the Year of Light 2015; 1. M L Calvo; 2. V Lakshminarayanan; 3. A M Guzmán; 4. A T Friberg; 5. F K A Allotey; 6. J P Ngome Abiaga; 7. J M Dudley; 8. E A Rogan; 9. S Svanberg; 10. J J Niemela; 11. G von Bally; 12. M Danailov; 13. K Bailey Mathae; 14. Z Ben Lakhdar; 15. A Johnson; 16. R Ramponi; 17. A Vacchi; 18. K Plenkovich; 19. K Svanberg; 20. M Bertolotti; 21. A Wague; 22. A M Cetto; 23. C Watson; 24. M J Yzuel; 25. P K Buah Bassuah; 26. F Mendoza; 27. A Consortini.

This and a second meeting held also at the ICTP on occasion of the TSOSA Meeting 2014, brought together representatives of ICO and its member societies (EOS, LAM Network, OSA, OWLS, SPIE), representatives of other major partner societies (APS, EPS) and UNESCO, and other leaders of the international optics community to define the organizational structure for IYL at the global level and plan and coordinate what will surely be an exciting and influential series of activities in education and outreach at all levels. The Secretariat of the IYL will be hosted at the ICTP guided by an international steering committee that will include the ICO president Duncan T Moore. Actions will be implemented on national, regional and international levels, and will include activities accessible to people of all ages and cultures, with special focus on developing countries. In the particular context of Africa, the IYL would commemorate African contributions to the science of light such as the thousandth anniversary of the publication of Kitab al-Manazir (Book of Optics), a seven-volume treatise on optics written by Ibn Al Haythem between 1011 and 1021.

At a local level, principal activities are expected to be conducted by national committees. ICO, with its 50+ territorial committees, is well positioned to play a central role in promoting and helping create national committees for planning and coordinating the local activities of the IYL and for linking them to the global celebration. The main objective of the national committees is to promote general public awareness of the crucial role of optics and photonics as an enabling technology immersed in most aspects of our everyday lives. ICO recommends that the IYL national committees be inclusive and work for the development of large-scale local outreach activities and look for support and involvement

of national academies and ministries of education and science. The IYL should cover wider cultural, philosophical and artistic aspects of light and its impact in our society. Multidisciplinary activities and partnerships with museums and social scientists should be pursued. Special attention should be devoted to activities of interest to young people. The international societies will encourage optics and photonics students at all levels and student chapters to get involved in outreach activities. Emphasis will be given to involving women role models and to prepare training activities for K-12 teachers. There are already educational material and outreach activities in Europe and the USA that can be exported worldwide for the IYL. The organizers will collect existing material and make an effort to share it worldwide.

As stated by one of the leaders in the delegation to the UN in May 2013, Ana María Cetto from the National Autonomous University of Mexico, “Light matters to all of us. The IYL will create a forum for scientists, engineers, artists, poets and all others inspired by light to interact both with each other and with the public so as to learn more about the nature of light, its many applications, and to discuss its role in our culture.”



In the context of the IYL, the ICO community has a truly outstanding opportunity to perform activities addressed to the wide public and to policymakers showing that light science and technology play a vital role in existing and future advances in areas where people are not always aware of its relevance, such as energy, climate change, communications, agriculture, architecture, archeology, entertainment, and art and culture in general.

Furthermore, ICO, as a scientific associate of the International Council of Science (ICSU), is in a privileged position to reach out to ICSU unions representing scientific disciplines other than optics to widen the spectrum of celebration activities of the IYL and encourage and facilitate the involvement of a greater portion of society.

The international optics community will realize that for them, and ICO, this is also the greatest opportunity in our lifetime to gain strong visibility and respect for optics as a separate discipline within the scientific community. By establishing closer collaboration with ICSU's international unions, ICO will show clearly that optics and photonics has evolved into a largely independent discipline and that ICO has grown to the stature of ICSU unions, quickly approaching one of our long-stated strategic goals, that of becoming an ICSU union ourselves.

ICO is also asking the ICO territorial committees to keep the ICO Secretariat informed of their activities and plans in order that ICO, together with the IYL consortium, can maintain close collaboration with the national committees and best assist with resources for the dissemination and implementation of activities. And finally, ICO urges its territorial committees to raise local awareness of this unique opportunity to educate people in the important role that the science and technology of light plays in our lives.

Extracted from articles published by Prof. John Dudley, Université de Franche-Comté, France, Chair of the IYL 2015, and other members of the ICO Newsletter Editorial Board in the ICO Newsletter.

MEMBER CONTRIBUTIONS

TERRITORIAL COMMITTEES

THE U.S. ADVISORY COMMITTEE TO THE INTERNATIONAL COMMISSION FOR OPTICS (USAC/ICO)

ICO TERRITORY MEMBER SINCE 1948



Kathie Bailey-Mathae, BISO Director

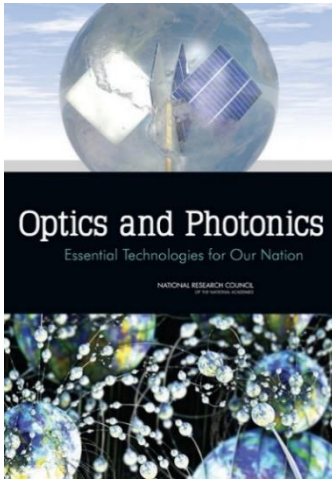
The U.S. Advisory Committee to the International Commission for Optics (USAC/ICO) operates under the auspices of the Board on International Scientific Organizations (BISO) at the National Academy of Sciences. It is one of more than 20 national committees housed within BISO. Each of these national committees represents U.S. science to an international scientific union or organization. By being housed together in BISO, the committees have the opportunity to interact and collaborate across disciplines on activities or issues that are of interest to them. The committees also have linkages to the disciplinary units of the National Academies to which they are most closely related. In the case of USAC/ICO, that linkage is with the U.S. National Committee for the International Union of Pure and Applied Physics (IUPAP) as well as with the National Materials and Manufacturing Board (NMMB).

For example, the USAC/ICO worked closely with the NMMB to update a National Academies' report, [Harnessing Light](#), released in 1998. The USAC/ICO was instrumental in the early stages of the new report, writing a white paper which outlined the need to update [Harnessing Light](#). The white paper eventually served as the basis for the study.

The new report, [Harnessing Light II, Optics and Photonics: Essential Technologies for our Nation](#), was released in 2013. The study committee's task was to (1) Review updates in the state of the science that have taken place since publication of the original report; (2) Identify the technological opportunities that have arisen from recent advances in optical science and engineering; (3) Assess the current state of optical science and engineering in the United

States and abroad; (4) Prioritize a set of research grand challenge questions to fill identified technological gaps; (5) Recommend actions for the development and maintenance of global leadership in the photonics driven industry.

Harnessing Light II provides a current assessment of optics, photonics, and optical engineering in the United States, prioritizes research grand-challenge questions to fill technological gaps, and recommends actions to support global leadership in photonics-driven industry. The report recommended that the federal government develop a "National Photonics Initiative" to bring together academia, industry, and government to steer federal research and development funding and activities.



Following this recommendation, SPIE and four other photonics and optics societies launched the [National Photonics Initiative](#) (NPI), a collaborative alliance among industry, academia and government. The NPI effort is being led by founding sponsors SPIE, the international society for optics and photonics, and the Optical Society (OSA), and sponsored by three additional societies -- the American Physical Society (APS), the IEEE Photonics Society, and the Laser Institute of America (LIA). As noted on the NPI website, the goals of the Initiative are to: raise awareness of photonics and the impact of photonics in our everyday lives; increase cooperation and coordination among US industry, government and academia to advance photonics-driven fields; and drive US funding and investment in areas of photonics critical to maintaining US economic competitiveness and national security.

While SPIE, OSA, and IEEE Photonics Society participate in ICO as individual societies, they and other NAS representatives work together on the USAC/ICO promoting international and domestic optics and photonics, and supporting and augmenting ICO programs. The committee has strong interest in the following:

International Year of Light 2015: The committee is working closely with national and international planning committees to organize an exciting year-long celebration in 2015.

Active Learning in Optics and Photonics workshops – These workshops, coordinated by UNESCO and led by an international team of facilitators, are designed to better equip university and high school teachers to teach optics in introductory physics courses through hands-on learning. These 5-day workshops focus on experimental physics areas that are relevant and adaptable to research and educational conditions in developing countries. The USAC has supported the participation of two facilitators from the United States in these workshops.

ICTP Winter College in in Optics – The USAC has supported ICTP’s Winter College in Optics by funding lecturers and students from the United States. Funding shortfalls prevented such support in 2013 and 2014.

Members and Staff of USAC/ICO

The committee is made of regular and ex officio members who must be citizens or permanent residents of the United States. The ex-officio members are comprised of the executive directors of the sponsoring societies and appointed ICO Vice-Presidents from ICO member organizations in the United States. Both the National Academy of Sciences and the sponsoring societies nominate new members to the committee. All nominees must be approved by the President of the National Academy of Sciences (NAS). NAS appointments always consider the need for continuity, rotation of membership, gender and ethnicity, and disciplinary base of the Committee. Below is the complete membership list and affiliation of the USAC-ICO:

Members:

John Greivenkamp, Chair, University of Arizona
Kent Choquette, University of Illinois at Urbana-Champaign
Alexandre Y. Fong, Gooch and Housego
Erica R. H. Fuchs, Carnegie Mellon University
Constance Chang-Hasnain, University of California, Berkeley
Evelyn L. Hu, Harvard University
Erich Ippen, Massachusetts Institute of Technology
Eric Johnson, University of North Carolina, Charlotte
John Pellegrino, U.S. Army Research Lab
Richard Shoemaker, University of Arizona
H. Philip Stahl, NASA
Duncan Moore, ICO President, University of Rochester
Yujie J. Ding, ICO Vice President, Lehigh University
Angela Guzman, ICO Secretary, University of Central Florida
James Harrington, ICO Treasurer, Rutgers University
Eugene Arthurs, The International Society of Optical Engineering (SPIE)
Elizabeth Rogan, Optical Society of America (OSA)
Kari Apter, Optical Society of America (OSA)
Bobbie Lively, International Society of Optical Engineering (SPIE)
Christine Bluhm, IEEE/Photonics Society

NAS Staff

Kathie Bailey, Board Director
Pam Gamble, Program Associate

Kathie Bailey=Mathae, BISO Director, NAS, USA

POLAND

ICO TERRITORY MEMBER SINCE 1948

Prof. T. Szoplik from the Information Optics Lab., Faculty of Physics, University of Warsaw, and ICO Vice President 2008-2014 (elected), was the representative of the Polish ICO Territorial Committee since 2008 and until 2013. He served as the Chair of the Galileo Galilei Award Committee during the period 2008-2011, and as the Chair of the Committee for Regional Development of Optics (CREDO) during 2011-2014.

In 2013 there was a change in the Polish ICO Territorial Committee and due to the procedures of the Polish Academy of Sciences, Prof. Jakub Zakrzewski, a Full Professor and the Head of the Atomic Optics Department at the Marian Smoluchowski Institute of Physics, Jagiellonian University in Krakow, Poland, became the Chair of the ICO Territorial Committee Poland. Prof. T. Szoplik and Prof. K. Chalasinska-Macukow continue serving as members of the Territorial Committee.



Jakub Zakrzewski leads QuantLab at the Mark Kac Complex Systems Research Centre. Over the years his research has explored quantum optics, laser theory, quantum chaos in atomic systems, and cold gases in optical lattices, especially in the presence of disorder. He worked at the University of Southern California, Los Angeles, and spent several years at the Laboratoire Kastler Brossel of the École Normale Supérieure and University of Paris 6.

The ICO welcomes Prof. Jakub Zakrzewski into the ICO family.



AUSTRALIAN OPTICS

ICO TERRITORY MEMBER SINCE 1959

Optics and optical activity are alive and well in Australia. We have a vibrant Australian Optical Society whose members span the spectrum of optical activity and that organises annual and bi-annual conferences such as the Australian Conference on Optical Fibre Technology (organised together with Engineers Australia), the Australian Conference on Optics, Lasers and Spectroscopy, and many speakers and sessions in the Australian Institute

of Physics Congress held bi-annually. Additionally we periodically host the international conferences such as CLEO PacRim and Optoelectronics and Communications Conference (OECC) as well as a range of the topical SPIE and OSA meetings, frequently in parallel with our own meetings. Our student members enjoy the affiliation with the international societies and we have the SPIE and OSA Student Chapters associated with our larger University optics groups in our capital cities. Students own and operate the KOALA conference on optics for students and the Australian Optical Society is pleased to support this endeavour.

The southern skies are viewed by many with the astronomical telescopes resident in our nation (<http://www.aao.gov.au/>) (<http://rsaa.anu.edu.au/>) in all spectral regions (<http://www.atnf.csiro.au/>) and advanced detectors with parallel optical fibre have been and are being developed by the research groups within <http://www.caastro.org/> including the Sydney Institute for Astronomy, Research School of Astronomy & Astrophysics, ANU, Macquarie University, <http://physics.mq.edu.au/> and Swinburne (<http://astronomy.swinburne.edu.au/>), among others.

There is the Australian International Gravitational Observatory, and the wider Australian Consortium for Interferometric Gravitational Astronomy, <http://www.anu.edu.au/physics/ACIGA/index.html>, that encompasses some of our most capable optical research and fabrication groups. The Australian Centre for Precision Optics (<http://www.acpo.csiro.au/>) within the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is perhaps our most renowned optical fabrication group.



Part of the winning team from the Optical + Biomedical Engineering Lab, UWA receiving their prize. (L-R) Kelsey Kennedy, W/Prof. David Sampson, A/Prof. Robert McLaughlin, A/Prof. Brendan Kennedy, Peijun Gong.

in-a-Needle device and the accompanying photo shows members of that team receiving their award.

Photonics and fibre based activities are very much an active area of research with the Centre for Ultrahigh-bandwidth Devices for Optical Systems (CUDOS <http://www.cudos.org.au/>) and seven member Universities within that Centre very active in research and publication while the Institute for Photonics and Advanced Sensing (<http://www.adelaide.edu.au/ipas/>) explores new glasses and sensing structures and is a partner in the new Centre for Nanoscale BioPhotonics. The optical and Biomedical Engineering team at the University of Western Australia won the SPIE Start-Up Challenge for their Microscope-

Our most prestigious award, the W.H. (Beattie) Steel Medal was awarded to Professor John Harvey of The University of Auckland in 2013 and to Professor Barry Luther-Davies of The Australian National University in 2012. Professor Min Gu of Swinburne University was the 2011 recipient and Min has also made a contribution to the ICO through OWLS and membership of the nomination committee. Finally, we were delighted that Professor James Piper, a 1997 winner of the W.H. (Beattie) Steel Medal, was recognised in the Australian Governor General's Queen's Birthday Honours List as a member (AM) in the general division 'for significant service to tertiary education, particularly through research in applied laser physics' following distinguished service to his University and the Nation.



OPTICS AND PHOTONICS ACTIVITIES IN CUBA

ICO TERRITORY MEMBER SINCE 1993



Members of the Organizing Committee for VII Technolaser. From left: Guillermo Mesa, Juan G. Darias and Omar Morales, Vice-Chair.

The Cuban Physics Society and the Cuban Territorial Committee of the International Commission for Optics (ICO) are organizing The International Conference on Optics, Photonics & Photosciences (CIOFF), to be held 14-17 October 2014, in Havana, CUBA, co-sponsored by ICO, ICTP and others international and national organizations. The Organizing Committee of CIOFF have considered to dedicate the Conference to the *International Year of Light and Light-based Technologies (IYL 2015)*, promoting the

sustainable development and directing with preference our event to the Latin American and the Caribbean areas.

The International Year of Light and Light-based Technologies, proclaimed by the United Nations (UN) General Assembly 68th Session, during its 71st Plenary Meeting, is focusing on the topic of light science and its applications, recognizing the importance of raising global awareness of how light-based technologies promote sustainable development and provide solutions to global challenges in energy, education, agriculture and health. In

agreement with these ideas, the aim of the CIOFF is to provide a common forum for researchers, engineers, and scientists working on problems related to light and its applications. Topics in Physics, Chemistry and Biology are included. Cross disciplinary applications will be in the main line, and a special interest is given to new developments and technologies, and researches directed toward the areas of natural sciences, life sciences, health, environment, and solar energy use. The Conference will promote the update and scientific exchanges and discussions of the most recent results of similar groups and the agreement of combined projects of development, contributing to the collaboration of the national universities with research centres and universities from other countries, with an interdisciplinary integration in topics of scientific, technological and humanistic interest. During the conference an international exhibit on Images in Art-Science, including Photography, Digital Technologies, and Holography will be held. The exhibit LIGHT AND INTERDIMENSIONAL UNIVERSES: IMAGES IN THE SCIENCES AND THE ARTS will summon to specialists in Optics, Photonics, Photosciences, photographic and holographic artists, private collectors, and cultural organizations.

Two years ago, 10 -13 April 2012, at the National Museum of Fine Arts, in Havana, it was carried out the III International Meeting Optics, Life & Heritage, jointly with the VII International Workshop Technolaser 2012. During four days 97 participants from 14 countries exchanged their experiences in more than 70 scientific contributions. Twenty seven invited lectures, included six plenary lectures, showed an overview of the state of art in optics and photonics in the world. In that occasion it was carried out the International Holographic Exhibition HOLOIMAGE 2012, where they were exposed interesting holographic pieces, built by artists and scientists from Cuba and other countries.



Some participants in the III International Meeting Optics, Life & Heritage. From left to right: P. Cheben, Mme. Kashyap, J. Ravelo, Secretary Technolaser, R. Kashyap, I. Glesk, and A. G. Augier, Chair of the Meeting.

Dr. Angel G. Augier, Chair, Cuban ICO Territorial Committee

UKRAINE

ICO TERRITORY MEMBER SINCE 1993

Twentieth Anniversary of the Conference on Correlation Optics in Chernivtsi

Correlation optics is an evolving field of modern photonics currently involving the theory of partial coherence and partial polarization as well as related areas of pure and applied optics¹. The main recent event for the purpose of dissemination and advocacy of this field of R&D that took place in Ukraine was the 11th International Conference on Correlation Optics, held in Chernivtsi (Ukraine) in September 2013. This series of biennial conferences started in 1993. The success of the series has been substantially achieved by consistent organization, information, and financial support from ICO.

„Subject skeleton” of the conference is relatively stable. By tradition, it includes the following main topics^{2,3}:

- a) Informative content of statistical optical fields, including optical chaos, singular optics, polarization optics and coherence
- b) Optical correlation devices based on diffractive optical elements, including optical and digital holography, fractal optics, optical sensors
- c) Optical correlation diagnostics, interferometry and microscopy of rough surfaces and random media
- d) New applications of correlation optics in biology and medicine

But the specific contents of the conference have evolved. In the nineties of the 20th century considerable attention was paid to non-destructive optical correlation diagnostics of slightly rough surfaces, optical and digital holography including promising approaches in nonlinear holographic associative memories, fractal optics, optical chaos, the use of the Young’s concept of diffraction phenomena in information optics. In the new Millenium, the most interesting topics discussed at the conference include correlation singular optics (singular optics of vector – inhomogeneously polarized, partially coherent and partially polarized, polychromatic optical beams bearing vortices), general problem of interconnection among optical coherence and polarization of light, angular momentum of light and optical currents. Obvious trend is the migration from micro-optics to nano-optics. Note, terminology in some directions of scientific venture (for example, the terms „correlation optics” since 1993, „singular optics” since 1995) has become generally applicable just owing to proactive advocacy of this terminology at our conferences. Original results on physics of nano-dots are also among the subjects briskly discussed at the conference within the context of feasibilities provided by optical correlation approaches for controlling nano-dots growth.

Among the participants at the conferences on Correlation Optics who helped establish its renown were J.H. Caulfield, F.T.S. Yu, J.-P. Goedgebuer, Mitsuo Takeda, Y. Feinman (holography, information optics, quantum cryptography); M.V. Berry, Yu. Kivshar, M. Padgett, M. Soskin, G. Gbur, Ari Friberg (coherence, polarization, singular optics); M. Segev, S. Odoulov, R. Rupp (photorefraction and optical material science); S. Hanson, M. Kujawinska, E. Dereniak, J. Wyant, W. Osten, (optical correlation devices), Lihong Wang,

Min Gu, V. Tuchin (biomedical optics). All of them and other participants contributed greatly to the research advancement on the conference subjects and to the understanding of the modern trends of correlation optics. Participation of 120 to 150 speakers from more than 20 countries facilitates profound and comprehensive discussion and formation of international research groups fruitfully collaborating on the problems of interest.

Important part of the conference is the special session for the student chapters of SPIE and OSA, where the novel trends of modern optics and photonics are highlighted for the next generations of opticians by Prof M. Berry (UK), Prof A. Volyar and Prof A. Bekshaev (Ukraine), Prof D. Zimnyakov and Prof V. Lukin (Russia), and others.



And needless to say, the Chernivtsi-City, the town in Western Ukraine, and especially the Central Building of Chernivtsi University located at former Residence of Bukovinian and Dalmatian Metropolitans make indelible impression on visitors! It is true one of the pearls of European architecture named recently by UNESCO as a World Culture Heritage⁴.

The next, 12th International Conference on Correlation Optics will be held during the Year of Light, September 14-18, 2015, in Chernivtsi. For the first time Correlation Optics will merge with the International Conference on Singular Optics (Optical Vortices), another event substantially supported by ICO, which has been traditionally held in Crimea since 1997. The session on Singular Optics will then be separate and have the special status of ‘a conference within a conference’. Conference information is available at the web-site: <http://www.itf.cv.ua/corropt15/>

[1] O.V. Angelsky, P.V. Polyanskiĭ, and Ch.V. Felde, “The Emerging Field of Correlation Optics,” *Optics and Photonics News*, 23 (4), 25-29 (2012).

[2] *SPIE Proc.* **2108** (1993), 2647 (1995), **3317** (1997), **3904** (1999), **4607** (2001), **5477** (2003), **6254** (2005), **7008** (2007), **7388** (2009), **8338** (2011), **9066** (2013).

[3] *Applied Optics Feature Issues on Correlation Optics*, **51**, No 10 (2012), **53**, No 10 (2014).

[4] *Memories of Chernivtsi. Photos from Correlation Optics 2005 – Takashi Okamoto’s Group*
www-okabon.ces.kyutech.ac.jp/~okamoto/photo/CorrOpt_2005/

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OPTICAL SOCIETY OF TUNISIA

ICO TERRITORY MEMBER SINCE 2006

الجمعية التونسية للبصريات



Société Tunisienne d'Optique

The Optical Society of Tunisia was founded in 2002 to increase and diffuse the knowledge of optics pure and applied through educational and outreach activities and to promote and advance research in the field of optics and photonics. The activities of the society are summarised for the 2012-2014 period:

A. Education activities:

A1. March 2014: SpecUP spectrophotometer Workshop in collaboration with University of Pretoria, ALC, and Esprit. A SpecUP kit designed at the University of Pretoria was built by the participants from the components provided; and various applied experiments using the SpecUP were performed and discussed during the workshop.



A2. November 2013: Active Learning on Optics and Photonics (ALOP) activity, Carthage. The follow-up ALOP in Tunisia was organized in the framework of the UNESCO's ALOP



Project. Some of the trainees came from Algeria, Cameroon and Central African Republic. It aimed at training secondary school program supervisors in physics, in order to induce an understanding and then after an introduction of Active Learning methodologies in the physics curricula in Tunisia. It was the first ALOP workshop in Tunisia (and maybe in the world) dedicated to secondary school program supervisors.

A3. September 2013: Organization of the First African Summer School on Optics and Applications to Sustainable Development (ASOSD), Carthage Hannibal, Tunis. This school was under the sponsorship and endorsement of the ICO, OSA, SSSIPIE, LAM Network, and

ALC. The summer school was intended to be the first of a series of schools/workshops that are going to be organized periodically by universities in African countries, in order to provide education and training for advanced graduate students, and postdocs faculty who would like to acquire sufficient knowledge to begin having an impact in research areas based on optics, laser science and technology.



A6. September 2012: A summer school “Get Ahead with optics, career development for women in science” which was held in Hammamet. The aim was to orientate young women scientists in the rapidly evolving fields of optics and photonics while giving them career skills and a deeper

understanding of what is needed to succeed as a woman scientist. Among the internationally renowned invited speakers, we had the great pleasure to welcome Maria Calvo (ICO Past-President), Maria Yzuel (ICO Vice-President appointed), and Zohra Ben Lakhdar (ICO Vice-President elected).

A7. March 2012: Fourth edition of the Advanced school of physics in the Maghreb “EPAM2012” which was held in Tunis and co-organized with the Tunisian Physics Society. The School offered a 9-days program of intensive physics and optical courses in the field of Lasers and Photonic applications. The plenary talk was given by Prof. Alain Aspect.



B. Research activities:

B1. March 2014: First North African Workshop on OPTICS (NAW OPTICS). Presentations focus on devices, solutions, and architectures for all optical networks as well as optimisation and management of optical networks.



B2. January 2014: The Optical society of Tunisia was established as Abdus – Salam – International – Centre - for-Theoretical - Physics Affiliated Centre. The aim of the affiliated centre is to carry out long-term research projects on subjects related to spectroscopy, LIBS, Lasers and optical fibres. The newly established ICTP affiliated centre has a regional character with trainees from Cameroon, Senegal, and Central African Republic and is strongly supported by the local authorities.

B3. December 2012: Workshop celebrating the 10th anniversary of the ICTP network NET 45. The aim of the network is to develop research activities in African countries with South-South collaboration. The network involves universities and laboratories from Algeria, Burkina Faso, Cameroon, Chad, Republic of Central Africa, Senegal, etc.

C. Outreach activities:



C1. June 2014: Hands-on activities and demonstrations in ElKef secondary school (170 Kms from Tunis)



C2. April 2014: Hands-on activities and demonstrations in Tunis Bourguiba secondary school (city of Tunis)

C3. May 2013: Hands-on activities and presentations that are fitting for school students with fun images, basic optics experiments and many videos for the secondary school of Hammamet (60 Kms from Tunis)



C4. January 2013: Establishment of the Optical Society of Tunisia Student chapter.



C5. December 2011: Visit of Prof. Maria L. Calvo, Past-President ICO and Universidad Complutense de Madrid, Spain.

Mourad ZGHAL, President of the Optical Society of Tunisia

INTERNATIONAL SOCIETY MEMBERS

SPIE.

THE INTERNATIONAL SOCIETY FOR OPTICS AND PHOTONICS

COLLABORATING TO ADVANCE OPTICS THROUGH EDUCATION, RESEARCH, PUBLICATIONS, ADVOCACY

The ability to support and join with the ICO in the shared missions of advancing and diffusing knowledge in the field of optics is greatly valued by SPIE, the international society for optics and photonics. An integral part of the mission of SPIE is to support education and outreach programs in optics and photonics. The level of support in recent years has amounted to more than US\$3.2 million annually.

Numerous SPIE Fellows and Members participate in activities sponsored by ICO every year, and the society itself, led by the examples and inspiration of these individual members, supports and participates alongside the ICO and its other International Society Members in wide-ranging programs.

María Yzuel of the Universitat Autònoma de Barcelona, a Past President of SPIE, serves as the society's Appointed Vice President of the ICO, the latest in many roles she has played in the organization. SPIE Fellows currently serving on the ICO Bureau are President Duncan Moore (University of Rochester), Past President Maria Calvo (Universidad Complutense de Madrid), Treasurer James Harrington (Rutgers University; Past President of SPIE), and Elected Vice Presidents Zohra Ben Lakhdar (Université de Tunis El Manar) and Tomasz Szoplik (Warsaw University).

SPIE Fellow and Past President Katarina Svanberg of Lund University Hospital represents SPIE on the Trieste System Optical Sciences and Applications (TSOSA) Advisory Group, established to advise the ICTP in the area of optics, and SPIE Fellow Fernando Mendoza Santoyo, Director General of the Centro de Investigaciones en Óptica, served as General Conference Chair of ICO-22 in Puebla.

SPIE was pleased to host the presentation of the 2011 ICO Galileo Galilei Award to **Jan Peřina** of Palacký University, 2010 IUPAP Young Scientist Prize in Optics to **Shuang Zhang** of the University of Birmingham, and the 2012 ICO Prize to **Romain Quidant** of ICFO—Institut de Ciències Fotòniques at the SPIE Optics and Optoelectronics symposium in Guangzhou in 2013.

The biennial ETOP (Education and Training in Optics and Photonics), jointly organized by Territorial Committees of the ICO, is also supported by SPIE, which publishes the proceedings in the SPIE Digital Library as open access articles.



*ICO presenters and prize winners and SPIE Optics + Optoelectronics 2013 (SPIE OO) organizers included (from left) SPIE OO General Chair and SIOF Past President **Ivo Rendina**, 2010 IUPAP Young Scientist Prize in Optics winner **Shuang Zhang**, ICO Past Vice President and SPIE President-Elect **Philip Stahl**, ICO Secretary **Angela Guzmán**, SPIE OO Steering Committee Member **Pavel Tomanek**, SPIE OO Conference Chair **Mario Bertolotti**, SPIE Vice President **Toyohiko Yatagai**, 2012 ICO Prize winner **Romain Quidant**, and ICO Vice President **Frank Höller**.*

The first African Summer School on Optics and Applications to Sustainable Development (ASOSD) held in Tunisia last year and organized by the Optical Society of Tunisia was supported by SPIE, the ICO, ICTP, the African Laser, Atomic, Molecular and Optical Sciences Network (LAM), and other organizations.

With the ICO and other societies, SPIE supports the work of the International Centre for Theoretical Physics (ICTP), in ways such as sponsoring the annual ICTP Winter College on Optics. Participants in the LAMP (Laser, Atomic and Molecular Physics) program during the Winter College are eligible to present their work in poster form or as a short oral presentation, with Best Paper prizes awarded by SPIE.

In addition, SPIE provides \$30,000 annually to support an optics staff position at ICTP, and sponsors the Anchor Optics Research Program, housed at the Istituto Nazionale di Fisica Nucleare (INFN) and run in collaboration with the Institute for Nanoelectronics, Technische Universität München

SPIE provides eligible researchers and organizations with free or low-cost access to the SPIE Digital Library through the ICTP's eJDS (eJournals Delivery Service), as well as the INASP program established by the International Council for Science.



*A well-received addition to the Winter College in 2012 were hands-on experiments such as the one demonstrated above by **Anna Consortini**. The experiments are part of a training module used in the ALOP (Active Learning in Optics and Photonics) program and were introduced to the Winter College by ALOP volunteer and Winter College director **Zohra Ben Lakhdar***

The UNESCO program in Active Learning in Optics and Photonics (ALOP) is also supported by SPIE, along with ICTP, the U.S. National Academies, and other sponsors, and provides training for teachers in optics and photonics using locally sustainable materials and instruction materials in several languages for the trainees to share with other colleagues in their regions.

SPIE joins the ICO and other organizations around the world in advocacy as well. In recent years, this has included the difficult situation of raising awareness to the plight of scientists imprisoned apparently on philosophical grounds without having committed crimes.

Advocacy also takes the form of supporting the establishment by the United Nations of 2015 as the International Year of Light and Light-based Technologies (IYL2015). As a Founding Sponsor of the IYL2015, SPIE looks forward to a very successful year of activities and events throughout the world that help to raise awareness of the importance and many roles of light in enabling human progress and improved living conditions for all.

*Contact: **María Yzuel, Universitat Autònoma de Barcelona***



THE OPTICAL SOCIETY

PARTNERSHIP AND COMMON GOALS WITH ICO

In the period 2011-14, The Optical Society (OSA) continued its long-standing support for ICO programs and events, providing speakers, travel support and a portal for donations to the ICO. Both OSA and ICO look forward to 2015, which is the International Year of Light (IYL) and Light-based Technologies. OSA has already begun planning its IYL activities, with several outreach activities already taking place this year and arranged for next year as well.

The ICO was established in 1947, and is ultimately tied to the United Nations as one of a number of global scientific societies. It has the "objective to contribute, on an international basis, to the progress and diffusion of knowledge in the field of optics." This aligns well with the global programs of The Optical Society, which are for "fostering the global optics and photonics community, particularly in countries with developing optics communities." OSA is proud to be an organizational member of ICO.

OSA is the oldest optics and photonics society in the world, with nearly 100 years of quality research and innovation in its history—in fact OSA will be celebrating its 100th anniversary in 2016! OSA is a resource for more than 220,000 scientists, students, engineers and business leaders from 175 countries.

For ICO-23, OSA provided a grant to support participation in the meeting, and is hosting a reception and supporting the student program, the Second Meeting of Young Researchers in Optics. OSA President-elect Philip Russell is honored to be a Congress plenary speaker.

Examples of OSA's global outreach and support

OSA has worked closely with ICTP and has provided financial support to the Winter College on Optics annually since 2000. OSA provides free access to its digital library, Optics InfoBase, to users at ICTP during the Winter College. Year round, OSA participates in ICTP's electronic journals delivery program (eJDS), which provides scientists and researchers in developing countries with access to OSA's distinguished portfolio of 17 journals.

In 2014, OSA is supporting two workshops on the African continent: The Entrepreneurship Workshop for Scientists and Engineers in Ghana, West Africa in July and a second Entrepreneurship Workshop for Scientists and Engineers in Kenya, East Africa in December.

Complementing OSA's programs is The OSA Foundation, which has provided 938 Youth Education Activity Grants, 245 Travel Grants and 220 Awards and Prizes in 55 countries since its establishment 11 years ago.

In 2013 alone, The OSA Foundation impacted more than 7,000 students in more than 40 countries by providing youth science educational activities and career-building programs.



Donna Strickland (OSA President 2013) as a panelists at the round table Women & Optics held at the RIAO/OPTILAS & ETOP Conference in Porto, Portugal, on July 2013. From left to right: Patricia Forbes, Angela Guzmán, Souad Lahmar, Maria del Sagrario Millán, Donna Strickland, Maria Yzuel, Judith Donnelly, Raquel Queiroz.

Starting in May 2011, The OSA Foundation opened a portal for contributions to the ICO. As OSA Foundation Chair G. Michael Morris noted at the time, "The OSA Foundation and ICO activities share a common vision and purpose—to increase optics education throughout the world." Donations to the international programming fund at The OSA Foundation may be made through the following link http://www.osa.org/en-us/foundation/donate/international_commission_for_optics_programs/

Much of The OSA Foundation's activities are aimed at graduate students – including OSA's own student members. OSA has approximately 5,000 student members worldwide and the student chapter program shows impressive growth every year—there are currently 350 OSA Student Chapters with 75% outside the U.S.

As OSA approaches 100 years of serving the optics and photonics community, it is committed to continuing its role as a trusted source for timely, relevant and high-quality information for all types of optics and photonics professionals, as well as bringing the community together to provide opportunities for advancement and recognition, while influencing the future of the field. Participation in the ICO is one way OSA can achieve this and the society looks forward to continuing this partnership.

Ursula Gibson, OSA Vice-President to ICO Bureau



IEEE PHOTONICS SOCIETY

The IEEE Photonics Society is the home for more than 7,000 scientists and engineers who represent the laser, optoelectronics and photonics community. It provides its members with professional growth opportunities, publishes journals, sponsors conferences and supports local chapter and student activities around the world.

It organizes and co-organizes a number of conferences in photonics including International Semiconductor Laser Conference, Avionics Fiber Optics and Photonics Conference, Summer Topical Meeting Series, and IEEE Photonics Conference. Among all these conferences, IEEE Photonics Conference is the IEEE Photonics Society's showcase event where the scientists and engineers in photonics will find the latest developments in photonic technologies, their applications and future directions, see photos below. It represents a unique mix of ground-breaking reports, in-depth educational offerings, and important attendee opportunities for contribution and discussion within the photonics community. The IEEE Photonics Society has 85 chapters not only in US but also in many countries. Through the professional activities in these chapters, students have gained knowledge and skills before entering the workforce and making contributions to societies.



The IEEE Photonics Society publishes papers through many top journals in photonics such as Photonics Technology Letters, Journal of Quantum Electronics, Journal of Selected Topics in Quantum Electronics, and Photonics Journal. IEEE Photonics Society Newsletter is published bimonthly. Journal of Selected Topics in Quantum Electronics is unique in its own way since each bimonthly issue focuses on a particular topic within photonics.

Each year a very small fraction of the senior members in photonics are selected as IEEE Fellows whose extraordinary accomplishments in photonics are deemed fitting of this prestigious grade elevation.

All the activities mentioned above complement various events and activities sponsored by ICO.

Yujie J. Ding, IEEE Photonic Vice President to ICO Bureau

ICO BUREAU MEETINGS

MINUTES OF THE 2010 ICO BUREAU MEETING

Held in L'Institut d'Optique, Palaiseau, France
Saturday, October 30, 2010 from 9:00AM – 7:00PM
Approved on August 2011.

Members Present:

Arakawa, Y., Bingkun, Z., Calvo, M.L., Friberg, A., Gu, M., Guzmán, A., Harrington, J., Khoo, I.C., Ben Lakhdar, Z., Mendoza Santoyo, F., Moore, D., Ramponi, R., Stahl, H.P., Strickland, D., Von Bally, G., Szoplik, T., Wague, A.

ICO Administrative Secretary -- Troshinsky, M.

Invited Senior Advisor – Chavel, P.

Apologies for absence have been received from: Cisneros, C., Lefevre, H., Oron, M.

1. Call to order 9:30AM

Maria L. Calvo, ICO President, opened the session. She thanked all the attendees for their presence.

Motion 1: (Moved by M.L. Calvo, seconded by G. von Bally, approved unanimously). The ICO Bureau approves the minutes of the previous Bureau Meeting held in Delphi, Greece, October 30, 2009

2. President's Report (10/1/09 – 9/30/10): ICO President -- M.L. Calvo

On behalf of the ICO, ICO President M.L. Calvo, was very involved in LASERFEST in 2010 which celebrates 50 years of laser innovation. A logo was created for this momentous anniversary. The goal was to share this unique anniversary with the world optics and photonics community.

ICO President M.L. Calvo reported on the activities aimed to maintain ICSU-ICO (International Council of Science) links. ICSU is linked to the United Nations and as such to UNESCO. M.L. Calvo maintained contacts with the ICSU Review Panel on Science Education. ICSU has at present a complex structure with various review panels. There were contacts with the Mexican representative in particular in the mentioned review panel. As for national organizations, there is an ICSU Community in Spain, which is financed by the Spanish Ministry of Science and Innovation. M.L. Calvo also had contacts with IMU. ICSU grants are \$30,000 per year and she is hopeful to apply for a grant in 2011 (in collaboration with IMU or/and other unions).

In December 2009, M. L. Calvo attended the International Says dedicated to Galileo Galilei,

celebrating the International Astronomy Year. This was held at SPRIT (Private Technical School for Engineering) in Tunis, Tunisia and under the initiatives of the Tunisian Optical Society and directed by Zohra Ben Lakhdar, current Chair of the ICO Education Committee.

In January 2010, M.L. Calvo attended Photonics 21. A new edition of the strategic research agenda entitled “Towards a Bright Future for Europe” was given to the representatives of the European commission. Also, the Photonics 21 Work Group 7, dedicated to education, chaired by Roberta Ramponi had a meeting to discuss on current activities.

In February 2010, M.L. Calvo attended the Winter College in Trieste, Italy and the TSOSA Meeting, the advisory committee to the Trieste System on Optical Sciences and Applications, which involves representatives of several international societies.

In April 2010 she attended an ICO sponsored event/SPIE activity: SPIE Photonics Europe. She also attended an ICO sponsored meeting hosted by the Optical Society of Morocco in Tangier entitled OPTIQUE 2010.

In September 2010 she attended the ICO sponsored RIAO-OPTILAS in Lima, Peru. She was invited by the Council of RIAO. A highlight of the conference was the ceremony organized by the RIAO Council for the official launching of the Ibero-American network in Optics, to which ICO was invited along with dignitaries of OSA, SPIE and colleagues Latin America, Spain and Portugal.

In October 2010, there was a joint venture between EOS and ICO to organize the ICO/EOS Topical Meeting on Optics & Energy, TOM 7 inside of EOSAM in Paris, France. This event was ICO and IUPAP sponsored. A substantial grant was received from IUPAP that brought in 9 participants from Africa and 1 participant from the Ukraine.

Other activities in the works: M.L. Calvo is in the preparation stages of producing a CD to be launched by August 2011 at ICO-22 Puebla. It will include selected experiments of the 20th century aimed to understand coherence properties of light. The aim is to make the order of 300 CDs at a low or zero cost. Most likely they will be sold for \$6.00 each if approved. M.L. Calvo and Z. Ben Lakhdar will make this CD along with colleagues from Colombia – primarily with those who teach on a first and primary level. There was a concern that pricing might turn out to be more expensive in the end, but there will be a concentrated effort on how to make the CDs less expensive.

3. Secretary’s Report: ICO Secretariat -- A. Guzmán

A. Guzmán’s regular activities this year included: composing editions of the ICO quarterly newsletter; distributing announcements for prizes; coordinating award ceremonies, diplomas and medals; distributing the ICO informational triptic; and promoting activities encompassing the Year of the Laser (partnered with many institutions). She edited a series on the history of lasers that opened with a special contribution from Anthony Siegman, and followed with an article by Mario Bertolotti, both worldwide recognized experts on the history of lasers. She also obtained contributions from authors from the former Soviet Union. The series has been well received.

A. Guzmán has continued working with SPIE to keep the ICO webpage updated however there is a current logistics problem: due to security issues SPIE cannot grant direct access, and updates have to be mailed to SPIE's webmaster. She has been in conversations with EOS in order to transfer the ICO website to the EOS server, which would allow working with a different scheme that gives her direct access to the webpage.

A. Guzmán maintains the Blackboard site for ICO, which serves as digital ICO archive. All documents sent to the ICO Secretariat, including IUPAP and ICSU information, or prepared by the ICO Secretariat are loaded there. The members of the Bureau have access to former minutes and mailing lists. Blackboard also offers teleconference facilities throughlluminate.

A. Guzmán records all minutes of important meetings she attends, i.e. ICO Bureau, ICO Education Committee, TSOSA, etc. She collects and maintains all MoUs and collaboration efforts with the OSA Foundation, ETOP, UNESCO/ALOP, the European Physical Society (EPS), and ICTP & TSOSA Advisory Committee. Pertaining to ICO-EPS, a "Year of Light" was proposed to UNESCO, and all parties involved are in agreement to continue moving forward. However, the idea first must be submitted to IUPAP. Regarding UNESCO/ALOP, A. Guzmán is acting *motu proprio* as the UNESCO's coordinator of the program in Latin America. The way to spread the program through Latin American would be through UNESCO regional offices, in particular the Montevideo office which is in charge of Science and Engineering. Maciej Nalecz, Director of the UNESCO's Division for Basic and Engineering Sciences offered to help establishing appropriate contacts with the regional offices. A. Guzmán has focused on spreading the activities of ALOP in Latin America this year. The process of trying to organize ALOP Peru and an ALOP Latin American Team of facilitators is in progress. There is also a proposal for ALOP Bogota 2, using Colombia's current model for local ALOPs.

ICO membership: A. Guzmán had the opportunity to talk with the Peruvian community during RIAO-OPTILAS in September 2010, and suggested them to organize in order to become ICO Territory. There are other prospective new territories that may join ICO: Portugal and Armenia. She has also promoted ICO in Chile, as well as a newly established international organization entitled RIAO.

Assignment of units for ICO Territories: There are ICO members that are in arrears. Suggested, is a proposal for reassignment of units based on the use of the H index for countries (see attachment 1). This H index is specific for atomic and molecular optics and physics, and is based on publications and scientific activity, with data from 2008. The attachment shows two different normalization possibilities. ICO is using a pre-defined formula set by IUPAP. However, IUPAP does not have strong rules. When a country sends an application to adjust its units, it is simply read with flexibility. IUPAP also has a policy of discounts intended to attract new territories to join. Guzmán has asked IUPAP about the possibility of reassigning units. She is awaiting for an answer.

Discussion: Issues to be considered:

1. Possible reallocation of units for Member societies.

2. Avoid creating a stir with countries that might need to pay more.
3. Can a country request that their units be decreased?
4. How often could the allocation of units be changed?
5. To change the allocation we need to change article 4 in the ICO Green Book (page 180, entitled “Shares and Votes”) and put the suggested change on the agenda to be voted on by the General Assembly in Puebla.

Motion 2: (Moved by H.P. Stahl, seconded by D. Moore/M. Gu, approved unanimously). Prepare a new article 4A to define how ICO shares are assigned; the frequency of when they are calculated e.g. every 3 years or 6 years. Territorial Members may request to increase or decrease their shares per the allocation.

Comment of M. L. Calvo: It must be approved by IUPAP (IMPORTANT: First it has to be approved by the ICO General Assembly).

4. ICO Headquarters address as a French non-profit organization

Motion 3: (Moved by J. Harrington, seconded by I.C. Khoo/D. Moore/M. Gu, approved unanimously). Change the mailing address of the ICO Headquarters to the new official address of L’Institut d’Optique, in Palaiseau, France from the old address (L’Institut d’Optique).

5. Short Presentation of the Institute d’Optique – Invited Senior Advisor -- P. Chavel

A presentation was given by Dr. Pierre Chavel on the background and history of L’Institut d’Optique as well as its connection with the ICO. L’Institut d’Optique is an institution that was created to conduct higher education, research in applied optics, and basic education. They have a technology training office. They offer multiple MS degrees and award approximately 15 Doctoral degrees per year.

Archived photographs from the ICO were shown. The following picture of ICO-0 from 1947 in Prague was shown with people from 11 different countries.

A brief history of the facility was given. L’Institut d’Optique was founded by Charles Fabry in 1917, and built its first building in 1927 in Paris. L’Institut d’Optique moved in 1965. They still have this building and lease space to optical companies.

In 1996, the ICO determined that it would be useful to handle ICO money transfers to and from some countries from outside of the United States. Thus, ICO was established as a non-profit organization in France with its headquarters hosted by L’Institut d’Optique. It proved to be economical for as few money transfers as possible. An account was then opened at Caisse d’Epargne ile de France in Paris.

In 2006, L’Institut d’Optique moved to its new building. The newer facilities of L’Institut d’Optique were highlighted to show the current facilities accessed within L’Institut d’Optique. The old building’s address is still used as official ICO headquarters, however,

this address is no longer recognizable within the French postal system and ICO mail sent to this building's address gets rejected.



Thanks were given by ICO President M.L. Calvo for this very informative presentation. An “Outstanding Leadership Recognition” was presented to Pierre Chavel, ICO Secretary General 1990-2002, and Senior Adviser “ad personam” during the terms 2002-2005 and 2005-2008, in appreciation for his outstanding and dedicated service to ICO and the advancement of optics worldwide. The Bureau in plenum thanked Pierre Chavel for his assistance and hospitality in organizing the ICO Bureau Meeting facilities and receptions.

6. Financial Matters – ICO Treasurer – J. Harrington

6a. MoU with OSA foundation –

The ICO is not a 501C3 in the USA (It is a non for profit 501C4 organization but it is not tax exempt). As it stands, donors to ICO have to pay taxes in the United States on the donated money. The MoU with the OSA Foundation allows ICO to solicit donations. The text of the MoU is attached. (Attachment 2).

6b. Report on Consolidated Accounting and ICO Territories in arrears --

The balance sheet as of October 1, 2010 was presented (attachment 3). ICO has a very strong cash balance. Most of the money is in the US account and some money is in the Paris account. The balance, of course, rises, as dues are paid. Only 20 out of 53 Territories paid their dues this year. There are many Territories who owe ICO a lot of money and some Territories who owe beyond 10 years' worth of dues. The liabilities are listed on the report. Among those territories that have not paid, some do not respond to outreach and some

cannot accept an email invoice. When the postal system is used, sometimes we do not have the correct address.

6c. Proposal for an ICO strategy to deal with ICO Territories in arrears for more than 5 years

In the list is a report of money owed to ICO. What are we going to do about this problem? Maybe we need to eliminate countries from ICO? What do we do about countries that just cannot pay at all? Would someone else be willing to pay for them? A territory that does not pay should have a deduction from conference fees when they request conference assistance from ICO. There is concern that retained earnings could drop.

A case in point, Z. Ben Lakhdar says that transferring money is difficult. She never gets the invoice that is sent to her. It is much easier to pay in cash. Another case in point, A. Wague of the LAM network “Laser, Atomic, molecular, and optical sciences” says that making a transfer for a small amount of money is not a good idea for some because of fees assessed to the transfer. He prefers to pay in cash as well. ICO needs to take this into consideration.

It was suggested that if you are not a member of ICO you should not be supported by ICO like in the past. Some countries have asked for conference support and never paid any ICO dues. But what if there is a good application for a conference? We should not turn it down. The wording must be chosen carefully for rules pertaining to this because if those in arrears cannot ask for support, but those who are not a member at all can ask for support, this is not logical. We could take money from the proposed conference support when they apply for the conference.

Instead of “punishing” the country, are we addressing the right person to get the funds from? D. Moore sees no reason not to demote countries to Associate status for those countries in arrears.

Perhaps different situations among the countries should be treated differently. Each Territorial Committee that exists needs to make sure that they cover the whole optical community within their respective countries. The new country must become active through a Territorial Committee and then be encouraged to look and see that they are covering the whole optical community.

S. Sawchuck, the previous ICO Treasurer, did not operate on a regular basis and certified information on the actual status of the invoices was unfortunately missing. Thus the previous records are not sufficient. The ICO pays for travelling lectures, conference support, and prizes/awards. Total liabilities are \$16,754. There was some concern among ICO Bureau members that they have not seen enough data to be comfortable with the baseline accounting. The spreadsheet needs to list what was written off to get the baseline. J. Harrington says that this accounting is the correct accounting and should be the official accounting.

Who really represents the Territorial Committee? We should officially contact the National Academic Societies of these countries or the corresponding official institution that

represents the ICO in that territory. Each Territorial Committee must be contacted and they must prove that they are covering the entire optical community within their respective countries. We have already made a list of members for the board to select which Territorial Committees need to be contacted by standard email each year, so we know if there are changes. There should be personal contact from a Bureau Member to the Territorial Committee Representative. The new society should not take over the debt of the old society.

List of actions

1. Reminder needed to look into the list and see which Territorial Committees they want to contact. Send regular reminders.
2. Remind all Territorial Committees where we do have addresses on file that they have to cover the whole optical community in their respective country.
3. Send letters to Territorial Committees in arrears declaring that their rights will be lost if their dues are not paid.

Motion 4: (Moved by D. Moore, seconded by F. Mendoza, approved)

At Puebla a presentation on the dues in arrears will be made by the Treasurer so that the baseline for accounts receivable can be established.

Motion 5: (Moved by H.P. Stahl, seconded by I.C. Khoo, approved)

Territorial Committees which are in arrears on their dues for more than 5 years will have their membership status demoted to Associate status. This means no shares, no votes, no officer on the Bureau, and no ability to ask for financial support.

7. Committee Reports, except prizes and awards

7a. Long Range Planning Committee – Maria L. Calvo, Chair

We would like to obtain representation among the developing economies that have poorly organized groups or lack an official representative society. We need help bringing some of these territories into ICO. If they do not have enough representation to make a committee, how does ICO accept them? Provided they can get enough interest expressed, they can then join or keep on with reduced membership. We however, cannot consider them on an equal platform. IUPAP fees are higher than ICO. Our fee is minimal. We have ICO forms to apply to ICO to facilitate the task. They must keep in close contact and coordination with the Secretariat. A financial model may not be sustainable.

Initiative with ICTP to organize a school in Costa Rica in order to promote Optics and laser safety in Central America.

7b. Committee for the Regional Development of Optics (CREDO) – Duncan Moore, Chair

There was a main focus on entrepreneurship in South Africa. There were 55 people from 13 countries. This was an exhilarating experience. Students did not know about business plans at the start of the meeting on Monday, and by Friday they were pitching ideas. These ideas were not just from a scientific standpoint. The people who went to Trieste who could

afford to go to that meeting were not the ones who wanted to start a business. So the program went to Argentina, for a tech transfer office. Now the program is going to Jordan in March, and then to the Philippines. It is good to do, but quite redundant. We might want to get involved in an associate way, i.e. pay some money, get our name associated with it, and get optics people involved. It is wonderful to see these young people in these entrepreneurship activities. A representative from IOP will contact A. Guzmán with details. Discussion: What can we say about relevancy of ICO with this?

7c. Nomination Committee – A. Friberg, Chair

The Nomination Committee consists of A. Friberg, A. Consortini, R. Dandliker, C. Dainty, J. Love, and B. Saleh. Reminder letters were sent already regarding a new Bureau by February 2011. A nomination is required to be on the Bureau. Make sure your Territorial Committee or other Territorial Committee nominates you and that you get an endorsement from your own Territorial Committee if they were not the ones that nominated you in the first place. The second round ends by the end of June 2011. Nominations from the Nomination Committee are acceptable as well. Nominations are allowed until 2 hours before the election, which takes place at the 2nd General Assembly during the Congress¹.

We currently have 6 Society Members. Reminders were sent to the Territorial Committees by email and hard copy mail. Territorial Committees must give nominations before the General Assembly. By October 1, those elected and appointed must be in place. A high caliber of people is needed, as well as a good representation of geographic and scientific representatives. We need nominations for all positions of the Executive Committee (except for Ex-President, of course). Without the nomination, you are not in the election process. What happens if we only have one nomination for industry, when we in fact require two?

7d. Education Committee – Z. Ben Lakhdar, Chair

Concern was expressed for the continuation of ALOP activities when the person in charge, Minella Alarcon, is retiring. We need more ideas on how to build experiments and how to interest students in optics. There are no institutions for this at universities. It is difficult to wire money for support. There are time constraints and a level of difficulty. We need to have a project for involved students to get other students involved. Schools need interaction with industry. We could develop a newsletter for African students. Other possibilities are welcome.

7e. Traveling Lecturer Committee – J. Harrington, Chair

This year we have only awarded one Traveling Lecturer award and that was to Maxim Tomilin. We only received one application. We need more. In fact, sometimes we get people that apply that have already received the travel funds previously.

¹ Note: At the time of writing these Minutes the 2nd General Assembly is scheduled 17 August 2011, Puebla, Mexico.

8. Reports of Liaisons with Territorial Committees, Member Societies, & ICTP

8a. International Societies

EOS: R. Ramponi gave an update in terms of the European Optical Society (EOS). There are 22 member societies, 10 branches, and 12 affiliated societies. There are 6,000 in Europe and worldwide. New for 2009 was the addition of the Latvian Optical Society (LOS), the Ukrainian Society of Pure and Applied Optics (USPAO) and the Rozhdstvensky Optical Society (ROS). New for 2010 was the addition of the Portuguese Society of Optics and Photonics (SPOF).

EOS continues with their publications: the JEOS: RP electronic journal, and the EOS member newsletter.

EOS events for 2009 included the 4th EOS Topical Meeting on Advanced Imaging Techniques 2009, the World Photonics Congress 2009, the 1st EOS Topical Meeting on “Blue” Photonics – Optics in the Sea, the 3rd EOS Topical Meeting on Optical Microsystems (OMS09) and the 1st EOS Topical Meeting on Lasers.

EOS events for 2010 include the EOS Topical Meeting on Diffractive Optics 2010, the 5th EOS Topical Meeting on Advanced Imaging Techniques 2010, the Conference on Laser Ablation and Nanoparticle Generation in Liquids (ANGEL 2010), the EOS Symposium on Trends in Optical Technologies (ESTO2010), the 5th EOS Topical Meeting on Visual & Physiological Optics, and the EOS Annual Meeting 2010.

EOS events coming up in 2011 include 2nd EOS Conference on Manufacturing of Optical Components (EOSMOC 2011), the 1st EOS Conference on Optofluids (EOSOF 2011), the 1st EOS TOM on Photonics for Sustainable Development – Focus on the Mediterranean (PSDM 2011), the 2nd EOS TOM on “Blue” Photonics – Optics in the Sea, the 2nd EOS TOM on Lasers & 4th EOS TOM on Optical Microsystems, and the 2nd EOS Topical Meeting on Diffractive Optics (tbc.).

Elections were conducted to form the EOS Board for the period 2010-2014. The EOS Prize of 2009 had 2 awardees and the EOS Prize of 2010 had 1 awardee. EOS had 7 Fellows for 2009 and 8 Fellows for 2010.

EOS also produces a brochure and web gallery which is a collection of ongoing and future research projects conducted by researchers from European research institutes, companies, and universities. Both publications are aimed at scientists, politicians, and the broad public (lobbying activity).

IEEE Photonics Society: I.C. Khoo gave his report on USAC/ICO, and most of the information is on the website. Through a few discussions, he is trying to bring more publicity to USAC/ICO. There are 3 Society Directors to establish awards for papers to be awarded during the annual meeting of the 3 societies. Most of this work is not done in IEEE, but in USAC/ICO. There has been a lot of publicity for this. Hopefully the new Director of the IEEE Photonics Society will perpetuate this and promote it. The next person

taking over USAC/ICO will see what has been done in the last 3 years. They will be bringing in the ex-President into the USAC Committee.

LAM Network: A. Wague gave his report on the LAM network. They have a scientific exchange visiting program. They had a workshop in Cape Coast, Ghana on multispectral microscopy. After the meeting, every person went back to their respective country with equipment.

OSA: D. Strickland gave her report on the OSA. The OSA is almost 100 years old. Their goal is promoting worldwide knowledge. The membership has changed in the last 10 years. There is a push for developing nations to only pay half of their dues to be members of OSA. The number of student chapters is growing in leaps and bounds. There are currently 195 student chapters. Youth education outreach is of utmost importance. There is an international OSA network of students. There are partnerships and international outreach.

The OSA Foundation was established in 2002 to create a permanent place for charitable giving within OSA and the optics community. There are many Foundation programs in developing countries. The ICO and OSA Foundation are working to finalize a “Fiscal Sponsorship” agreement, which will enable donors to make tax-deductible gifts to the OSA Foundation in support of ICO programs.

OWLS: M. Gu gave his report on OWLS. OWLS 11 was in Quebec. It was very successful and they had 107 participants. ICO funds were used to help with poster presentations.

There is a new OWLS President. The new President is from the Italian Institute of Technology. M. Gu is still the Vice President. The next OWLS Congress will be held in Italy in 2012. Next year there will be a workshop in Italy -- Biophotonix 2011. They have been working with Wiley on biophotonics, advanced optics, and microscopy. The new meeting in 2012 may become an issue with the new board.

SPIE: H.P. Stahl gave his report on SPIE. Elections were held. The new elected President is Katerina Svenberg. Bill Arnold has been elected Vice President. The Board of Directors has appointed a new ICO Vice President, Maria Yzuel. She will start when H.P. Stahl ends. This change goes into effect in 2011.

8b. TSOSA Advisory Group – A. Guzmán – ICO Representative and Chair of TSOSA

Fernando Quevedo is the new Director of TSOSA. The annual Winter College has 230-240 applications for the next meeting, which will take place in February 2011.

8c. IP Steering Committee – M.L. Calvo

The next IP Meeting will be in May 2011 in Ottawa hosted by the National Research Council of Canada. In that occasion there will have the meeting of the Steering Committee to reactivate this Committee. M.L. Calvo invited the Chinese Optical Society, the Korean Optical society, etc. We need to reactivate the Steering Committee and look for a bid for 2013. ICO support was increased from \$2,000 to \$2,400 for this event.

8d. ETOP – Z. Ben Lakhdar

Z. Ben Lakhdar gave her report on ETOP. The European community tried implementing the Photonics Explorer. Through this program young students can be trained in optics and photonics and can prepare to be teachers. Field experimentation of kids will be put into action. Could there be a little grant for students for such an event as ICO meets OSA meets SPIE? We need to get students interested in creating a student chapter. Is it possible to get these organizations to help develop activities in optics and photonics in their countries? Even though one may pay the fee nothing is done in the country. It may be good to have a student chapter supported by ICO. There should be a type of program to develop optics.

8e. RIAO's application to become an ICO International Society member

A. Guzmán presented the application of the Iberian American Network on Optics (Red Iberoamericana de Optica, RIAO) to be admitted to the ICO as an International Society. This application was submitted by Dr. Eric Rosas, President of the Mexican Academy of Optics.

Eric Rosas sent an application to ICO referring to the possibility of accepting this organization as an international society of ICO. ICO needs to answer something to the network and so we should recommend it to General Assembly.

Discussion: What are the definitions/requirements for admitting an International Society? We arrived to the conclusion that 20% of the members cannot be from the local society.

A. Friberg has reservations about admitting it as an International Society for the following reasons: (1) this is an Ibero-American Network. We learned today that Portugal has become a member of the European Optical Society. This means that Portugal already has one foot in the door. Now Portugal and Spain would be represented through two societies – Europe and Ibero-American. Portugal and Spain are not Latin America. (2) He objected that the application was signed by some Territorial Committees.

Counterargument: The United States for example, has many representations. A lot of societies have MoUs with OSA, etc.

R. Ramponi mentions the EOS is a federation of European societies. In this regard the RIAO that groups the Mexican Academy of Optics, the Colombian Network, the Spanish Optical society, and other local organizations would be similar.

Gert von Bally suggests that we could require that the representative be from Central or South America.

Guzmán mentions that the RIAO is the result of ICO's work in Latin America for more than 12 years. The Latin American community welcomed Portugal during the RIAO/OPTILAS in Peru. Portugal is just starting out. It took a long time to get this going. You have to think if you want to say no to all other countries other than Spain and Portugal. The Iberian American Network has its roots in RIAO/OPTILAS, conference that was the result of merging RIAO and OPTILAS, following the advice of ICO in 1998. Ari Friberg, Maria Calvo and Angela Guzmán have been working for years on promoting this

organization. The fact that for historical reasons Latin America has decided to group with the Iberian Peninsula should not inhibit ICO to welcome this effort.

Ari Friberg does not agree with an organization that involves Spain and Portugal. R. Ramponi mentions that it is not ICO's role to require that Spain and Portugal be kicked out of the organization.

P. Stahl asks for the qualifications to be an International Society Member. Specifically for how long does it need to exist before it can become an International Society?

Maria Calvo comments that Spain organized one of the first RIAO Meetings in Barcelona in 1992, chaired by Maria Yzuel. Portugal has no Territorial Committee in ICO. It was formerly a member, but then that committee collapsed.

D. Moore suggests to make recommendations to have better grounds to take a decision.

RECOMMENDATIONS

Stahl recommends to set up a process that allows to define how to add new International Societies.

Von Bally recommends that the Territorial Committees should be supportive when starting an international organization but should not be part of the international Organization when grounded.

9. Liasons to ICSU and IUPAP

No additional information.

10. Awards

10a. ICO Prize Committee – M. Gu, Chair

M. Gu presented his report on the nominees for the 2010 ICO Prize. There were 6 nominees this year and all were very good. They had a big record of publications and citations. M. Gu recommends that Dr. Reinhard Kienberger from the University of Michigan be awarded the 2010 ICO Prize for his “breakthrough work in attosecond science and its applications in metrology and spectroscopy.”

Motion 6: (Moved by M. Gu, seconded by F. Mendoza, approved unanimously).

A nomination for the 2010 ICO Award to Reinhard Kienberger for his “breakthrough work in attosecond science and its applications in metrology and spectroscopy.”

10b. ICO/ICTP Award Committee – A. Wague, Chair

A. Wague did not have a winner to announce yet for the 2010 ICO/ICTP Award, however he will soon send the results to the Secretariat.

10c. Galileo Galilei Award Committee – T. Szoplik, Chair

T. Szoplik presented his report for the 2010 Galileo Galileo Award. There were 4 nominations this year.

Motion 7: (Moved by T. Szoplik, Seconded by I.C. Khoo/D. Moore, approved unanimously).

The Galileo Galilei Award Committee proposes to grant the Galileo Galilei Prize in 2010 to Mohammad Taghi Tavassoly of Iran.

10d. IUPAP Young Scientist Prize – A. Friberg, Chair

A. Friberg presented his report on the nominees for the 2010 IUPAP Young Scientist Prize. There were 8 nominees this year. The winner is Dr. Shuang Zhang from Birmingham for his “outstanding contributions in metamaterials and plasmonics, particularly the double-fishnet structure and pioneering achievements towards optical and three dimensional negative-index metamaterials.” This citation however needs to be revised and A. Friberg will forward the correct citation once it is determined.

Motion 8: (Moved by A. Friberg, Seconded by D. Strickland, approved unanimously).

Dr. Shuang Zhang announced as the winning nomination for the 2010 IUPAP Young Scientist’s Prize for (to be changed) his “outstanding contributions in metamaterials and plasmonics, particularly the double-fishnet structure and pioneering achievements towards optical and three dimensional negative-index metamaterials.” Note: the citation should be corrected once Ari Friberg sends the definitive reading.

11. ICO Participation in Meetings and Schools

11a. Meetings Sponsored or to be sponsored during the period Oct. 2008 – Sept. 2011

G. von Bally reported on the meetings budget in the time frame beginning October 2008 and ending September 2011 (attachment 4). All of the money allotted will have been spent by the end of the legislative period with a projected deficit of only \$500.00.

11b. Preparation of ETOP 2011

Z. Ben Lakhdar gave the report on the progress of ETOP 2011. ETOP 2011 will be held in Tunisia. She is trying to get people from many different countries to attend. The conference program has not yet been determined, but it will be in education and technological education in optics and photonics. The program will also include training in optics and photonics and an introduction to physics or science.

There are already several confirmed invited speakers and one confirmed plenary speaker. Venue, travel accommodations, and visa information, etc. is all on the conference website.

Regarding packages being organized for students (like residences, etc.) they will not pay fees for ETOP. African people will also not be required to pay fees for ETOP. French speakers will come to ALOP beforehand.

11c. Preparation of ICO 22- F. Mendoza

The venue is ready. The webpage is ready. The hotel of the conference will be announced soon. There will be grants for African participants. When and where will the next ICO Bureau Meeting be held in Puebla? We need to have 2 Bureau Meetings at ICO 22 because of the new members that will be elected. We will have the regular ICO Bureau Meeting and an additional joint meeting of the old and new Bureau members.

12. Proposals for hosting ICO 23 in 2014

Proposals for hosting the ICO 23 in 2014 were given by 4 competing countries: Canada, Denmark, Japan, and Spain.

12a. Canada -- Tigran Galstian

Canada was unable to send a representative to present the proposal. However, Dr. Tigran Galstian sent an electronic presentation. The host would be COPL – Centre d’Optique, Photonique et Laser. The conference would take place in Quebec City at the Quebec City Convention Center from August 4-7, 2014. There was no consolidated budget prepared. It is estimated that it would cost CA\$13,830 for rental of the premises. Catering would cost \$40/day/person. One plus is that hotels are within 15 minutes walking distance to the conference venue and hotel blocks are available. He estimated that 600 people would attend.

12b. Denmark – Steen Gruner Hanson

Dr. Steen Gruner Hanson presented his proposal to hold ICO 23 in Copenhagen, Denmark sponsored by the Technical University of Denmark (DTU) FOTONIK and the Danish Optical Society. The event would be held from July 7 – July 11, 2014. July was chosen due to decreased pricing. There are support letters from the Lord Mayor of Copenhagen, and Wonderful Copenhagen (WOCO), Scandinavian Airlines/STAR alliance, and the BELLA Center. If it turns out to be a professionally organized conference then WOCO will come up with \$45,000. But if an amateur organizes the event, then WOCO will not put up money.

The Bella Center is where the event will be held. S.G. Hanson negotiated a price and thus, there is an agreement with the Bella Center. It holds 1,000 people. The number of participants is estimated at 800 people. There is an intention for an industrial exhibition. There are 3 large rooms which can be combined if necessary. The Center offers many amenities and technological needs.

There are many hotel accommodations and hostels in Copenhagen starting from 66 Euros and 20 Euros per night respectively. Everything needed is within walking distance. Technical visits will be available to the Danish Technical University and the Lund Laser Centre in Sweden.

There is funding available for students and participants from developing countries. Thus far, there has not been a request for ICO funds and it is undetermined whether or not there will be. Most of the money is expected to be generated from the participants. In an emergency, money would come from external funds.

12c. Japan – Yasuhiko Arakawa

Dr. Yasuhiko Arakawa presented his proposal to hold ICO 23 in Tokyo, Japan organized by the Science Council of Japan. Japan is one of the leading countries in optics. There was a previous ICO General Assembly in Japan only once before. This was ICO 13 and it was held in Sapporo in 1984. If ICO 23 is held in Japan it is tentatively scheduled for September 8–10, 2014 at the University of Tokyo’s main campus in the Yasuda Auditorium. These specific dates were chosen because it is a holiday at this time and academic classes will not be in session.

The topic title of the conference would be “Optics for the Green Innovation.” It could have many poster and plenary sessions. All topics of optics will be included.

Comments: There is only 1 female speaker currently scheduled. There is an IUPAP rule that 30% of speakers must be female, therefore Dr. Arakawa was advised that he will need to include more female representation.

The main co-sponsoring organizations of this event are the Japan Society of Applied Physics, the Physical Society of Japan, the Institute for Electronics, Information and Communication Engineers, the Optical Society of America, and the IEEE Photonics Society. Dr. Arakawa would be the head conference organizer, but responsibility lies within the Japan Territorial Committee.

The estimated budget is 49,500,000 yen. In the current proposed budget there is no student support. Japan is asking for more money from the ICO than usual for student support and this is a concern. The funds will come mostly through conference fees and support from the Science Council of Japan. The number of participants is very important and estimated at 850.

There will be access to many hotels in various price ranges, but in general hotels are cheap. Conference participants can take the metro if they do not prefer the 20 minute walk.

12d. Spain – Humberto Michinel

Dr. Humberto Michinel presented his proposal to hold ICO 23 in Santiago de Compostela, Spain from August 25-29, 2014. It will be organized by the 3 universities of Galicia: University of Vigo (Coordinator), University of Santiago de Compostela, and University of A Coruña. It will be held at the Palacio de congresos y exposiciones de Galicia.

Dr. Michinel feels that it is time for Europe to organize a General Assembly of the ICO. Spain is an ideal location because the 3 sponsoring universities joined to collaborate in a research and educational project: An MSc course in photonics and laser technologies within the framework of the European Space for Higher Education. This project has brought together important optics research groups together in academia and industry. There is a necessity to make ties between academia and industry. The future of our students relies on being involved with both academia and industry. Additionally, Spain is a touristic place with many things

The location of Santiago de Compostela in particular was chosen because it was successful in hosting the general meeting of the Spanish Optical Society in September 2009. There was a new record of attendance for the previous meeting -- 300 participants. Additionally, 8 million people visited Santiago de Compostela in 2010. It has the atmosphere of a small town. There are modern places to host exhibitions/conferences. We can host more than 2,000 people. There would be a satellite meeting on a hot topic, i.e. energy. There would be social activities every day after the last session's end.

The total cost of the conference is estimated to be 690,000 Euros. Calculations are based on the assumption of 1,500 participants. It is possible to rent partial facilities if necessary. It will cost 40,000 Euros to bring in the invited speakers. If there is less money than what is needed, then they will be more creative to come up with the funds.

Hotels range from 50 Euros average, to 100 Euros high, to 250 Euros luxury. 200 grants would be given to participants in developing countries. Participants given grants would not pay for food, hotel, and part of their travel, etc.

There will be support from the Spanish Government and the local government. There is no support documented from IUPAP even though it is an IUPAP endorsed event. It was questioned that there should be support as a result of this fact. Requested support from the ICO is whatever the ICO feels they can contribute.

In addition to conference fees, the following funds will be given: 12,000 Euros from the Spanish Government, 6000 Euros from local authorities, and 3000 Euros from universities. There will also be services granted that can be used for free in lieu of money. Some organizations simply want advertising or their stamp affiliated with the event. There will not be an agency organizing the conference there will be a team of volunteers.

It was suggested that a request be made to the selected representative to go to Puebla and give a presentation to the General Assembly.

There was a consensus about holding ICO 2014 in Europe. There were objections to the budget presented by Denmark and Spain. The Bureau decided to ask for revisions of the proposals.

Motion 9: (Moved by H.P. Stahl, Seconded M. L. Calvo; approved unanimously). Within 1 month, Spain and Denmark should revise their proposals and budgets based on the Bureau's guidance, and then the Bureau should take an electronic vote. Level of ICO support approved.c

Meeting adjourned – 7:00PM

First version by the ICO Secretariat, February 2011

Reviewed by M.L. Calvo, July 11, 2011.

Approved by the ICO Bureau, August 14, 2011.

LIST OF MOTIONS:

Motion 1: (Moved by M.L. Calvo, seconded by G. von Bally, approved unanimously).
The ICO Bureau approves the minutes of the previous Bureau Meeting held in Delphi, Greece in 2009.

Motion 2: (Moved by H.P. Stahl, seconded by D. Moore/M. Gu, approved unanimously).
Prepare a new article 4A to define how ICO shares are assigned; the frequency of when they are calculated e.g. every 3 years or 6 years. Territorial Members may request to increase or decrease their shares per the allocation. Must be approved by IUPAP.

Motion 3: (Moved by J. Harrington, seconded by I.C. Khoo/ D. Moore/M. Gu, approved unanimously).
Change the mailing address of the ICO Headquarters to the new official address of L'Institut d'Optique, in Palaiseau, France from the old address (L'Institut d'Optique).

Motion 4: (Moved by D. Moore, seconded by F. Mendoza, approved unanimously)
At Puebla a presentation on the dues in arrears will be made by the Treasurer so that the baseline for accounts receivable can be established.

Motion 5: (Moved by H.P. Stahl, seconded by I.C. Khoo, approved unanimously)
Territorial Committees which are in arrears on their dues for more than 5 years will have their membership status demoted to Associate status. This means no shares, no votes, no officer on the Bureau, and no ability to ask for financial support.

Motion 6: (Moved by M. Gu, seconded by F. Mendoza, approved unanimously).
A nomination for the 2010 ICO Award to Reinhard Kienberger for his "breakthrough work in attosecond science and its applications in metrology and spectroscopy."

Motion 7: (Moved by T. Szoplik, Seconded by I.C. Khoo/D. Moore, approved unanimously).
The Galileo Galilei Award Committee proposes to grant the Galileo Galilei Prize in 2010 to Mohammad Taghi Tavassoly of Iran.











Motion 8: (Moved by A. Friberg, Seconded by D. Strickland, approved unanimously).
Dr. Shuang Zhang announced as the winning nomination for the 2010 IUPAP Young Scientist's Prize for (to be changed) his "outstanding contributions in metamaterials and plasmonics, particularly the double-fishnet structure and pioneering achievements towards optical and three dimensional negative-index metamaterials." Note: the citation should be corrected once Ari Friberg sends the definitive reading.


















































Motion 9: Moved by H.P. Stahl, Seconded by M.L. Calvo; Approved:
Within 1 month, Spain and Denmark should revise their proposals and budgets based on the Bureau's guidance, and then the Bureau should take an electronic vote -- level of ICO support approved.

LIST OF ACTIONS:

1. ICO SECRETARY: Send a reminder to Bureau members to contact the Territorial Committees they offered to serve as a direct contact. Send the list to the Bureau members.
2. BUREAU MEMBERS: Remind all Territorial Committees where we do have addresses on file that they have to cover the whole optical community in their respective country.
3. TREASURER : Send letters to Territorial Committees in arrears on their dues for more than 5 years declaring that their membership status will be demoted to Associate status, which means that their rights (votes, officers in the Bureau, ability to ask for financial support for their activities) will be lost if their dues are not paid.
4. TREASURER & SECRETARY: prepare a new article 4 to define how ICO shares are assigned; the frequency of when they are calculated e.g. every 3 years or 6 years. Territorial Members may request to increase or decrease their shares per the allocation.
5. TREASURER: Make a presentation at Puebla on the dues in arrears so that the baseline for accounts receivable can be established.
6. ASSOCIATE SECRETARY: Ask Denmark and Spain to send a revised version of their proposals to hold ICO 23.
7. SECRETARY: Distribute the revised version of the proposals from Spain and Portugal and call for an electronic vote to decide on the ICO 23 site.

ATTACHMENT 1: PROPOSAL FOR NEW ALLOCATION OF VOTES

	Country	H index	Current units	Current votes	Units normalized to US	Units normalized to Germany	Units normalized to Japan	Proposal	Votes
1	 United States	185	18	6	18	21	26	18	6
2	 Germany	131	15	5	15	15	19	15	5
3	 United Kingdom	111	12	5	13	13	16	15	5
4	 Japan	105	15	5	12	12	15	15	5
5	 France	98	15	5	11	11	14	15	5
6	 Italy	86	12	5	10	10	12	12	5
7	 Netherlands	82	4	3	9	9	12	9	4
8	 Canada	80	8	4	9	9	11	9	4
9	 Switzerland	77	4	3	9	9	11	9	4
10	 Denmark	76	3	2	9	9	11	9	4

11		Spain	75	4	3	9	9	11	9	4
12		China	74	8	4	8	8	11	8	4
13		Sweden	71	8	4	8	8	10	8	4
14		Australia	69	6	3	8	8	10	8	4
15		Israel	68	2	2	8	8	10	8	4
16		Russian Federation	68	18	6	8	8	10	18	6
17		Austria	60							
18		South Korea	60	3	2	7	7	9	7	4
19		Poland	59	4	3	7	7	8	7	4
20		Belgium	57	4	3	7	7	8	7	4
21		India	53	4	3	6	6	8	6	3
22		Finland	48	3	2	5	5	7	5	3
23		Hong Kong	47							
24		Hungary	47	3	2	5	5	7	5	3
25		Czech Republic	46	2	2	5	5	7	5	3
26		Mexico	46	2	2	5	5	7	5	3
27		Norway	46	3	2	5	5	7	5	3
28		Taiwan	46	3	2	5	5	7	5	3
29		Greece	42	1	1	5	5	6	5	3
30		Brazil	40	4	3	5	5	6	5	3
31		New Zealand	38	1	1	4	4	5	4	3
32		Singapore	38	1	1	4	4	5	4	3
33		Ukraine	37	1	1	4	4	5	4	3
34		Ireland	36	1	1	4	4	5	4	3
35		Portugal	35							
36		Bulgaria	34							
37		Slovakia	33	1	1	4	4	5	4	3
38		Argentina	32	2	2	4	4	5	4	3
39		Turkey	32	1	1	4	4	5	4	3
40		Belarus	31	2	2	4	4	4	4	3
41		Romania	30	1	1	3	3	4	3	2
42		Slovenia	25							
43		Lithuania	23	1	1	3	3	3	3	2
44		Chile	22							
45		Estonia	20	1	1	2	2	3	2	2
49		Thailand	18							
50		Venezuela	18	1	1	2	2	3	2	2
52		Latvia	17	1	1	2	2	2	2	2
53		Morocco	17	0	0	2	2	2	2	2
56		Colombia	14	1	1	2	2	2	2	2
57		Iran	14	1	1	2	2	2	2	2
59		Cuba	13	1	1	1	1	2	1	1
61		Tunisia	13	1	1	1	1	2	1	1
63		Moldova	12	1	1	1	1	2	1	1
70		Indonesia	10	1	1	1	1	1	1	1
91		Peru	4							
95		Ecuador	3	0	0	0	0	0	0	0
102		Ghana	2	1	1	0	0	0	1	1
109		Sudan	2	1	1	0	0	0	1	1
		ICO Annual income	\$36,925	115	\$57,754	\$58,311	\$72,750	\$53,900	158	

ATTACHMENT 2

Article 13 of the Rules and Code of practice: FISCAL SPONSORSHIP GRANT AGREEMENT BETWEEN THE OSA FOUNDATION AND THE INTERNATIONAL COMMISSION FOR OPTICS

ATTACHMENT 3: TREASURER'S REPORT

ICO Treasurer's Report, 2009-2010

The ICO has been able to retain an excellent cash balance of \$125,384 in our treasury. This amount is held in US dollars (\$121,970) at the US Bank of America and in Euros (2,438 €) in the Caisse D'Epargne in Paris. The primary source of income that the ICO receives is derived from membership dues contributed by the Territorial Committees. The money that the ICO expends is used mostly to support conferences, ICO prizes, and travelling lecture awards.

A persistent problem this year is the collection of dues and dues in arrears. This is a problem which has existed for some time and it is an issue that needs to be addressed. So far in 2010, only 20 out of 53 territories or 38% have paid their dues as of October 1st. These 20 territories account for 56% of the 2010 dues collected. Worse yet is the money owed us prior to 2010. While the financial records for the years prior to 2006 are sometimes sketchy, the most reliable data show that we are owed at least \$44,900 in back dues. The non-payment of dues goes back, in some cases, well beyond 5 years (see the Appendix). For these few cases the ICO needs to decide whether the territory should be dropped from ICO membership or should continue their membership assuming that some arrangement is made to pay their past dues.

The biggest expense of the ICO outside of the money given to support conferences, travel, and prizes is for publication and mailing of the newsletter and green books. So far in 2010 the publisher, IOP Press in the UK, has charged the ICO \$776 for printing. The cost for mailing the newsletters by BTB Mailflight was \$4,578. One way to reduce printing and mailing costs would be to consider sending CDs of the green book instead of a printed copy and to transition to an electronic version of the newsletter.

As most of you know, we have been in contact with the Optical Society of America Foundation (OSAF) regarding the acceptance of monetary gifts by US donors for the use of the ICO. This has been ongoing for a number of years and we have recently agreed to have any gift monies pass through the OSAF to us. The reason for this is that we are a 501(c)4 organization. This means that monies donated by US citizens to the ICO do not exempt the donor from paying US taxes on their gift. In contrast the OSAF is a 501(c)3 organization (as is the OSA itself) and thus the OSAF can accept donations without the donor paying US tax on their donation. The easy workaround for the ICO is to have the money donated to the OSAF and then given to the ICO for our use. Then the US citizen gets a tax-free donation and the ICO receives the money. We have received the MOU from the OSAF and Maria has signed the agreement. We now await the OSAF board's approval which we will hopefully occur at the OSAF board meeting to be held on October 27, 2010.

I should mention that this is an approach which in the long term may not be the best solution. That is, there is no fundamental reason that we cannot convert the ICO from its current status of a 501(c)4 to a 501(c)3 organization. Such a conversion requires some paperwork to be filed with the Internal Revenue Service plus an application fee of \$850.

Finally, a somewhat longer term issue is a re-examination of the units that we assess each territory as a means of determining their dues. The current dues rate is based on \$175/unit. The number of units for any territory varies from 1 to 18 units. The units that each territory is assigned are based on information from the World Bank on the economic status of the various countries. The ICO established the numbers of units many years ago but we feel that it is now time to re-evaluate the units assigned to each territory in light of economic

Balance Sheet - 1 October 2010

Assets

Current assets

Checking/Savings			
Bank of America - checking		\$14,905	
Bank of America - money market		\$107,065	
French account-converted 1 € = \$1.40		\$3,414	
Total checking/money market			\$125,384
Accounts receivable-dues			
Dues 2010-received		\$21,675	
Dues 2010-still owed		\$17,125	
Prior year dues in arrears		\$44,900	
Total accounts receivable			\$83,700
Total assets			\$209,084

Liabilities and equity

Conference support			
OWLS 11-Canada		\$1,500	
RIO-OPTILAS		\$2,000	
ICO-22		\$7,500	
PHOTONICS 2010-INDIA		\$1,500	
EOS-Paris, 2010		\$2,000	
SPIE-Photonics Europe		\$1,500	
LAM 9-Senegal		\$1,500	
V Workshop Lidar, Buenos Aires		\$1,000	
ETOP		\$2,000	
ICTP-Winter College Trieste		\$5,000	
Total conference support			\$25,500
ICO Prizes			
ICO Prize + travel - 2009		\$3,000	
Galileo Galilei - 2009		\$1,000	
Secretariat-A. Guzman		\$5,650	
Traveling lecture award		\$1,000	
Newsletter IOP Publishing		\$776	
Mailing BTB Mailflight		\$4,578	
ICSU		\$750	

changes since the units were established. We want to be certain that the units are assigned equably.

	Total miscellaneous liabilities	\$42,254
Total liability		\$67,754
Equity		
	Retained earnings	\$141,330
Total equity		\$141,330
Total liabilities and equity		\$209,084

Appendix – Dues owed by Territorial Committees

TERRITORIAL COMMITTEE	Years in Arrears 2009 and before	Dollars Owed Prior to 2010
ARGENTINA	1	350
AUSTRALIA	None	
BELGIUM	10	6,100
BELORUSSIA	9	2,750
BRAZIL	10	6,100
CANADA	None	
CHINESE OPTICAL SOCIETY	5	6,000
COLOMBIA	1	150
CUBA	4	625
CZECH REPUBLIC	None	
DENMARK	None	
ECUADOR	Associate member	
ESTONIA	None	
FINLAND	None	
FRANCE		
GERMANY	None	
GHANA/WEST AFRICA	4	625
GREECE	None	
HUNGARY	3	1,425
INDIA	None	
INDONESIA	3	475
IRELAND	None	
ISLAMIC REPUBLIC OF IRAN	4	625
ISRAEL	1	350
ITALY	1	1,800
JAPAN	None	

KOREA	5	2,325
LATVIA	None	
LITHUANIA	6	925
MEXICO	None	
MOLDOVA	4	625
MOROCCO	Associate member	
NETHERLANDS	3	1,900
NEW ZEALAND	None	
NORWAY	3	1,425
OPTICAL ENGINNERING SOC. TAIPEI	3	1,425
POLAND	None	
ROMANIA	None	
RUSSIA	1	3,150
SINGAPORE	5	775
SLOVAK REPUBLIC	5	775
SPAIN	1	600
SWEDEN	None	
SWITZERLAND	None	
TUNISIA	3	475
TURKEY	4	625
UKRAINE	5	750
UNITED KINGDOM	None	
USA	None	
USAC/ICO (same as USA with respect to dues)		
VENEZUELA	4	625
AFRICAN LASER ATOMIC AND MOLECULAR PHYSICS	2	325
EOS	1	150
IEEE/LEOS	2	650
INT.SOC.ON OPTICS WITHIN LIFE SCIENCES	None	
OSA	None	
SPIE	None	
	Back dues owed ICO	\$44,900

ATTACHMENT 4: Meetings

Budget overview:	Distribution Plan	Current Expenditures
1. Oct. 2008 - 30. Sept. 2011 total: US \$ 32,000		
Budget distribution plan:		
1. Oct 2008 - 30. Sept 2009:	US \$ 11,000	US \$ 11,500
1. Oct 2009 - 30. Sept 2010:	US \$ 11,000	US \$ 10,000
1. Oct 2010 - 30. Sept 2011:	US \$ 10,000	US \$ 11,000

- US \$ 500

Legislative Period Oct 2008 - 30. Sept 2011

1. Oct 2008 - 30. Sept 2009 (Period 1)	Date	requested by applicants	end./cosp. Grant/risk decision by ICO (proposal marked in blue)	representative: decision by ICO
Photonics Prague 2008, <i>Prague, Czech Republic</i>	27-29 Aug 2008	end. no money requ	end. US\$ 0	Gert von Bally
10 th International Conference on New Developments and Applications in Optical Radiometry (Newrad 2008); <i>Daejeon, Korea</i>	13-16 Oct 2008	end. no money requ	end. US\$ 0	Yoon Kim
International Topical Meeting on Information Photonics 2008; <i>Awaji, Hyogo, Japan</i>	16-20. Nov 2008	end. no money requ	end. US\$ 0	Yasuhiko Arakawa
PHOTONICS 2008 9 th International Conference on Fiber Optics and Photonics, <i>New Delhi, India</i>	14-17 Dec 2008	cosp. US \$ 5,000	end. US\$ 1,500	Ari Friberg
VI International Workshop TECNOLASER 2009 and II Meeting Optics, Life and Heritage; <i>La Habana, Cuba</i>	13-16 Apr 2009	cosp. US \$ 3,000	end. US\$ 2,000	Gert von Bally Maria Calvo
4th Asian and Pacific Rim Symposium of Biophotonics (APBP 2009); <i>Jeju Island, Korea</i>	27-29 May 2009	cosp. US\$ 5,000	end. US\$ 1,000	Min Gu
12th International Conference on Photorefractive Materials, Effects and Devices - Control of Light and Matter; <i>Bad Honnef, Germany</i>	11-14 Jun 2009	cosp. US. \$	cosp. US\$ 1,000	Cornelia Denz
Nanophotonics Down Under 2009: Devices and Applications; <i>Melbourne, Australia</i>	21-24 June 2009	end. US\$ 1,000	end. US\$ 1,000	Min Gu
1. Oct 2010 - 30. Sept 2011 (Period 3)				
TCM 2010, <i>Crete, Greece</i>	17-21 Oct 2010	end. US \$ 2,000	end. US \$ 1,000	Gert von Bally
EOS Annual Meeting/ICO Topical Meeting <i>Paris, France</i>	26-29 Oct. 2010	cosp. US \$ 3,000	cosp. US\$ 2,000	Maria L. Calvo, Gert von Bally
2nd Mediterranean Photonics Conference, <i>Eilat Israel</i>	29 Nov - 2 Dec 2010	end. US \$ 0	end. US \$ 0	Joseph Shamir
Photonics 2010, International Conference on Fiber Optics and Photonics, <i>India</i>	11-15 Dec 2010	cosp. US \$ 5,000	end. US\$ 1,500	Maria Calvo
International Conference on Applications of Optics and Photonics, <i>Braga Portugal</i>	3-7 May 2011	end. US \$ 0	end. US\$ 0	Maria Calvo
Information Photonics, <i>Ottawa, Canada</i> (in preparation)	18-20 May 2011	cosp. US \$ 2,000	cosp. US\$ 1,500	Maria Calvo
Panamerican Advanced Studies Institute on Frontiers in Imaging Science, <i>Bogota Colombia</i>	7-17 June 2011	cosp. US \$ 1,920	US \$ 1,000	Roman Castaneda
ETOP 2011, <i>Tunisia</i>	8-10 July 2011		cosp. US\$ 2,000	
1st EOS Topical Meeting on Photonics for Sustainable Development - Focus on the Mediterranean (PSDM 2011), <i>Tunis Tunisia</i>	11-13 July 2011	cosp. US \$ 1,300	US \$ 1,000	
ICO-22, <i>Puebla Mexico</i>	15-19 Aug 2011		cosp. US\$ 7,000 (different budget)	
Conference Correlation Optics 2011, <i>Chernivtsi, Ukraine</i>	12-16 Sept 2011	cosp. US \$ 3,000	US \$ 1,000	Serguey Odoulov
Newrad 2011, <i>Hawai, USA</i>	19-23 Sept 2011	end. US \$ 0	US \$ 0	
			US \$ 11,000	

MINUTES OF THE FIRST 2011 ICO BUREAU MEETING

Held in the Presidente Intercontinental Hotel, Puebla, México.

Sunday, August 14, 2011, from 9:00 AM to 5:00 PM

Members Present:

Arakawa, Y., Bingkun, Z., Calvo, M.L., Friberg, A., Gu, M., Guzmán, A., Harrington, J., Khoo, I.C., Ben Lakhdar, Z., Lefevre, H., Mendoza Santoyo, F., Moore, D., Ramponi, R., Oron, M., Stahl, H.P., Strickland, D., Von Bally, G., Szoplik, T., Wague, A., Cisneros, C.

Invited Senior Advisor – Rogan, Liz (Not attending), Michinel, H.

Apologies for absence have been received from: No absent members.

1. Call to order 9:00AM

Maria L. Calvo, ICO President, opened the session. She thanked all the attendees for their presence, and Fernando Mendoza on behalf of all ICO Bureau Members for hosting the Meeting. She also thanks A. Guzmán and M. Troshinsky for preparing the agenda and documents for the Bureau Meeting.

Motion 1: (Moved by M.L. Calvo, seconded by G. von Bally, approved unanimously). Maria L. Calvo wants to have her thanks to Pierre Chavel in the Minutes. With this modification, the ICO Bureau approves the minutes of the previous Bureau Meeting held in Palaiseau, France, October 30, 2010.

Motion 2: (Moved by F. Mendoza, seconded by T. Szoplik, approved unanimously). The ICO Bureau approves the minutes of the proposed agenda for the meeting, omitting numeral (5c) due to not attendance of the OSA Executive Director or her representative), and the numeral (8c) at request of A. Guzmán.

2. President's Report (11/1/10 – 8/14/11 and programmed activities until 30/9/2011): ICO President -- M.L. Calvo

María L. Calvo attended **The International Conference on Fiber Optics and Photonics – PHOTONICS 2010**, held at the Indian Institute of Technology, Guwahati, India, 11 – 15 December 2010. Photonics 2010 is part of a series of conferences held biennially in India, and is a premier conference in the emerging areas of Photonic science and technologies. PHOTONICS 2010 was the tenth of the series, and is a very large conference that has been traditionally co-sponsored by ICO. She congratulates the Optical Society of India for the success of the conference.

On the 3rd of February 2011, she attended the OSA Leadership Conference in Washington, DC, USA, at the invitation of Chris Dainty, 2011 OSA President. She made a half an hour presentation entitled: “An introduction to ICO and to ICO/OSA cooperation”, which is available under request to OSA”. It was a great opportunity to contact colleagues from the

USA and OSA. She held a meeting with the OSA Foundation and OSA President to discuss on forthcoming actions for the ICO/OSAF agreement. There are legal aspects that have to be taken for donations to ICO through the OSAF. ICO funds will be in an international fund. We have not received information on donations made to that fund until this date. A follow-up is needed. The two persons in OSA in charge of the MoU are Meredith Smith and Grace Klonowski.

ICO President attended the TSOSA Advisory Committee meeting, on the 8th of February 2011, held during the **Winter College on Optics in Imaging Science**, at ICTP, Trieste, Italy, 31 January – 11 February 2011. The directors of the Winter College 2011 were William T. Rhodes, Jorge Ojeda-Castañeda and Gianluca Valentini. Over 300 applications were received. The TSOSA Committee was started by late Prof. Gallieno Denardo and has members from EOS, OSA, SPIE, SIOF, LAM, OWLS, and others. TSOSA is a Committee that advises the Trieste System on activities in Optics and Photonics, oriented to help young researchers in this area, and has representation from the Optical Community around the world. During the College Zohra Ben Lakhdar organized also a Meeting of the ICO Education Committee. More information on ICO-ICTP collaboration will be given in subsequent points by ICO Secretary Angela M. Guzmán.

María L. Calvo was also personally (not as ICO President) involved in **Photonics21**, the European Platform Meeting that took place 23 & 24 February 2011, in Brussels, Belgium. She attended the Work Group 7 (Photonics Research, Education & Training), chaired by R. Ramponi. A discussion on possible programs for thesis projects was held. The next annual meeting will be held 27 - 28 March 2012 –in Brussels, Belgium.

She also attended the **AOP'2011**, International Conference on Applications of Optics and Photonics, held May 3 to 7, 2011, at the University of Minho, Portugal. Portugal is going to be re-installed in ICO. Portugal was an ICO member but was missing the founder of the Portuguese Committee, Prof. Olivério Delfim Dias Soares in 2001. The conference was the first major international organization of the recently created Portuguese Society for Research and Development of Optics and Photonics, SPOF- Sociedade Portuguesa para a Investigação e Desenvolvimento em Óptica e Fotónica, established on November 2009. The conference was co-sponsored by ICO and there was a large attendance of young researchers. A report on this conference can be found in the Green Book "Toward ICO-22". Portugal will also organize the next RIAO/OPTILAS Meeting in 2013.

María L. Calvo was the Chair of the International Committee of **Information Photonics 2011** held in Ottawa, Canada, 18-20 May 2011. The Conference was organized by the NRC of Canada. The conference evolved from the ICO topical meetings on Information Photonics (IP) (from the former Optics in Computing series). In 1998 a Committee was founded, and many former partners dropped. ICO re-instated a Steering Committee and the series was renamed as Information Photonics. In 2008 the Conference was held in Japan and in 2011 in Canada. The Conference included presentations connected with industry, and spin-off companies run in Canada. Bids are now open, and there is a possibility that the conference be held in 2013 in Poland. ICO offered three grants of 500 \$USD to three outstanding students. A report of IP 2011 can be found in the Green Book "Toward ICO-22". The Conference Proceedings were published by IEEE.

Other activities of the ICO President involved the edition of the CD “**Selected experiments of the 20th C. aimed to understand coherence properties of light**” to be launched by 15 August 2011 at the occasion of ICO-22, Puebla, Mexico. The CD is intended to be distributed to all registered students and delegates from developing countries (a total of 400 edited CD’s), and has been prepared by ICO President instead of the ICO Book. The last Volume of “International Trends in Optics”, by Ari Firberg was the Volume 6 of the series. The CD was conceived in collaboration with the ICO Education Committee for young researchers and students. It is an ICO Publication and contents selected experiments in Optical Coherence. There are videos to show that optics teaching does not need a heavy infrastructure. It presents very important concepts of temporal coherence, spatial coherence, and optical correlation. It is an open publication that was financed by the Spanish Ministry of Education.

Questions:

A. Wagué: Can we have CDs to distribute to LAM centers?

M. L. Calvo: She will be very glad if ICO can prepare another edition.

D. Moore: How many students registered at ICO-22?

F. Mendoza: over 300. The CDs were included in the Conference bags for students.

D. Strickland: Multiple students from the same institution could then receive the CD.

F. Mendoza: It is possible to buy more CDs and do extra copies right away.

R. Ramponi: It would be nice to have a copy for the members of the ICO Bureau. It should also be posted in the ICO webpage and ICO could produce more CDs.

With respect as her role as ICSU-ICO link, María L. Calvo reports the ICO forthcoming attendance to the ICSU General Assembly (GA), to be held 26-30 September 2011 in Rome, Italy. The GA is hosted by the Italian NRC. She will present a Poster with information on ICO, and will have the opportunity of making a 2 minutes presentation at the GA. In the former ICSU GA in Mozambique ICO presented a Poster but was not given the opportunity of making an oral presentation.

Regarding ICO as an IUPAP member, ICO is supporting a proposal to UNESCO for declaring the International Year of the Light (IYOL). Tentative dates 2015-2016. Other organizations and societies involved are EPS, OSA, and SPIE. ICO has been invited to a preliminary meeting on 16th September 2011, Varenna, Italy, to discuss this initiative. The proposal is open for discussions.

Other business: C17 IUPAP Commission on Quantum Electronics

At the Chicago council meeting (October 2009) C17 made a proposal that it be re-named as Quantum Electronics & Photonics or Laser Physics & Photonics or simply Photonics. It is expected that this proposal will be processed for discussion within IUPAP for final resolution at the next IUPAP GA (London, 31 October – 4 November 2011).

3. Secretary's Report: ICO Secretariat -- A. Guzmán

A. Guzmán's regular activities this year included: composing editions of the ICO quarterly newsletter; preparing and distributing poster announcements for prizes; coordinating award ceremonies, diplomas and medals; distributing the ICO informational triptych, preparing Agenda and documentation for ICO Bureau Meetings, coordinating the organization of the ICO Bureau Meetings with the local hosts, and preparing and distributing ICO Seasonal Greetings.

She bought a new hosting service for the ICO webpage at GoDaddy. The cost per year is \$83.88. She asked the Bureau if ICO should buy the MyICO.org domain.

Motion 3: (Moved by A. Guzmán, seconded I.C. Khoo, approved unanimously).
A. Guzmán is authorized to buy the domain MyICO.org.

The Secretariat has fixed a Blackboard site for ICO, which serves as digital ICO archive. All documents sent to the ICO Secretariat, including IUPAP and ICSU information, or prepared by the ICO Secretariat are loaded there. The members of the Bureau have access to former minutes and mailing lists. Blackboard also offers teleconference facilities through Illuminate.

The ICO Secretariat is in charge of elaborating the Minutes of the ICO Bureau Meetings, ICO Executive Committee Meetings, ICO Education Committee, and the TSOSA Meetings. She collects and maintains all MoUs and collaboration efforts with the OSA Foundation, ETOP, UNESCO/ALOP, the European Physical Society (EPS) and its proposal for a "Year of Light", and ICTP & TSOSA Advisory Committee.

Regarding UNESCO/ALOP, A. Guzmán is acting on a personal basis as the UNESCO's coordinator of the program in Latin America. The Program has consisted of two parts:

(i) The UNESCO initiative: As a result of ALOP Bogota, the Universidad Nacional of Colombia has committed to spread ALOP throughout the country. For that purpose has trained its own Colombian team of facilitators, who acted as facilitators of a UNESCO's follow up activity **ALOP-SPN**, 6-10 December 2010, with the support of members of the Latin American Team of facilitators. The University has also financed the redesign and construction of the electronic equipment required for modules 5 and 6 on Fiber Optics.

(ii) The UNESCO-ICO plan for ALOP in Latin America: A. Guzmán on her role as UNESCO's coordinator of ALOP in Latin America has built a Team of Spanish speaking facilitators and organized several ALOP Workshops in Spanish: ALOP Peru in June 2010, and is the director of ALOP Medellin. August 1-5, 2011, an activity supported in full by the Universidad Nacional de Colombia. ALOP Peru and ALOP Medellín were co-located with the Annual Conference of LACCEI (The Latin American and Caribbean Consortium of Engineering Institutions). The collaboration with LACCEI helps advertising the events and locating appropriate facilities and committed institutions with the organization of the event. There is a prospective of holding new ALOP Workshops in Ecuador, Bolivia, and

Costa Rica. A recent contact with the **Inter American Network of Academies of Sciences (IANAS)** has been established in order to get their support for ALOP in Latin America.

ICO membership: A. Guzmán has worked with Portugal and Armenia proponents to facilitate their membership application process to ICO. She attended the AOP 201 Meeting in Portugal, and maintained contact with the Armenian community, who submitted the application accompanied by circa 100 signatures of Armenian researchers in Optics. Both are presenting their membership application to the GA of ICO -22.

Publications: A. Guzmán edited the ICO Green Book “Towards ICO-22” published in printed and CD electronic version. She acquired 10 ISBN for US\$ 250 to be applied in future ICO printed and electronic publications. The ICO Green Book was printed in the US. IOP-Publishing was not involved. The CDs were burned by the ICO Secretariat. The cost of the printed Book and the CDs was inferior to the cost of former printing through IOP-Publishing, and was paid from the budget of the ICO Secretariat.

The new location for the ICO Secretariat in the US will be The College of Optics and Photonics (CREOL), University of Central Florida, USA.

A. Guzmán requests to include in the Budget of the ICO Secretariat the payment on an hourly basis of an ICO webmaster.

4. Nomination Committee’s report – ICO Past President – A. Friberg

The Nomination Committee 2008-2011 consists of the following members: Ari T. Friberg (Finland) – chair and ICO immediate Past President, Anna Consortini (Italy), René Dändliker (Switzerland), Chris Dainty (Ireland), John Love (Australia), and Bahaa Saleh (USA). Three members (excluding the Chair) have been ICO Presidents from Europe. John Love chaired the ICO General Congress in Sidney, Australia. The ICO bureau & election process is governed by: Statutes (Article 5 – The Bureau), and Rules and Codes (Paragraph 3 – General meetings, votes, and elections)

Following the amendment made in Sidney to the Rules and Codes, the appointed Vice-Presidents by the Member Societies were to be appointed before this Bureau Meeting.

Int’l Organization Member (IOM)	Vice-President	Town
OSA	Ursula J. Gibson, NTNU-Trondheim	Trondheim, Norway
SPIE	Maria Yzuel, Past SPIE President	Barcelona, Spain
IEEE Photonics Society	Yujie Ding	Bethlehem, PA, USA
EOS	Hans Peter Herzig, Past EOS President	Neuchâtel, Switzerland
OWLS	Alberto Diaspro, current OWLS President	Genoa, Italy

LAM Network	Ahmadou Wague, current LAM President	Dakar, Senegal
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The next Chair of the Nomination Committee will be Maria L. Calvo, Madrid, Spain, in her capacity as ICO Past President.

The nominations updated to the morning of August 14, 2011, are as follows:

Bureau position	Name	Country	Nominating Territory	Endorsements
President	Duncan Moore	USA	USA	PL, JP
	Fernando Mendoza	Mexico	Mexico	CU
Secretary General	Angela Guzmán	Colombia/USA	Colombia	PL, CU, JP
Associate Secretary	Gert von Bally	Germany	Germany	PL, CU, JP
Treasurer	James Harrington	USA	USA	PL, CU, JP
Vice-President	Zhou Bingkun	China	Chin. Opt. Soc.	PL, CU, JP
	Yasuhiko Arakawa	Japan	Japan	PL, CU
	Carmaña Londoño	USA	USA	
	Zohra Ben Lakhdar	Tunisia	Tunisia	CU, FI
	Moshe Oron (*)	Israel	Israel	PL
	Tomasz Szoplik	Poland	Poland	ES, CU, JP
	Fredrik Laurell	Sweden	Sweden	
	Humberto Michinel	Spain	Spain	PL, CU, JP
	Roberta Ramponi	Italy	Italy	CU
	John Harvey (*)	New Zealand	New Zealand	JP
	Yuri N. Kulchin	Russia	Russia	
	Frank Höller (*)	Germany	Germany	CU, JP, FR

(*) representing industry

The nomination comes from the ICO Territory. Endorsement means that other Territories consider the candidate as a good candidate and intends to vote for the candidate but it is not obliged to do so. The Committee has received endorsements during the last months. Nominations and endorsements are accepted up until 24 hours before the elections on Wednesday August 16th at 6PM. It means that nominations and endorsements will be accepted until Tuesday August 15th at 6PM local time. Two VPs have to be from the Industry. There are 3 candidates from the industry.

The election and endorsement process involves only the members of the official delegation

of ICO Territories, and none of the International Society members.

5. Financial Matters – ICO Treasurer – J. Harrington

Summary of Current Finances: The good news are that there are \$138,000 in the banks. The not so good news are that only 27 out of 51 Territorial Committees (TCs) have paid their 2011 dues, which corresponds to 53%, but 74% of the total 2011 dues are collected, which is approximately the same percentage as in the past. Back dues owed are very high. We are owed \$41,675 for dues in arrears. Some TCs have not paid in over 10 years. What to do with the back dues? ICO Bureau approved in 2010 that TCs in arrears for more than 5 years should be demoted to Associate status. Associate status means no shares, no votes, no officers, and no financial support. The ICO Treasurer suggests as possible solutions: (i) Restructure dues schedule and (ii) Identify responsible local optical organization. In general ICO should make an advertisement campaign emphasizing the value of the ICO for the different communities.

Balance Sheet:

For period 10/1/2010 - 9/30/2011		
Income		
2010 - 2011 Dues		\$39,000
Less Dues not collected yet, see Accounts Receivable Asset on Balance sheet.		\$10,000
Net 2010 - 2011 dues collected		\$29,000
Royalties		\$0
Interest		\$0
Total Income		\$29,000
Expenses:		
Conference support		\$22,500
ICTP Winter College – Trieste 2011		\$5,000
Secretariat - A. Guzman		\$15,560
ICO Prizes/awards/travel		\$5,000
Printing and mailing newsletters		\$7,700
ICSU dues for 2010 and 2011		\$1,500
Total recurring expenses for 2010 - 2011 activities		\$57,260
(One time write off of uncollectable dues, note: \$14,300 of prior year dues remain in Accounts Receivable.)		\$27,325
Total Expenses		\$84,585
Total Surplus/(Deficit)		(\$55,585)
Note: if all 2010 - 2011 dues are collected and we exclude the Accounts Receivable write off the net deficit for the period would be \$8,260		

The dues in arrears own before 2011 amount for \$41,675. The dues in arrears own in 2011 amount for another \$10,000. The ICO treasurer proposes to write off \$27,325 of the debt and declare them as uncollectable dues.

Donations to the ICO: ICO in the US is a 501(c)4 organization. US donors are subject to US income tax. OSA Foundation (OSAF) has made a proposal of MoU to ICO to help ICO collect donations in the US for its programs. OSAF is a 501(c)3 organization. Donors to the OSAF are exempt from US tax. ICO-OSAF MOU is now in place. Donations from US citizens for the ICO will pass through OSAF to the ICO for approved activities.

Units for TCs: We have also discussed about how to re-evaluate the Units assigned to each TC. Current units vary from 1 to 18. Dues are based on 1 unit = \$175. The Units were established years ago based on World Bank statistics. We need to redo units for each TC. It can make substantial difference in dues.

Performance Forecast for the Period 2010-2011:

Assets		
Current assets		<u>As of August 4, 2011</u>
Checking/Saving		
Bank of America - checking		\$13,145
Bank of America - money market		\$107,200
French account-converted 1 Euro = 1.43 dollars		\$17,741
Total checking/money market		\$138,086
Accounts receivable-dues		
Dues 2011 - still owed		\$10,000
Total dues in arrears - still owed (note: \$28,100 of uncollectable dues were written off in 2011)		\$14,300
Miscellaneous - book royalty income		\$200
Total accounts receivable		\$24,500
Total assets		\$162,586
Liabilities and equity		
Total liability		\$0
Equity		
Retained earnings		\$162,586
Total liabilities and equity		\$162,586

For period 10/1/2011 - 9/30/2014

Income			
Dues		\$117,000	
	Less not collectable	\$33,000	
Net dues			\$84,000
Royalties			\$600
Interest			\$600
Total Income			\$85,200
Expenses			
Secretariat			\$20,000
Newsletter - distribution			\$12,000
Printing - Newsletter			\$4,000
Printing & distribution - Green Book			\$4,000
Bureau expenses			\$3,000
ICO prizes + travel			\$15,000
Meeting support			\$30,000
ICTP school support			\$15,000
ICO-23 Santiago, Spain			\$7,500
Traveling lecture awards			\$5,000
Reserves or new projects			\$2,000
ICSU dues			\$2,100
Total Expenses			\$119,600
Budgeted Surplus/(Deficit) for 3 year period			(\$34,400)

Summary of ICO Finances:

Date	Total Dollars in Bank Accounts
February, 2005	\$160,000
August, 2006	\$136,000
August, 2011	\$138,000

The ICO Treasurer proposes (i) to consider alternatives to BTB Mailflight for mailing of the ICO Newsletters to reduce costs, (ii) to write-off of bad debt: \$27,325, (iii) to solicit donations, and (iv) to find mechanisms to motivate the TCs to pay their dues.

P. Stahl requests a revision of the actions approved in the last ICO Bureau. Action 3 requested from the Treasurer to send letters to Territorial Committees in arrears on their

dues for more than 5 years declaring that their membership status will be demoted to Associate status, which means that their rights (votes, officers in the Bureau, ability to ask for financial support for their activities) will be lost if their dues are not paid. Action 4 requested from the Treasurer & Secretary to “prepare a new article 4A to define how ICO shares are assigned; the frequency of when they are calculated e.g. every 3 years or 6 years”. No new article has been prepared for this meeting.

Action 1: The ICO Treasurer has to report to the TCs on the Bureau decision of “demoting” them.

Action 2: The ICO President should assign a list of TCs to the ICO VPs, who will be in charge of reactivating the contacts with the TCs. The ICO Secretary should remind the VPs to contact the TCs assigned to them.

Motion 4: (Proposed by P. Stahl, seconded by A. Friberg, approved unanimously)

(i) ICO Secretary will survey all persons/organizations who currently receive ICO communications as to whether they wish to receive ICO future communications by Mail or e-mail. ICO will mail “paper” copies of all communications only to those who specifically request them to be sent by mail.

(ii) Ask a separate question regarding the Newsletter.

Motion 5: (Proposed by P. Stahl, seconded by D. Moore, approved unanimously)

Recommend the ICO General Congress to raise the Unit cost to \$200 per year.

6. Committee Reports, except nomination, prizes and awards

6a. Long Range Planning Committee (LRPC) – Maria L. Calvo, Chair

The LRPC reported the ICO/ICTP initiative for Central America. During their last visit to ICTP to attend the TSOSA Meeting, M. L. Calvo and A. Guzmán presented a proposal to ICTP for a Workshop on Laser, laser safety and laser applications to be held in San José de Costa Rica. This would be the first activity held by ICTP in Optics in Central America.

The Committee also discussed the need to make some progress towards converting ICO into a Union.

Motion 6: (Moved by D. Moore, seconded by P. Stahl, approved unanimously)

Direct the Long Range Planning Committee to create a working group to make recommendations for the future of ICO.

6b. Committee for the Regional Development of Optics (CREDO) – Duncan Moore, Chair

There was a main focus on entrepreneurship. The program went to Jordan in March, and then to the Philippines.

6c. Education Committee – Z. Ben Lakhdar, Chair

ICO Education Committee Members 2008-2011

H. Philip Stahl (SPIE); Ahmadou Wagué (LAM Network); Roberta Ramponi (EOS); Fernando Mendoza Santoyo (Mexico); Zhou Bingkun (China), Angela M. Guzman (ICO); Brian Wilson (OWLS); Krisinda Plenkovich (SPIE); Elizabeth H. Simmons (US); Anna Consortini (ICTP-ICO); Ajoy Ghatak (India); Lakshminarayanan Vasudevan (Vengu) (OSA); Joe Niemela (ICTP).

The members are from different Optics societies, different continents & different countries.

The TSOSA (Trieste System on Optical Sciences and Applications which includes ICTP) meeting takes place each year at Winter College at ICTP, Trieste, Italy. Many TSOSA members are ICO education committee members. We have tried to take benefit of that and organize a meeting to discuss activities for development of education in optics.

Activities (2008-2011)

ICO's objective is to promote optics and photonics all over the world. Development of optics is particularly needed in developing countries. This development needs a training of trainers in optics & photonics for students as well as for children, and needs *involvement of institutions of education, students, society, international institutions*. ICO education committee has focused in the following activities:

Ia. ALOP –Active Learning in Optics & Photonics – is a UNESCO project for training of trainers from developing countries through 5 modules of optics (2 basic: geom. & phys. & 3 connected to environment: eye, atmospheric, communication). The ALOP workshop lasts approximately 5 days and is held for 30-35 participants. It is very appreciated by all participants who followed it – it is, for them, a new process of education - applied in optics. ALOP can be done currently in English, French or Spanish. The documents exist yet in the 3 languages. ALOP is supported by SPIE, OSA, ICTP, and other organizations. We have held 1-2 workshops/year since 2004. In 2009 we held the first ALOP Workshop in Colombia, which involved teachers, researchers, engineers and opticians, and a Workshop in Nepal. In 2010 the first Workshop in Constantine, Algeria was held and a planned Workshop in Senegal was cancelled. A Workshop was planned for July 2011 in Tunisia, which has been postponed to 2012, because of the Arab Spring. In November 2011 a second workshop will take place in Nepal and in December a first ALOP in Rwanda.

Ib. “ALOP-ETOP- PSDM” meeting 2012: The ICO Education Committee tries to involve researchers and teachers from all countries in International conferences on *education as well as on research in optics & photonics*. For that reason and an ALOP Workshop (24-29 March, 2012) and two conferences, **ETOP** (Education & Training in Optics & photonics, 29-31 March, 2012) and **PSDM** (Photonics for Sustainable Development-Focus on the Mediterranean, April 1-3, 2012) have been planned for the same period in the same place. The purpose is to **maximize the interaction between participants** from different continents, and to attract a large attendance by covering a wide range of interests. We hope that this **will enhance the participation from Africa** and the interest of **African participants in optics**. This is the first time that ETOP and PSDM will take place in Africa, PSDM being the first EOS activity in the south Mediterranean. These meetings should help to get some people involved in ICO activities.

II. Student involvement in optics:

Iia. One of the objectives of the former activities is to achieve students' involvement in optics before they chose their career. By the age of 18th they have already chosen. If by the age of 16th they have the opportunity of interacting with people from Optics they will better opportunities for them to choose a career in optics. We are looking for ways of facilitating the participation of these students and their teachers through projects, exhibitions, and Olympiads. To help student's Interaction at international level it would be interesting to arrange meetings where students have contact with researchers, engineers, and other professionals in optics. They could be encouraged to organise exhibitions, perhaps together with their supervisors. ***Can we have some SPIE-OSA students who get scholarships to present their projects at ETOP 2012?***

SPIE and OSA are giving chance to participate in meetings doing a project in Optics. We have to look for ways to involve students aged 15 and 16 in ETOP 2012. We have suggested an international Olympiad, so that those who have projects in optics be invited to attend ETOP. This idea follows the model of Olympiads in Physics, where students have an exam in Physics and can come to an international Olympiad in France.

-ETOP 2009 North Wales-UK- gave an example of such development

Can we have some SPIE-OSA students who get scholarships at ETOP 2012 with their projects?

Discussion:

D. Strickland: Are you asking OSA & SPIE to fund students to attend ETOP?

P. Stahl: SPIE gives a \$1000 award to a project in optics for students 15 and 16 years old.

D. Strickland: OSA does not support the attendance of high school students.

P. Stahl: SPIE involves high school students. In Australia the SPIE Student Chapters have the last week of the year a meeting of undergraduate and graduate students sponsored by SPIE. But I do not think that we can have high school students traveling without their parents.

Z. B. Lakhdar: The parents of students that have been awarded pay for them to go and present in the exhibit.

P. Stahl: Discovery Channel runs a competition. SPIE gives \$5000 to Intel for that type of competition. We should look for possibilities.

D. Strickland: Find a way to get OSA& SPIE involved.

Z. B. Lakhdar: perhaps promoting a program of trainer of trainers.

A. Wagué: Maybe we can involve the OSA & SPIE student chapters in Africa.

Z. B. Lakhdar: We are trying to create student chapters in all countries.

R. Ramponi: The “Photonics Explore Project” includes Optical instrumentation for high school projects in Optics. They bring students and teachers together. They have a meeting in July; it would be a great opportunity if they would have a meeting in March in Tunisia at the time of ETOP. ALECSO, ABD agreed to support a Workshop in Education. There are kits for micro optics that cost 30 euros.

A. Wagué & P. Stahl: Student Chapters can get the kit “Hands on Optics” asking to OSA and SPIE.

Another question is how to use these meetings to increase ICO’s outreach into a larger community? We have thought of the need of establishing training programs for trainers at all levels, including the training of technicians.

II-b. STO member of ICO has encouraged development of student chapters in OSA and SPIE:

In 2009, a group of PhD, MSc and Engineering students, from (Sup’Com), which is the leading engineering school dedicated to ICT in Tunisia and involves a very active research group, O&PTSC (Optics & Photonics Tunisia student chapter) in optical fibre communications established the first **OSA student chapter in Tunisia** and the second in Africa. In 2010, they started the Tunisia **student chapter of the international society for optical engineering (SPIE)**. OSA and SPIE Tunisia student chapters are organizing educational, outreach activities as well as seminars and conferences in optics

III- Involvement of International institutions for optics education development

The Education Committee contacted some international associations with the aim of enhancing ICO’s global role in Education policies, and to look for support for the ETOP meeting and ALOP workshops. **ALECSO (Organisation Arabe pour l'Education, la Culture et les Sciences)**, **ABD (African Bank for Development)** and **-L’OREAL** have answered positively. They will contribute for development of education in optics and training of trainers particularly *for women*.

IV-Documents

The ICO education committee has proposed to prepare documents for developing countries that still have difficulties to access to internet. It has considered the publication of **first papers in optics, CDs, and films**. Already a CD has been prepared by M.L.Calvo, and copies of first papers in optics are in preparation

6d. Traveling Lecturer Committee – J. Harrington, Chair

The ICO Traveling Lecturer Program provides small grants for scientists and engineers to lecture in the optical sciences, generally in developing countries. A typical grants amounts \$1,000, and there are \$5,000 allocated for the Program in the next triennium.

This year we have not awarded any Traveling Lecturer award despite the fact that we received 12 applications that did not followed ICO rules. The grants do not to support travel

to conferences. Applicants seem not to understand the purpose of the award. We need more applicants and also need to consider that \$1000 might not be enough for traveling purposes.

7. Reports of Liaisons with Member Societies & ICTP

7a. International Societies

OSA - D. Strickland: OSA has 16.5K members, who reside in more than 95 countries, with 53% of them based in the U.S. The 9% reside in Latin America and the Caribbean. Top countries outside the U.S. are Japan, United Kingdom, Canada, Germany, and China. In Latin America OSA has 285 Regular Members 416 Students Members and 15 OSA Fellows. OSA has Student Chapters in 48 countries around the world. Some countries have several Chapters, like Mexico that has 10 student chapters.

In 2010 OSA co-sponsored LAOP, the Latin America Optics & Photonics Conference supported by OSA and SBF. The conference had approximately 200 registrants from 19 countries, who contributed with 200 papers. OSA has also created regional webpages, one of them the domain OpticsLatinAmerica.org, with the aim of posting Regional News, Conference Papers, Member Highlight, Organization Directory, Event Listings, Student Activities, Awards & Honors.

The OSA Foundation and the ICO have executed a Fiscal Sponsorship Agreement. This agreement enables the OSA Foundation to accept donations that will help to fund ICO activities including: travel grants, meetings, and student activities.

The OSA Vice President for the period 2011 – 2013 will be Ursula Gibson, from Norges Teknisk, Naturvitenskapelige Univ., Norway.

OSA is offering a cocktail for the participants in ICO-22 on Thursday evening. The ICO Bureau members are cordially invited to attend.

Comment from A. Guzmán: The conference of the Optical Society (OSA) "Latin America Optics & Photonics Conference (LAOP)" was organized in close overlap with RIAO/OPTILAS, the main Iberian American Conference, which is organized by the regional research community and steered by the council of the Iberian American Network on Optics (RIAO). She would recommend OSA to avoid in the future overlap of OSA supported activities with those organized by the RIAO Network.

EOS: R. Ramponi, EOS Execom member, reports that EOS consists of 21 Member National Societies, grouped in 10 Branches (with 3333 individual members) and 11 Affiliated Societies (with 1276 individual members). It has also 47 associate members with upgrade to individual membership. EOS structure is changing and now allows for direct EOS membership of 37 Corporate Members and 430 Individual and Student Members. The total membership is **5123** members (plus ~ 300 membership renewals still in process). During 2010 and the first semester of 2011 EOS held 8 events, and will hold another 2 in 2011. For 2012 there are already five events announced.

EOSAM 2012 will be held in Aberdeen, Scotland. It will include 7 Topical meetings, a Workshop on Continuing education with short courses for industry and an exhibition. M. L. Calvo asks for the reason to move EOSAM to Aberdeen. The intention is to avoid overlap with other events in optics. Aberdeen has a nice conference facility. Florence was considered to be too expensive, and the idea is to rotate the event between different countries.

EOS received 14 nominations to the EOS Prize 2011, and 12 nominees to EOS Fellowships.

EOS started in April 2011 a new student program. As a starting point seven EOS Student Clubs have been established. Its nature can be topical or regional and attempts to bring industries to talk with students in order to promote employment and know what kind of employees the industry is looking for. The 1st EOS & Photonics21 Student Reception (Munich, 25 May) featured the 2011 Photonics21 Student Innovation Award, the Springer Awards for Students of the EOSMOC and EOSOF 2011 conferences, and offered a forum for students to meet future employers from industry.

EOS Publications include the *Electronic Member Newsletter* (6 issues in 2010, and 6 issues in 2011), a *New EOS Print Member Newsletter* starting in November 2011 with 4 issues per year, and an *EOS Directory* consisting of an 8-pages printed brochure plus CD-ROM, which is published as a supplement to Photonik International. The EOS Directory 2011 to be published at the end of November 2011.

EOS encourages the optics community to publish with JEOS: RP, the Online Journal of the European Optical Society for Rapid Publications. JEOS: RP is open access, peer-reviewed, and is listed with ISI Journal Citation Reports with an impact factor of 1.044, which increased from 0.787 in 2009. It also offers publicity and international readership, and individual author support. The honorary editor is Mario Bertolotti, Università di Roma "La Sapienza" (IT), the editor for Physical Optics is Richard M. De la Rue, University of Glasgow (UK), and the editor for Imaging and diffractive optics is Joseph Braat, Delft University of Technology (NL), who also assumed the functions of Editor-in-Chief.

EOS involvement and supporting the Photonics21 secretariat:

In the area of Education and training, EOS supports the Photonics21 work group 7, coordinates 3rd level educational engineering programs with industry needs and establishes cooperative structures between industry and science, organized the Student Innovation Award 2009 and 2010, and performs Internship survey(s). EOS disseminates Photonics21 information to the EOS membership (4 to 5 times per year). EOS also contributes to Networking & consensus building by supporting the organization of the Photonics21 Annual Meeting 2010 and organizing workshops for work group 7.

LAM Network: A. Wagué gave his report on the LAM network. LAM was created in 1991 as a collaborative action in the area of Physics of lasers. Its main activities are a Workshop, which is already in its 9th version, a School, and the establishment of a laser center with ICTP's support. The topic for the last Workshop was multispectral imaging. It had participants from Ghana, Senegal, Kenya, Ivory Coast, and Mali. LAM is helping Mali's researchers to set up laser activities in Mali. Next Workshops are expected to be

hosted by Egypt, Morocco and Ruanda. The problem with Morocco is the need for local support. LAM has applied for support to all Ministers of education but has only received support from South Africa. There is strong interaction between LAM and all optical societies, and LAM hopes to create student chapters in its member countries.

Morocco held the IWOP Conference, which was sponsored by ICTP, LAM contributed with \$1000. Lam will also support ETOP in Tunisia with \$1000.

IEEE Photonics Society: I.C. Khoo reports on the activities of the Society that include Traveling lecturers, sponsorship of International conferences. He mentions that in the annual board Meeting of the Society the person responsible for ICO is allowed to speak for one minute. Through USAC/ICO, that now is chaired by D. Moore, the “ICO best student paper award” is awarded at the Annual Meeting of the IEEE Photonics Society.

Comment from D. Strickland: This award comes from USAC/ICO. OSA decided not to award it at the OSA annual Meeting since OSA has the Emil Wolf Prize.

OWLS: M. Gu reported that OWLS 11 was held in September 2010 in Quebec. It was very successful and they had 106 participants. ICO support was used for a Prize for the best student oral presentation and best student poster. There is a new OWLS Board. The current OWLS President is Alberto Diaspro, from the Italian Institute of Technology, who will be the ICO VP for OWLS for the period 2011-2014. The next OWLS Congress will be held in Genoa, Italy in 2012.

SPIE: H.P. Stahl gave his report on SPIE. Maria Yzuel will be the next ICO VP from SPIE. SPIE supports the Winter College. SPIE sponsors industry, D. Moore is speaking on entrepreneurship in ICO-22. The Bureau members are cordially invited to attend.

Comments by D. Moore: There is a Committee involved in the preparation of Harnessing Light 2 to be published in 2012. The last one was published in 1997. There will be a 2 day meeting in San Diego next week, and then another two meetings, one in October and another in December to finish it.

7b. TSOSA Advisory Group – A. Guzmán – ICO Representative and Chair of TSOSA

The TSOSA Meeting 2011 took place during the Winter College on Imaging Science. There were over 300 applications. The award ceremony for the ICO/ICTP Gallieno Denardo award was also attended by the members of the TSOSA Committee. A summary of the draft Minutes can be found in the Green Book Towards ICO-22. The topics of the next Winter College will be Nanophotonics and Plasmonics, and M. Bertolotti and Z.B. Lakhdar are the directors. SPIE will continue supporting a researcher at ICTP to perform experimental research in Quantum Cascade Lasers.

ICO has also proposed to ICTP a Central America initiative, and M. L. Calvo and A.Guzmán applied for ICTP’s support for a Workshop in Costa Rica.

7c. IP Steering Committee – M.L. Calvo

M. L. Calvo already reported on the activity in her report as ICO President.

8. Proposals from Territorial Committees- A. Guzmán

8a. Application of Portugal to become an ICO Territorial Committee – M. L. Calvo

M. L. Calvo already reported on the activities of the recently created SPOF in her report as ICO President. The President of the SPOF sent the application to the ICO President, establishing the structure of the Territorial Committee and agreeing to comply with ICO Statutes and rules. Copy of the application can be found in the ICO Bureau Meeting 2011 Booklet.

Motion 7: (Moved by R. Ramponi, seconded by D. Moore, approved unanimously).
The ICO Bureau recommends the admission of the Portuguese Territorial Committee for Optics as a member of the ICO.

8b. Application of Armenia to become an ICO Territorial Committee – A. Guzmán

A Guzmán accompanied the process of application of Armenia that culminated with the official application of the Armenian Community of researchers in Optics to become an ICO Territory. Armenia has a long tradition on research in laser physics and holds annual events in this area. The application was supported by 106 signatures and established the structure of the Territorial Committee and the agreement of the TC to comply with ICO Statutes and rules. Copy of the application can be found in the ICO Bureau Meeting 2011 Booklet.

Motion 8: (Moved by T. Szoplik, seconded by I. C. Khoo, approved unanimously).
The ICO Bureau recommends the admission of the Armenian Territorial Committee for Optics as a member of the ICO.

9. Liasons to ICSU and IUPAP

9a. ICSU links – M. L. Calvo: Already reported as part of the President's report.

9b. IUPAP links:

A Wagué: C13: A. Wague is an active member in the C13 and will chair the Committee in the next period.

A. Guzmán, C15: The Commission C15 met on July 27, 2011 in Belfast, Northern Ireland, UK. A. Guzmán did not attend the meeting, but received the minutes and participated in the process of selection of the IUPAP Young Scientist Prize in AMO. The Chair of C15, Burkhard Fricke, reported on the selection of the fifth IUPAP young scientist prize. While there was a total of 30 excellent nominations, only six of them were new this year, three from the US, one each from India, Switzerland and Portugal.

Ian Spilman from NIST in Gaithersburg and the University of Maryland was selected to be the 2011 prize winner due to his *research in ultra-cold gases leading to completely new effects including artificial gauge field and spin-orbit coupling for atoms. In both cases, the effective interaction between atoms fundamentally altered owing to the interaction with*

light He presented his prize winning talk on *Modifying interatomic interactions using Raman coupling: a tale of colliding Bose-Einstein condensates* at the ICPEAC.

The next Commission meeting will take place during the International Conference on Atomic Physics (ICAP) in Palaiseau near Paris from 23 July to 27 July 2012.

A Friberg, C17: The Committee decided to change its name. The current name is Quantum Electronics. A. Friberg is not an official member of the Committee, and therefore cannot know about the decisions of the Committee. But he has talked to the Committee Chair, Alan Shore, about the influence that a change of name of C17 --intended to include the word photonics in the name of the commission-- could have on ICO as IUPAP affiliated Commission. It is probable that in the next 27th IUPAP General Assembly the proposed change of name for C17 come to a decision.

10. ICO Prize and Award Committees

10a. ICO Prize Committee – M. Gu, Chair

Professor Min Gu reports that 5 nominees for 2010 continued as nominees for 2011 and were asked to update their application package. There were 3 new nominations. The Committee recommends that Prof. Xuanlai (Nick) Fang, Assistant Professor from MIT, be awarded the 2011 ICO Prize for “his pioneering work in optical metamaterials, optical superlenses and nanofocusing”.

Motion 9: (Moved by F. Mendoza, seconded by M. Gu, approved unanimously).

The ICO Bureau approves the proposal of the ICO Prize Committee to award the 2011 ICO Prize to Prof. Xuanlai (Nick) Fang for “his pioneering work in optical metamaterials, optical superlenses and nanofocusing”.

10b. ICO/ICTP Award Committee – A. Wagué, Chair

A. Wagué reported that the 2011 award was shared by two young scientists: Ivan Moreno from Mexico "for valuable contributions to optics in the field of radiometry and photometry of light-emitting diodes (LEDs) that have significantly impacted the design of systems that use such LEDs", and Ryan B Balili from the Philippines for "pioneering work in the trapping and condensation of polaritons, providing an important new system in which quantum coherence can be studied, and having potential applications in quantum information processing".

10c. Galileo Galilei Award Committee – T. Szoplik, Chair

T. Szoplik presented his report for the 2011 Galileo Galilei Award. The Galileo Galilei Committee includes several former awardees. There were 3 new nominations this year, and 3 that had been nominated for previous periods. The Committee recommends awarding the 2011 Galileo Galilei Award to Prof. Jan Peřina, Sr., from the Czech Republic “for his impressive results on quantum optics and coherence regarding non-classical states achieved under difficult circumstances”.

Motion 10: (Moved by T. Szoplik, Mendoza, seconded by M. L. Calvo, approved unanimously).

The ICO Bureau approves the proposal of the Galileo Galilei Award Committee to award the 2011 Galileo Galilei Award to Prof. Jan Peřina “for his impressive results on quantum optics and coherence regarding non-classical states achieved under difficult circumstances”.

10d. IUPAP Young Scientist Prize in Optics – A. Friberg, Secretary

Prof. A. Friberg resigned to chair the Committee in March 2012. He has however been coordinating the Committee. The committee considered 4 nominations from previous years and two new nominations. All committee members evaluated nominations independently and found that the 2 new nominees did not to meet the 8-year limit. The IUPAP Prize Committee’s unanimously recommends awarding the 2011 Prize to Dr. Goëry Gent, from the Tampere University of Technology, Finland, “for his outstanding contributions in pulse propagation and ultra-fast dynamics in nonlinear optical fibres, particularly his groundbreaking results on supercontinuum generation and nonlinear instabilities”.

M. L. Calvo thanks A. Friberg for having coordinated the Committee until the end of the period.

Motion 11: (Moved by D. Moore, seconded by D. Strickland, approved unanimously).

The ICO Bureau approves the proposal of the IUPAP Young Scientist Award Committee to award the 2011 IUPAP Young Scientist Award to Dr. Goëry Gent, from the Tampere University of Technology, Finland, “for his outstanding contributions in pulse propagation and ultra-fast dynamics in nonlinear optical fibres, particularly his groundbreaking results on supercontinuum generation and nonlinear instabilities”.

11. ICO Participation in Meetings and Schools

11a. Triennial Report on Meetings Sponsored or to be sponsored during the period Oct. 2008 – Sept. 2011- G. von Bally – ICO Associate Secretary

G. von Bally reported on the meetings and budget in the time frame beginning October 2008 and ending September 2011

1. Oct 2008 - 30. Sept 2009 (Period 1)	Date	requested by applicants	end./cosp. Grant/risk decision by ICO	representative: decision by ICO
Photonics Prague 2008, Prague, Czech Republic	27-29 Aug 2008	end. no money requ	end. US\$ 0	Gert von Bally
10 th International Conference on New Developments and Applications in Optical Radiometry (Newrad 2008); Daejeon, Korea	13-18 Oct 2008	end. no money requ	end. US\$ 0	Yoon Kim
International Topical Meeting on Information Photonics 2008: Awaji, Hyogo, Japan	16-20. Nov 2008	end. no money requ	end. US\$ 0	Yasuhiko Arakawa
PHOTONICS 2008 9 th International Conference on Fiber Optics and Photonics, New Delhi, India	14-17 Dec 2008	cosp. US \$ 5,000	end. US\$ 1,500	Ari Friberg
VI International Workshop TECNOLASER 2009 and II Meeting Optics, Life and Heritage; La Habana, Cuba	13-16 Apr 2009	cosp. US \$ 3,000	end. US\$ 2,000	Gert von Bally Maria Calvo

4th Asian and Pacific Rim Symposium of Biophotonics (APBP 2009); <i>Jeju Island, Korea</i>	27-29 May 2009	cosp. US\$ 5,000	end. US\$ 1,000	Min Gu
12th International Conference on Photorefractive Materials, Effects and Devices - Control of Light and Matter; <i>Bad Honnef, Germany</i>	11-14 Jun 2009	cosp. US. \$	cosp. US\$ 1,000	Comelia Denz
Nanophotonics Down Under 2009: Devices and Applications; <i>Melbourne, Australia</i>	21-24 June 2009	end. US\$ 1,000	end. US\$ 1,000	Min Gu
Education and Training in Optics and Photonics, ETOP 2009; <i>St. Asaph, North Wales, UK</i>	5-7 July 2009		cosp. US\$ 2,000	John Love
International Conference "Micro- to Nano-Photonics II - ROMOPTO 2009; <i>Bucharest, Romania</i>	31 Aug - 3 Sep 2009	cosp. US \$ 2,000	cosp. US\$ 1,500	Valentin Vlad
The Ninth International Conference on Correlation Optics "Correlation Optics'09"; <i>Chernivtsi, Ukraine</i>	20-24 Sept 2009	cosp. US \$ 3,000	end. US\$ 1,500	Maria Calvo
			US \$ 11,500	

1. Oct 2009 - 30. Sept 2010 (Period 2)

ICO Topical Meeting, <i>Delphi, Greece</i>	7-9 Oct 2009	cosp. US \$ 6,000	cosp. US \$ 2,000	Maria Calvo
V Workshop on Lidar Measurements in Latin America, <i>Buenos Aires, Argentina</i>	30 Nov-4 Dec 2009	cosp. US \$ 3,000 - 5000	end. US\$ 1,000	Angel de Frutos
Optics and Lasers in Science and Technology for Sustainable Development, LAM 9 International Workshop and EBASI 7 Conference; <i>Dakar, Senegal</i>	11-16 Jan 2010	cosp. US\$ 3,500	cosp. US\$ 1,500	Ahmadou Wague
SPIE Photonics Europe, <i>Brussels, Belgium</i>	12-16 April 2010	cosp. US\$ 7,500	cosp. US\$ 2,000	Gert von Bally
7th International Conference on Optics-Photonics Design & Fabrication "ODF 10"; <i>Yokohama, Japan</i>	19-21 April 2010	cosp. 0 US\$	end. US\$ 0	Yasuhiko Arakawa (TC CommChair Japan)
RIAO/OPTILAS 2010: VII Ibero-American Conference on Optics (RIAO) & X Latin-American Meeting on optics and applications (OPTILAS); <i>Lima, Peru</i>	20-24 Sept 2010	cosp. US \$ 3,000	cosp. US \$ 2,000	Angela Guzman
OWLS 11, 2010, <i>Quebec, Canada</i>	28-30 Sept 2010	cosp. US \$ 4,000	cosp. US\$ 1,500	Gert von Bally
			US \$ 10,000	

1. Oct 2010 - 30. Sept 2011 (Period 3)

TCM 2010, <i>Crete, Greece</i>	17-21 Oct 2010	end. US \$ 2,000	end. US \$ 1,000	Gert von Bally
EOS Annual Meeting/ICO Topical Meeting <i>Paris, France</i>	26-29 Oct. 2010	cosp. US \$ 3,000	cosp. US\$ 2,000	Maria L. Calvo, Gert von Bally
2nd Mediterranean Photonics Conference, <i>Eilat Israel</i>	29 Nov - 2 Dec 2010	end. US \$ 0	end. US \$ 0	Shama
Photonics 2010, International Conference on Fiber Optics and Photonics, <i>India</i>	11-15 Dec 2010	cosp. US \$ 5,000	end. US\$ 1,500	Maria Calvo
International Conference on Applications of Optics and Photonics, <i>Braga Portugal</i>	3-7 May 2011	end. US \$ 0	end. US\$ 0	Maria Calvo
Information Photonics, <i>Ottawa, Canada</i>	18-20 May 2011	cosp. US \$ 2,000	cosp. US\$ 1,500	Maria Calvo

11b. Report on Meetings Sponsored or to be sponsored during the period Oct. 2011 – Sept. 2012- G. von Bally – ICO Associate Secretary

Panamerican Advanced Studies Institute on Frontiers in Imaging Science, <i>Bogota Colombia</i>	7-17 June 2011	cosp. US \$ 1,920	US \$ 1,000	Roman Castaneda
1st EOS Topical Meeting on Photonics for Sustainable Development - Focus on the Mediterranean (PSDM 2011), <i>Tunis Tunisia</i>	11-13 July 2011 (delayed)	cosp. US \$ 1,300	US \$ 1,000	Roberta Ramponi
ICO-22, <i>Puebla Mexico</i>	15-19 Aug 2011		cosp. US\$ 7,000 (different budget)	
ETOP 2011, <i>Tunisia</i>	8-10 July 2011 (delayed)		cosp. US\$ 2,000	Maria L. Calvo
Conference Correlation Optics 2011, <i>Chernivtsi, Ukraine</i>	12-16 Sept 2011	cosp. US \$ 3,000	US \$ 1,000	Serguey Odoulov
Newrad 2011, <i>Hawai, USA</i>	19-23 Sept 2011	end. US \$ 0	US \$ 0	
			US \$ 8,000	

Legislative Period Oct 2012 – 30 Sept. 2014

1. Oct 2011 - 30. Sept 2012 (Period 1)	Date	applicants	Grant/risk decision by ICO	decision by ICO
ETOP 2011, <i>Tunisia</i>	29-31 March 2012		cosp. US\$ 2,000	Maria L. Calvo
1st EOS Topical Meeting on Photonics for Sustainable Development - Focus on the Mediterranean (PSDM 2011), <i>Tunisia Tunisia</i>	31 March - 3 April 2012	cosp. US \$ 1,300	cosp. US \$ 1,000	Roberta Ramponi
VII International Workshop Tecnolaser, "TECNOLASER 2012", and III International Meeting Optics, Life & Heritage, under the general lemma "Optics and Laser Technology in Science, Industry and Culture", La <i>Habana, Cuba</i>	10-13 April 2012	cosp. US \$ 5,000	cosp. US \$ 2,000	Maria L. Calvo, Gert von Bally
3rd Int. Topical Meeting on Optical Sensing and Artificial Vision (OSAV 2012), <i>St. Petersburg, Russia</i>	14-17 May 2012	end. US \$ 1,000	end. US \$ 1,000	Toyohiko Yatagai (Valery Tuchin, Alexander Priezzhev)
6th International Conference on Nanophotonics (ICNP 2012), <i>Beijing, China</i>	19-23 May 2012	end. US \$ 0	end. US \$ 0	Min Gu
8th International Conference on Optics-photonics Design and Fabrication "ODF'12, <i>St.-Petersburg, Russia</i>	2-5 July 2012	cosp. US \$ 0	end. US \$ 0	Yasuhiko Arakawa
12th Conference of the International Society on Optics Within Life Sciences "OWLS 12", <i>Genoa, Italy</i>	4-6 July 2012	cosp. US \$ 2,500	cosp. US \$ 1,500	Gert von Bally
			US \$ 7,500	
1. Oct 2012 - 30. Sept 2013 (Period 2)				
5th International Photonics and Optoelectronics Meetings (POEM 2012), <i>Wuhan, China</i>	2-5 November 2012	end. US \$ 0	end. US \$ 0	Min Gu
			US \$ 0	
1. Oct 2013 - 30. Sept 2014 (Period 3)				
			US \$ 0	
1. Oct 2011 - 30. Sept 2012 (Period 1)				
Date	requested by applicants	end./cosp. Grant/risk decision by ICO (proposal marked in blue)	representative: decision by ICO	
ETOP 2011, <i>Tunisia</i>	29-31 March 2012	cosp. US\$ 2,000	Maria L. Calvo	
1st EOS Topical Meeting on Photonics for Sustainable Development - Focus on the Mediterranean (PSDM 2011), <i>Tunisia Tunisia</i>	31 March - 3 April 2012	cosp. US \$ 1,300	cosp. US \$ 1,000	Roberta Ramponi
VII International Workshop Tecnolaser, "TECNOLASER 2012", and III International Meeting Optics, Life & Heritage, under the general lemma "Optics and Laser Technology in Science, Industry and Culture", La <i>Habana, Cuba</i>	10-13 April 2012	cosp. US \$ 5,000	cosp. US \$ 2,000	Maria L. Calvo, Gert von Bally
3rd Int. Topical Meeting on Optical Sensing and Artificial Vision (OSAV 2012), <i>St. Petersburg, Russia</i>	14-17 May 2012	end. US \$ 1,000	end. US \$ 1,000	Toyohiko Yatagai (Valery Tuchin, Alexander Priezzhev)
6th International Conference on Nanophotonics (ICNP 2012), <i>Beijing, China</i>	19-23 May 2012	end. US \$ 0	end. US \$ 0	Min Gu
8th International Conference on Optics-photonics Design and Fabrication "ODF'12, <i>St.-Petersburg, Russia</i>	2-5 July 2012	cosp. US \$ 0		Yasuhiko Arakawa
12th Conference of the International Society on Optics Within Life Sciences "OWLS 12", <i>Genoa, Italy</i>	4-6 July 2012	cosp. US \$ 2,500		Gert von Bally
			US \$ 6,000	
1. Oct 2012 - 30. Sept 2013 (Period 2)				
5th International Photonics and Optoelectronics Meetings (POEM 2012), <i>Wuhan, China</i>	2-5 November 2012	end. US \$ 0	end. US \$ 0	Min Gu

G. von Bally reported that there are two meetings that were assigned \$3000, ETOP and PSDM (in yellow in the table) but the money was still not transferred because the meetings were postponed. There is a positive balance of \$3000 but the money has already been committed. The new Bureau would have to add these two meetings. The ODF12 has not informed about conference fee. The Executive Committee has recommended the approval of the two meetings, ODF-12 and OWLS-12 (appearing in green in the table). They require approval of the Bureau.

Legislative Period Oct 2008-30 Sept. 2011

Budget overview:	Distribution Plan	Expenditures	Difference
Budget distribution plan:			
1. Oct 2008 - 30. Sept 2009:	US \$ 11,000	US \$ 11,500	- US \$ 500
1. Oct 2009 - 30. Sept 2010:	US \$ 11,000	US \$ 10,000	+ US \$ 1,000
1. Oct 2010 - 30. Sept 2011:	US \$ 10,000	US \$ 8,000 (+ US \$ 3,000) (= US \$ 11,000)	+ US \$ 2,000 (- US \$ 1,000)
1. Oct. 2008 - 30. Sept. 2011 total:	US \$ 32,000	US \$ 29,500 (US \$ 32,500)	(+ US \$ 2,500) (- US \$ 500)

Legislative Period Oct 2011-30 Sept. 2014

Budget overview:	Distribution Plan	Expenditures
Budget distribution plan:		
1. Oct 2011 - 30. Sept 2012:	(US \$ 14,000)	US \$ 6,000
1. Oct 2012 - 30. Sept 2013:	(US \$ 11,000)	
1. Oct 2013 - 30. Sept 2014:	(US \$ 10,000)	
1. Oct. 2011 - 30. Sept. 2014 total:	US \$ 35,000	US \$ 6,000

Motion 12: Moved by T. Szoplik, Seconded D. Strickland; Approved unanimously
The ICO Bureau agree with the proposal by the Executive Committee to approve the two conferences ODF-12 and OWLS-12.

11b. Preparation of ETOP 2012

Z. Ben Lakhdar reports that due to the political situation in her country the meeting had to be postponed to 2012.

11c. Preparation of ICO 22- F. Mendoza

F. Mendoza reports that over 500 contributions were sent to ICO-22. There are more than 300 students attending. They all will receive the CD prepared by M. L. Calvo. The

registration process was fluid and the organizers were able to give grants to several participants from Africa and Latin America.

12. Advances on the proposals for hosting ICO 23 in 2014

12a. Presentation by H.Michinel

H. Michinel presented to the Bureau the video that will be presented to the General Assembly. The budget was updated according to recommendations of the Bureau. There are two possible venues.

12b. ICO Bureau deliberation and recommendations M. L. Calvo thanks H. Michinel for his presentation.

13. Administrative Business:

The ICO Secretary requested budget allocation for a contracting on an hourly basis a webmaster.

14. Other Business

None

Meeting adjourned – 7:00PM




ICO Secretary General, July 4, 2012

First version by the ICO Secretariat, January 2012

Reviewed by M. L. Calvo, February 2012.

Approved by the ICO Bureau, July 3, 2012.

LIST OF MOTIONS:

Motion 1: (Moved by M.L. Calvo, seconded by G. von Bally, approved unanimously). Maria L. Calvo wants to have her thanks to Pierre Chavel in the Minutes. With this modification, the ICO Bureau approves the minutes of the previous Bureau Meeting held in Palaiseau, France, October 30, 2010.

Motion 2: (Moved by F. Mendoza, seconded by T. Szoplik, approved unanimously). The ICO Bureau approves the minutes of the proposed agenda for the meeting, omitting numeral (5c) due to not attendance of the OSA Executive Director or her representative), and the numeral (8c) at request of A. Guzmán.

Motion 3: (Moved by A. Guzmán, seconded I.C. Khoo, approved unanimously). A Guzmán is authorized to buy the domain MyICO.org

Motion 4: (Proposed by P. Stahl, seconded by A. Friberg, approved unanimously) (i) ICO Secretary will survey all persons/organizations who currently receive ICO communications as to whether they wish to receive ICO future communications by Mail or e-mail. ICO will mail “paper” copies of all communications only to those who specifically request them to be sent by mail.(ii) Ask a separate question regarding the Newsletter.

Motion 5: (Proposed by P. Stahl, seconded by D. Moore, approved unanimously) **To** recommend the ICO General Congress to raise the Unit cost to \$200 per year.

Motion 6: (Moved by D. Moore, seconded by P. Stahl, approved unanimously) Direct the Long Range Planning Committee to create a working group to make recommendations for the future of ICO.

Motion 7: (Moved by R. Ramponi, seconded by D. Moore, approved unanimously) The ICO Bureau recommends the admission of the Portuguese Territorial Committee for Optics as a member of the ICO.

Motion 8: (Moved by T. Szoplik, seconded by I. C. Khoo, approved unanimously) The ICO Bureau recommends the admission of the Armenian Territorial Committee for Optics as a member of the ICO.

Motion 9: (moved by F. Mendoza, seconded by M. Gu, approved unanimously) The Prize to Prof. Xuanlai (Nick) Fang for “his pioneering work in optical metamaterials, optical superlenses and nanofocusing.”

Motion 10: (Moved by T. Szoplik, Mendoza, seconded by M. L. Calvo, approved unanimously) The ICO Bureau approves the proposal of the Galileo Galilei Award Committee to award the 2011 Galieleo Galilei Award to Prof. Jan Peřina “for his impressive results on quantum optics and coherence regarding non-classical states achieved under difficult circumstances.”

Motion 11: (Moved by D. Moore, seconded by D. Strickland, approved unanimoly) The ICO Bureau approves the proposal of the IUPAP Young Scientist Award Committee to award the 2011 IUPAP Young Scientist Award to Dr. Goëry Gent, from the Tampere University of Technology, Finland, “for his outstanding contributions in pulse propagation and ultra-fast dynamics in nonlinear optical fibres, particularly his groundbreaking results on supercontinuum generation and nonlinear instabilities.”

Motion 12: (Moved by T. Szoplik, Seconded D. Strickland; Approved unanimously) The ICO Bureau agree with the proposal by the Executive Committee to approve the two conferences ODF-12 and OWLS-12.

LIST OF ACTIONS

1. ICO TREASURER: Report to the TCs on the Bureau decision of “demoting” them.

2. ICO PRESIDENT: Assign a list of TCs to the ICO VPs, who will be in charge of reactivating the contacts with the TCs.
3. ICO SECRETARY: Remind the VPs to contact the TCs assigned to them.
4. ICO SECRETARY: (i) Survey all persons/organizations who currently receive ICO communications as to whether they wish to receive ICO future communications by Mail or e-mail. (ii) Ask a separate question regarding the Newsletter.
5. LONG RANGE PLANING COMMITTEE: create a working group to make recommendations for the future of ICO.



Members of the 2008- 2011 and 2011-2014 ICO bureau. Standing from left to right: M Oron (re-elected vice-president), P Stahl (outgoing appointed SPIE vicepresident), Y Arakawa (re-elected vice-president), G von Bally (re-elected associate secretary), J Harrington (re-elected treasurer), A T Friberg (past president), T Szoplik (re-elected vice-president), A Wagué (appointed LAM vicepresident). Seated from left to right: M Yzuel (incoming appointed SPIE vice-president), D Strickland (outgoing appointed OSA vicepresident), C Cisneros (IUPAP representative), R Ramponi (elected vice-president and outgoing appointed EOS vice-president), Z Ben Lakhdar (re-elected vicepresident), D Moore (presidentelect), M L Calvo (president), A M Guzmán (re-elected secretarygeneral), F Mendoza Santoyo (current vice-president and chair of the ICO-22 conference).

MINUTES OF THE 2011 JOINT MEETING OF THE OLD AND THE NEW BUREAUS

Held in Puebla, México, on Friday, August 19, 2011, from 4:00 to 6:00 PM

Present ICO Bureau Members: Arakawa, Y., Bingkun, Z., Calvo, M.L., Friberg, A., Guzmán, A., Harrington, J., Ben Lakhdar, Z., Mendoza Santoyo, F., Moore, D., Ramponi, R., Oron, M., Stahl, H.P., Strickland, D., Von Bally, G., Szoplik, T., Wagué, A., Yzuel, M., Cisneros, C.

Apologies for absence have been received from: Michinel, H., Khoo. I.C., Gu, M., Lefèvre, H., Bingkun, Z.

Absent Members from the new Bureau: Diaspro, A. Ding, Y., Gibson, U., Höller, F.

1. Call to order, introduction

M. L. Calvo opened the session and thanked F. Mendoza, Chair of ICO-22, and all the organizers of the Conference for having hosted all of us in this historical place, Puebla. She also thanks the members of the Bureau 2008-2011 for their work; in particular, she thanked all members who are leaving the Bureau because they ended their term. Then she congratulated to all incoming elected and appointed ICO Vice Presidents. Following the tradition, the new Bureau will start operations on October 1st, 2011.

She asked for the approval of the proposed Agenda. P. Stahl asked for the following additions to the Agenda:

1. New Business: The case of Omid Kokabee: P. Stahl will report that SPIE & OSA have prepared a letter for ICO to sign. He will move that ICO agree to sign the letter.

2. Old Business: P. Stahl will 'untable' the matter of RIAO & make a motion that the executive committee prepare for the next bureau meeting

A) A definition for when a professional society qualifies to be an ICO International Society; and

B) The process by which a professional society may request to become an ICO IS.

Since he tabled this issue, he must bring it off the table for it to be considered again.

Motion 1: Moved by D. Strickland, seconded by G. von Bally, approved unanimously. The two issues will be considered as part of the numeral 12, other business.

M. L. Calvo hands over to D. Moore, elected President.

2. Operation of the ICO Bureau 2011-2014

D. Moore welcomes the new ICO Bureau members. He requests that any e-mail that be sent to him contains the word ICO in the subject; otherwise it can go to spam. He would like to

have quarterly a one-hour conference call with the Executive Committee. Any of the Bureau Members are welcome to join. There will be no need to present a report, but there will be the opportunity to talk more often, since there is a very long span within Bureau meetings and we lose contact in between. The conference calls can serve as precursors of the Bureau meeting. He will set a schedule for all conference calls during the year. Adjusting to different time zones might be complicated.

Discussion:

G. Von Bally: asks if the conference calls will be simultaneous Executive Committee and Bureau Meetings.

D. Moore answers yes. But there will be a Bureau meeting in person per year.

A. Guzmán asks the means that will be used for the teleconference.

D. Moore: Conference call via phone. Expenses will be covered by the University of Rochester.

F. Mendoza comments that Universities might charge if the meeting is large.

Z. B. Lakhdar asks if Skype could be used.

D. Moore does not consider Skype reliable for this purpose.

G. von Bally comments that in the Executive Committee Meetings, discussions between the 5 members are very open and are kept private. He is afraid that the Meeting will become very formal if it is open to all Bureau Members.

D. Moore does not intend to have minutes of these conference calls. He wants everything open.

M. Yzuel states that her experience in conference calls with people from different countries is that in order to follow the discussion, some written information sent before the conference proves to be very helpful. Non native English speakers have more difficulties. Previous information and an Agenda are needed.

D. Moore: We will have an Agenda. He wants the Bureau meetings to be shorter.

R. Ramponi: .Conference calls work well if the documents are available before the meeting.

M. L. Calvo: We have managed three people meeting through Skype. Most issues are handled by e-mail.

3. Financial Operation 2011-2014

Since the ICO Treasurer, J. Harrington, was re-elected, no changes in ICO bank Accounts are required. There are several countries in arrears that will have to be “demoted”: to the associate member status. J. Harrington reports that he made arrangements with the Territorial Committee representatives from Argentina and Norway. Cuba also paid in cash the fees for two years. He will write a letter to Territories in arrears (approximately 13)

informing them that they will be “demoted” to the Associate Member status. He will also work during this period on the issue of reallocation and assignment of units.

Discussion:

D. Moore: A Committee will be established for analyzing this particular issue and other related to the future of ICO. Please send the list of the countries that will receive the letter to the Bureau.

Z. Ben Lakhdar: Please check if the representatives and/other people from those countries have been contacted before, and if they have received an invoice. In the last Bureau Meeting she stated that she does not receive information on when and what amount to pay.

M. Yzuel: The letter sent to those countries should be registered.

A. Friberg: We have approved that with more than five years in arrears the Territory should be “demoted” to associate member status. The statutes also establish that with more than 6 years in arrears the Territory will lose its membership. Are we going to reinforce that?

G. von Bally: We have to do it.

A. Friberg: If we do not because cancel the membership, we do it for specific reasons. But the ICO Treasurer could remind them in his letter that after 6 years they should lose their membership.

M. L. Calvo: We should follow the Statutes. But we have decided to be more flexible. IUPAP is considering a similar situation with its members and being more flexible. ICO Treasurer will write the letter announcing the change in status of those Territories which are more than 5 years in arrears. We may also need to change article 7 to include the “demotion” condition.

G. von Bally: The situation is more complicated than the payment of dues. It is an issue of representativeness. As an example he mentions Singapore, where a new society for Optics has been created. The new Society is willing to join ICO and to pay, but they do not want to pay the accounting of the society that was originally accepted as the organization representing the Territory. He brought this issue to the former Bureau, but the Bureau did not take a decision on this matter.

M. L. Calvo: The new Society will have to reapply for membership asking the Bureau to waive past debts.

R. Ramponi recommends to approach the Belgium Territorial Committee through SPIE and OSA. The representative of the Territorial Committee is H. Thienpoint.

J. Harrington recommends dealing individually with each case. He wants to discuss another topic related to the audit of the financial situation. The former Treasurer never did an audit. He will discuss this issue with the Chief of the SPIE financial office. He is optimistic about the fact that the increase in the dues was approved by the General Assembly. He thinks that

we need to publish more about the activities of ICO. P. Chavel has the photo archive of the ICO. It would be nice to publish them.

Discussion:

G. von Bally: When changing Bureau, the former Bureau should be formally discharged from any financial issues. In the case of the German Optical Society, a member makes an audit, free of charge. We have to have and audit. Without an audit we cannot discharge the former Bureau, and cannot have a vote on discharging the old Bureau in the new Bureau. He suggests the ICO Treasurer to contact F. Höller from Karl Zeiss, a company that has 150 lawyers from Karl Zeiss, who know legal at national, European, and international laws. He might arrange an audit free of charge for ICO.

A. Friberg: We have never had the Bureau members and the treasury discharged. Is to free people for whatever they could be liable. Common practice is that the President is not sharing the General Assembly but a different chair is selected for be the Chair of the Assembly.

G. von Bally: Jim contacts Holler and looks or the International legal issue.

D. Moore: If we do not comply with the rules we might run on the problem that some organizations. They did not ask why there was no signature from an auditor. If somebody requires it we would be in trouble.

M. L. Calvo: Next Bureau should check on this issue.

4. and 5. ICO representation in external committees, 2011-2014 and ICO Committee Structure 2011-2014

D. Moore, ICO Elected-President presents his proposal for these two items in the Agenda: Each elected member will be chairing a Committee. He has been consulting former chairmen to choose the new Chairs according with their experience. The Chairs of the Committees should select and invite members to the Committee. Members of a Committee do not need to be ICO Bureau members.

ICO Standing Committee Chairs 2011-2014:

Nominating Committee: María L. Calvo
Long Range Planning Chair: Duncan Moore. Member: Frank Höller
Committee for Regional Development Chair: Tomasz Szoplík
Education Committee Chair: Zohra ben Lakhdar
ICO Prize Committee Chair: Roberta Ramponi
IUPAP Young Scientist Prize in Optics. Chair: Moshe Oron
ICO/ICTP Award. Chair: Ahmadou Wagué
Galileo Galilei Award. Chair: Bingkun Zhou
Traveling Lecturer. Chair: James Harrington
Chair of ICO-23: Humberto Michinel

Liaison to IUPAP Commissions:

C13 (Physics on development): Ahmadou Wagué

C15: (Atomic and Molecular Physics and Optical Physics): Angela Guzmán

C17: (Quantum Electronics) Yasuhiko Arakawa

IUPAP Triennial General Assembly and annual IUPAP Council and Chair meetings: the Past-President or the President will attend these meetings.

ICSU links and General Assembly, the President D. Moore will attend these meetings during the period 2011-2014.

Representatives of the ICO Bureau in external Committees:

Steering Committees:

ETOP: Maria L. Calvo

OiC/IP: Maria L. Calvo

Trieste System Optical Sciences and Applications Advisory Group (TSOSA): María J. Yzuel

Strategic Planning Committee: It will consist of the five members of the Long Range Planning Committee plus five additional non Bureau Members. D. Moore would like to include one young person, particularly a winner of one of the ICO prizes. He asks the Bureau Members to send suggestions to him the next week. Chair: D. Moore.

Discussion:

R. Ramponi: In the TSOSA Committee, A. Guzmán is the current representative and she is also chairs the Committee.

M. Yzuel: A. Guzmán will be chairing the TSOSA Committee only for the year 2012.

A. Friberg: TSOSA elects its own Chair every year. In the last TSOSA Meeting there was a request for rotation of the Chair position between the different organizations that compose TSOSA. After a long discussion it was agreed that A. Guzmán will continue Chairing the Committee in 2012.

R. Ramponi: Within ICO each society has a representative. ICO can warrant continuity on the activities of TSOSA. An annual rotation might affect continuity. She considers that the ICO representation to external Committees would be more neutral if the ICO representative is one of the elected Vice Presidents instead of VPs appointed by the International Society Members.

D. Moore then would agree on allowing A. Guzmán to continue as ICO representative.

M. Yzuel considers that if that is the case, A. Wagué has to be removed as the ICO liaison to the IUPAP C13 Committee.

A. Wagué comments that the situation in C13 is different from TSOSA's. ICO is an Affiliate member of IUPAP and the international member societies of ICO do not have

representatives there. In TSOSA, the International Society Members have their own representatives.

M. Yzuel considers that there is no consistency on how ICO nominates its representatives and will report to SPIE on this situation.

M. L. Calvo comments that TSOSA as chaired several years by P. Chavel, former ICO Secretary. When P. Chavel retired, A. Friberg chaired the TSOSA Committee for 2 years and A. Guzmán has been the Chair since 2008.

D. Moore: Representative of the ICO Bureau to the Trieste System Optical Sciences and Applications Advisory Group (TSOSA) will be then A. Guzmán.

Two ICO Ad Hoc Committees will be created for the period 2011-2014:

1) A Committee on Allocation of Units to ICO. Chair: D. Moore. The Committee should work on preparing a scheme based not only on financial issues but on fairness with the many members from developing countries that compose the ICO. Possible indicators can be the number of science and/or engineering papers published in the geographical area. China for example has more engineering than scientific papers. The Committee should consider different scenarios, so that the Bureau can choose between different alternatives, and should also establish how often ICO will re-evaluate the unit allocation, since economies expand and contract.

2) Strategic Planning Committee: It will consist of the five members of the Long Range Planning Committee plus five additional non Bureau Members. D. Moore would like to include one young person, particularly a winner of one of the ICO prizes. A wide geographical distribution of the members is desired. He asks the Bureau Members to send suggestions to him the next week. Chair: D. Moore.

6. and 7. ICO participation in meetings and schools – G. von Bally & Date and place of the next ICO Bureau meeting

Items 6 and 7 in the Agenda are different but are coupled. ICO Topical Meetings and Bureau Meetings are not necessarily coupled but it has been a tradition that the annual Bureau Meeting be hosted at the ICO Topical Meeting. The old Executive Committee proposed to give the status of ICO Topical meetings to two Meetings in 2012: one in Beijing and one in Genoa. Topical Meetings are considered to be the most important meetings after the ICO General Conference. This information was transmitted according to the presentation of the Associate Secretary's report at the General Assembly.

D. Moore proposes to hold the Bureau Meeting on the 3rd of July. He also would like to hold a two-day meeting of the Long Range Planning Committee on the 1st and 2nd of July 2012.

Discussion:

M. Yzuel asks how the Bureau approves two meetings with dates in conflict.

G. von Bally and D. Strickland explain that the topics of the meetings are different.

Y. Arakawa and M. Yzuel plan to attend the Meeting in St. Petersburg. They will not be able to attend the meeting in Genoa.

G. von Bally mentions that applications for support arrive at different times and the two meetings in conflict belong to two independent series. There is a SPIE Meeting in Amsterdam at the same time than the OWL Conference, which is a problem for OWLS.

M. L. Calvo asks Z. Ben Lakhdar about ETOP.

T. Szoplik asks if the situation in Tunisia is stable.

Z. Ben Lakhdar answers that there is no problem and she welcomes everybody to attend.

R. Ramponi considers that the Meeting in Genoa is in the middle of the semester, and adding the Strategic Planning Committee Meeting would demand a long stay for the Bureau Members.

Action: The ICO Secretary should communicate to the new ICO Bureau Members the date of the next Bureau Meeting.

Motion 2: Moved by D. Moore, seconded by Y. Arakawa, approved unanimously.
The next Bureau Meeting will take place in Genoa on July 3rd, assuming that 16 Bureau Members (80%) be able to attend.

8. IUPAP ICSU links

M. L. Calvo reports that the IUPAP General Assembly will take place in London in November 2011. The ICO President should attend. M. L. Calvo will inform Williarmina Lazaro that D. Moore has been elected ICO President, and ask her to transfer all information to D. Moore. There is also the need to keep updated the information on ICO in the IUPAP and ICSU webpages. With respect to the issue of the change of name for C17, it is important that ICO fixes its own position at the IUPAP General Assembly (GA). D. Moore will be representing ICO as AC1. ICO needs a representative in C17.

Discussion:

C. Cisneros comments that the Chair and Secretary of C17 will be changed before the IUPAP General Assembly.

A. Friberg reports that the C17 has already the list of new members and officers, but ICO does not have the information because of lacking a representative in C17. The proposal for the name change has to be approved by the Council, and has to be in the Agenda. The initiative has to be approved first by the Commission Chairs, then by the Council and finally be presented to the General Assembly.

D. Moore sets as a goal to achieve that Y. Arakawa be a member of C17.

A. Friberg recommends to Y. Arakawa to find who the new chair is and contact him before the GA since the list of members will be approved in the GA.

A. Wagué mentions that the members of the Commission elect their Chair.

G. von Bally shares the concern since without being involved in IUPAP, he was asked by the German Physical society for a proposal for the name change of C17. He recommends that the ICO President elect sends a letter to IUPAP saying that ICO has received information about the proposal for name change and request from IUPAP's President that IUPAP avoids any discussion of the issue that do not takes into consideration ICO's position about this issue.

M. L. Calvo reports that she will attend an EOS Meeting in Varenna in September where the initiative for the Year of Light will be transferred to IUPAP. Since the initiative has been taken by the QEO division of EOS, ICO could invite John Dudley as an observer to the next ICO Bureau.

A. Friberg suggests the possibility of making the QEOD of EOS and international member of ICO.

G. von Bally mentions that the German Physics Division is a member of the German ICO Territorial Committee and a member of EOS, which can serve as a link.

9. ICTP relations

9a) TSOSA and the Winter College: A. Guzmán has been TSOSA Chair. Minutes of the Meetings can be found in "Towards ICO-22".

9b) ICO/ICTP/TWAS initiative for Central America

There will be a Workshop on Lasers, laser safety and Laser Applications in San Jose de Costa Rica on April 29 – May 11, 2012. The Workshop is an ICTP event held outside ICTP. Directors are M. L. Calvo, A. Guzmán and J. Niemela. The Chair of the Local Organizer Committee is Luis Diego Marín. The Directors have look for lecturers from the Region, especially from Mexico. The workshop will include some hands-on activities.

9c) ALOP

The person delegated by UNESCO to coordinate ALOP is Joe Niemela. A. Guzmán is coordinating ALOP in Latin America. More information can be found in the ICO Secretary report to the GA.

10. ICO Book preparation

M.L. Calvo prepared a CD on Optical Coherence that was distributed to the students in the CIO-22 General Congress. She thanks F. Mendoza for facilitating the distribution. Z. B. Lahkdar and M. L. Calvo worked together on the selection of the topics, and they might consider a translation. M. L. Calvo has to consider if she will edit the Vol 7 of Trends in Optics. It could be an ICO publication for free download and link to the ICO webpage.

11. Administrative business

A. M. Guzmán, re-elected ICO Secretary, reports on the need of including in the ICO Budget, expenditure for an ICO webmaster on hourly-basis. She also reports that M. Troshinsky, ICO Administrative Secretary will not continue collaborating with ICO. Ms. Troshinsky received extra salary from Florida Atlantic University, but now the Secretariat has moved to CREOL, UCF.

The ICO Bureau thanks Ms. Troshinsky for her excellent work and FAU for their support to ICO activities.

12. Other business

12 a) The case of Omid Kokabee:

M. L. Calvo: Since ICO is and affiliated commission of IUPAP and a Scientific Associate of ICSU, she plans to send a letter in her capacity as ICO President to IUPAP Secretary and ICSU President. She considers that a letter signed by many people is not appropriate and will not help in this case. SPIE prepared a letter on her behalf without consulting her opinion on this issue.

P. Stahl: SPIE and OSA have had a discussion and had contacted Amnesty International, which recommended not sending individual letters, but a letter with many signatures. Action must be taken immediately. SPIE has also contacted Nobel Prize Awardees.

Motion 3: Moved by P. Stahl

ICO will accept the draft letter language “as-is” and the ICO President will sign the letter on behalf of ICO.

Discussion:

M. L. Calvo: This issue was discussed in the First Bureau Meeting, and does not need to be discussed again. We need to adopt a good strategy, and ICO President should be entitled to write her own letter.

D. Strickland: OSA was not sure if they could send a letter of their own. They have worked in the draft during the last two weeks and are asking if ICO can help.

M. Yzuel: Somebody has to second the motion before the discussion starts

M. L. Calvo: ICO Bureau Meetings do not follow the rules for Assemblies of the American Congress.

D. Strickland seconds the motion.

A. Wagué would like to understand the reasons why the student was put in jail.

D. Strickland explains that the Iranian government is accusing him of working for US and being paid by the US.

A. Friberg: Has Amnesty International sent already a manifest?

P. Stahl: Not yet.

A. Friberg; issues that are approved as other business are for discussion but not for taking decisions.

P. Stahl asked the issue to be put in the Agenda.

T. Szoplik; we need details. News are contradictory. One publication affirms that O. Kokabee is student of optics in Texas, another that he is a nuclear physicist. The information has to be checked. The representative from the ICO TC of the Islamic Republic of Iran suggested, contrary to Amnesty International that a large number of letters will have more impact.

A. Wagué: This a political issue that is not clear as stated in the web. ICO President should not be forced to sign a letter if she is not willing to.

M.L. Calvo would sign a letter written by her. If the ICO Bureau decides that she has to write a letter, it should allow her to write it. The draft presented to her is not what she will like to write.

A. Friberg considers dangerous to write letters alone.

Z. B. Lahkdar; If a letter has signatures of Nobel Prizes and Presidents of organizations, the letter is understood to be signed on a personal basis. It is not understood as a letter sent by an organization. The signature of the ICO President is not the signature of all ICO, SPIE and OSA members. By e-mail we could get a large number of people to sign.

R. Ramponi considers that the signature of OSA and SPIE as USA based organizations can counterbalance ICO's action. She suggests asking AI to prepare a letter tailored for the Optical community and post it in their website to be signed by individuals.

M. L. Calvo reminds the bureau that the Islamic republic of Iran is a TC of ICO, with representatives. She considers that posting a letter in the web would not really be as effective as dealing with this issue in the most respectful and diplomatic way, which is what she is planning to do.

A. Friberg considers that ICO's President and ICO Bureau lack the expertise to write an appropriate letter. He also trusts much more a letter written by Amnesty International, than a letter wrote by the public relations office of OSA.

G. von Bally would not expect that a letter will change the opinion of Iran's authorities. He suggests contacting immediately ICTP as part of UNESCO, IUPAP and ICSU. It would be great if the case finally arrives to the UN. He thinks that ICO Bureau members have contacts to higher levels and could act effectively even by phone conversations.

A. Wagué: During the last Bureau meeting we approved that ICO would contact IUPAP. More effective than writing a letter is contacting a more powerful organization.

D. Strickland: The letter is not coming from ICO. M. L. Calvo is not the only signatory.

M. Oron thinks that ICO should send a letter to state that the International Community of scientist in optics care about this person, but he recommends not having any American organization as a signatory. ICO should send the letter as an international organization from which Iran is a member.

M. Yzuel: The action is urgent. We cannot wait three months. This is an example that can affect other students that we invite to conferences. What we write is not important but we have to say that we do not agree with the imprisonment of O. Kokabee.

P. Stahl proposes an amendment to the motion. The ICO Bureau does not want to criticize the Iranian government or to be confrontational.

Amendment:

ICO shall be a signature of the letter provided that the letter is modified to remove the ICO as the lead, i.e., the letter is modified to start “The International Optics Community has noted...”

M.L. Calvo: The issue is not that she does not want to sign any letter. She does not like the procedure implemented by OSA and SPIE, whereby she does not have any chance to say anything about the contents. The real issue is to be effective, and it is going to be very hard for her to vote on an amendment where the correction to the letter has also been done by somebody else.

D. Strickland asks what is more important, the procedure or the contents. OSA and SPIE are not asking to change the letter but to sign it.

G. von Bally thinks that a letter signed by the societies and ICO is still at too low level. ICO has the potential to use other channels. He suggest to discuss in the next ICO Bureau the issue of how ICO should react to difficult situations that involve international politics and diplomacy.

Z. B. Lakhdar leaves in a country where there are problems. If she were to sign letters against government decisions, she could have difficulties later. She recommends following the advice of the representative of the ICO TC from Iran.

A. Wagué proposes to send a letter to IUPAP.

T. Szoplik suggests that all ICO Bureau members willing to sign the letter do so.

The motion and amendment are subjected to vote: Vote: In favor: 9, against: 4, abstention: 1. Motion and amendment approved by majority.

Motion 3: Moved and amended by P. Stahl, approved by majority
ICO will accept the draft letter language “as-is” and the ICO President will sign the letter on behalf of ICO. ICO shall be a signature of the letter provided that the letter is modified to remove the ICO as the lead, i.e., the letter is modified to start “The International Optics Community has noted...”

12 b) RIAO's application as an ICO member society.

Motion 4: Moved by P. Stahl, seconded by F. Mendoza, Approved by majority. The Executive Committee will define the requirements that an optical society must meet to qualify as an ICO International Society AND will define a process by which an optical society may apply to become an ICO International Society.

M. L. Calvo: The minutes reflect what the ICO Bureau has done previously. The minutes of the ICO Bureau meeting in Florence 2001 should contain the procedure followed with former applications of member societies.

Action: The ICO Secretary should send the minutes of previous Bureau meetings dealing with applications of member societies.

Vote: In favor: 13, against: none, abstention: 1 (M. L. Calvo)

12c) G. von Bally requests to the ICO Secretariat to prepare a call for proposals to host ICO-24. The deadline for proposals is April 15th, 2013. Proposals are to be sent 4 years before the Congress. The call should ask to send the proposals to both e-mail addresses of the Associate Secretary.

Meeting ended at 6:00 PM

First draft by ICO Secretariat, February 2012

Approved by the ICO Bureau, July 3, 2012

LIST OF MOTIONS

Motion 1: Moved by D. Strickland, seconded by G. von Bally, approved unanimously. The two issues will be considered as part of the numeral 12, other business.

Motion 2: Moved by D. Moore, seconded by Y. Arakawa, approved unanimously. The next Bureau Meeting will take place in Genoa on July 3rd, assuming that 16 Bureau Members (80%) be able to attend

Motion 3: Moved by P. Stahl, seconded by D. Strickland. It was amended by P. Stahl and approved by majority. ICO will accept the draft letter language "as-is" and the ICO President will sign the letter on behalf of ICO.

Amendment: ICO shall be a signature of the letter provided that the letter is modified to remove the ICO as the lead, i.e., the letter is modified to start "The International Optics Community has noted..."

Vote: In favor: 9, against: 4, abstention: 1

Motion 4: Moved by P. Stahl, seconded by F. Mendoza. The Executive Committee will define the requirements that an optical society must meet to qualify as an ICO International Society AND will define a process by which an optical society may apply to become an ICO International Society.

LIST OF ACTIONS

1. ICO TREASURER: To report in the next Bureau Meeting about audit procedures.
2. ICO PRESIDENT: To follow action approved in Motion 3.
3. ICO SECRETARY: To send the minutes of previous Bureau meetings dealing with applications of International Member Societies. In particular send the minutes of the General Assembly in 2001 in Florence.
4. ICO EXECUTIVE COMMITTEE: To define the requirements that an optical society must meet to qualify as an ICO International Society AND to define a process by which an optical society may apply to become an ICO International Society.
5. ICO SECRETARY: Prepare a call for Proposals to host ICO-24. The deadline for submissions of Proposals for hosting ICO-24 is April 15th, 2013. Proposals should be sent to Gert von Bally. Please give the two e-mails.



ICO Secretary General, July 4, 2012



MINUTES OF THE 2012 ICO BUREAU MEETING

Held at the Palazzo Ducale, Genoa, Italy, Tuesday, July 3, 2012 from 9:00AM to 5:30PM

Members Present:

Arakawa, Y., Ben Lakhdar, Z., Bingkun, Z., Calvo, M.L., Diaspro, A., Gibson, U., Guzmán, A., Harrington, J., Herzig, H.P., Höller, F., Michinel, H., Moore, D., Oron, M., Wagué, A., Yzuel, M.J.

Apologies for absence have been received from: Cisneros, C., Ding Y.J., Ramponi, R., Szoplik, T. Von Bally, G.

1. Call to order, introduction, approval of minutes Bureau Meeting, Puebla, Mexico, 2011 (Duncan T. Moore, ICO President).

Duncan T. Moore opened the session. He thanked all the attendees for their presence, and A. Diaspro on behalf of all ICO Bureau Members for hosting the Meeting in the magnificent Hall of the Palazzo Ducale, which has been the nicest place he has been for a meeting. He also thanks A. Diaspro for making arrangements for the Bureau dinner the day before. He asks the members of the ICO Bureau to introduce themselves adding to their introduction something that is not reported in their CV.

Following introductions he makes a presentation, prepared by Pierre Chavel for the Strategic Planning Committee (SPC), entitled “ICO History in a Nutshell”. D. Moore acknowledges his gratitude to P. Chavel for having prepared the presentation and for facilitating it to him in order to be shared with the ICO Bureau members. He also makes a demonstration with GRID elements produced in the University of Rochester.

M. Yzuel thinks that this is a very important work about the history of ICO and she would like to have copies of the presentation for reference.

A. Guzmán will send copy of the presentation to ICO Bureau members but also Pierre Chavel offered to write an article on ICO history for the ICO Newsletter.

Motion 1: Moved by M.L. Calvo, seconded by J. Harrington, approved unanimously. The ICO Bureau approves the minutes of the previous Bureau Meetings held in Puebla, Mexico, August 14, 2011, with a correction in the affiliation of U.Gibson. D. Moore has some editorial comments that will be handled to A. Guzmán later.

Motion 2: Moved by M. L. Calvo, seconded by J. Harrington, approved unanimously. The ICO Bureau approves the proposed agenda for the meeting, with the following changes: Z. Ben Lakhdar will present the report of the ICO Prize Committee before her report of the Education Committee. The issue of the ICO Bureau Meeting and the ICO Topical Meeting 2013 is included after numeral 6. The report of the SPC Meeting will be given at the end of the meeting. M. Yzuel’s request to add a numeral on Omid Kokabee’s case is accepted and will be discussed under other Business.

2. President's Report (8/14/11 – 7/3/12 and programmed activities until 30/9/2013): ICO President – Duncan T. Moore.

As he stated in his candidate statement in Puebla, Mexico, he has centered his works as ICO President in two important items: (i) Technical Entrepreneurship and optics and (ii) Develop Strategic Plan for 2020 (report later in meeting). He attended the General Assembly of the International Union of Pure and Applied Physics (IUPAP)-London (Oct 30-Nov 4, 2011). ICO is an Affiliated Commission-not a full commission- of IUPAP. This fact has advantages. The number of IUPAP member countries is about 55 (slightly larger than ICO). The IUPAP General Assembly meets in three year cycle (London, Cape Town (Feb), Rio de Janeiro (Oct 2012). Relevant issues to ICO status within IUPAP are (i) the proposal to change of name of Commission 17(QED) to include Photonics was tabled; (ii) the new IUPAP Secretariat has not yet been named; (iii) the term of ICO president does not align with that of the other heads of the commissions; (iv) the proposal for a Year of Light in 2015 presented by John Dudley, Chair of Optics Division, EPS, received IUPAP support. Leading countries are Ghana, Mexico and France.

Zhora Ben Lakhdar: She attended a meeting in preparation of La Fair Universal. The last Fair was in China and in 2015 it will be in Milano. It is an opportunity for ICO to be presented there.

D. Moore traveled to Tokyo, Yokohama, Japan in November-December 2011 and met with Professor Arakawa. He spoke at Polymer Optics conference including ICO. He taught Technical Entrepreneurship for Scientists and Engineers (12 hours of lecture) at Keio University (Hyoshi campus). In April 22-27 he visited the ICTP in Trieste, Italy. He taught Technical Entrepreneurship for Scientists and Engineers from Developing Economies. There were 40 participants from 19 countries including Cuba, Iran. The activity was sponsored by the Institute of Physics (London). The activity takes place every two years and covers physics.

M Yzuel: There was a Workshop on entrepreneurship organized by IOP with focus in developing countries. SPIE has noticed that it is positive to have students from developed countries.

Future Travel: Beijing- September 2012, Rio de Janeiro –October 2012, Jakarta/ Singapore-December 2012.

3. Secretary's Report (Angela M. Guzmán)

ICO has launched the new ICO webpage hosted by GoDaddy: The old webpage is redirected to the new one. The ICO Secretary thanked SPIE for hosting and providing support to the ICO webpage for many years. She also thanked SPIE for facilitating the transition and especially Rich Donnelly for his readiness to help all along the transfer process. All ICO Territorial Committee members have now their own webpage <http://e-ico.org/XXXX>, where XXXX stands for the name of the Territorial Committee. TC's representatives have been informed and encouraged to post information in that webpage. Only Cuba sent some information. We also have a webmaster: Carolina Marin. Her main job is to post the

Newsletter in the ICO webpage and give support when major changes are required. Small changes are done directly by the ICO Secretary. ICO owes now 3 domains: e-ico.org, myico.org, and ico-optics.org. The domain ico-optics.org has been redirected to e-ico.org.

The ICO Secretary is the Editor in chief of the ICO Newsletter (4 issues per year). In order to reduce mailing costs of the ICO Newsletter and in accord with an action approved during the last ICO Bureau, the ICO Secretary has sent twice messages to all TCs asking them for their opinion of receiving all ICO communications and the ICO Newsletter electronically. Only 14 have answered. An updated distribution list for each issue is prepared by the ICO Secretariat. The last distribution does not contain those TCs which have accepted to receive an electronic note when an issue becomes available online. The number of printed exemplars has been reduced from 2000 to 700, and the mailing addresses from 72 to 20. IOP Publishing decided not to continue assembling and printing the Newsletter. Alison Gardiner, the person previously in charge of the job of assembling, designing and correcting style of the Newsletter in IOP Publisher has accepted to continue the job as a freelance publisher under a personal contract. She will be charging £ 150 per each 4 pages issue of the Newsletter. She has also established a contact for printing and distribution with following prices: Printing 700 copies = £256, Packing newsletter into envelopes/boxes = £78, Postal charges for 700 = £317.

The ICO Secretary keeps updated the calendar of events, and manage the ICO consolidated calendar of events. Member societies have access to update their own calendar. ICO has also a Twitter address @ICOPNews.

Other regular activities of the ICO Secretariat have been to coordinate the organization logistics for Bureau & SPC Meeting in collaboration with A. Diaspro and his team. The Secretariat is in charge of ICO Communications and of the elaboration of Minutes of the ICO Bureau Meetings, the ICO General Assembly, and the TSOSA Meeting.

The Secretariat prepares the ICO Flyer and posters for all ICO Prizes and awards, and post calls in the ICO webpage. This year the posters were sent only electronically, but the ICO Secretariat prepared a list of over 200 leading researchers in different countries to be mailed with the call for nominations. At least one nomination for the GG award was a result of that procedure. It is also her responsibility to organize the ICO award ceremonies, to contract the elaboration of Award diplomas, and to coordinate with the Carls Duisberg Stiftung, the Societa Italiana de Fisica and the IUPAP the preparation of award medals. The ICO Secretariat also prepared an electronic Season's greetings card and sent it electronically to all TC's, ICO Awardees, and other people that has been linked to ICO in the past.

The ICO Secretary traveled in October 2011 as OSA Lecturer to Armenia, where she held a Meeting with the Territorial Committee. She also gave a lecture and established contacts within the State Pedagogical University for holding and ALOP Workshop in Armenia. (Nov-Dec. 2012). She also helped launching the ICO/ICTP initiative for Central America, and served as co-director of the First ICO-ICTP-TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations in San José, Costa Rica, April 30-May 11, 2012. In order to coordinate the local organization, she visited San José in January 2012.

The ICO Secretary chaired the TSOSA Meeting in Trieste in February 2012 and met with members of the Territorial Committee of Argentina on occasion of the TOPFOT at La Plata, Argentina in May 2012.

Z. Ben Lakhdar considers the activity held in Costa Rica as very important and asks for the possibility of repeating it in Asia and Africa. To build the team for each continent could be one of the education activities for ICO and one of the TSOSA recommendations to ICTP.

M Yzuel observed that the last issue of the ICO Newsletter (July 2012, Number 92) was centered in activities in Latin America and recommends to maintain a better balance. She recommends that the ICO Bureau encourages the ICO Territories to write papers on their activities.

A. Guzmán comments that she continuously looks for contributions from all territories, but when the publication is due, she has to publish the contributions that are available. She cites a sentence from J. Eberly: “there are publications without readers but there are no publications without writers”. She reinforces M. Yzuel recommendation to the Bureau and asks the Bureau Members to help in this regard.

A. Wagué considers that an activity similar to that in Costa Rica could be organized in collaboration with the LAM Network. They would need to choose the topics. The LAM Network has organized ten international workshops in Africa: in Senegal, Zimbabwe, Ghana, Sudan, Tunisia, and Cameroon and in 2007 organized an ICO Topical Meeting.

The signature of the ICO’s President will be authorized in ICO accounts. For this purpose the following motions need to be approved:

Motion 3: Moved by J. Harrington, seconded M. L. Calvo, approved unanimously.

“ICO will keep its current bank account in France. The Treasurer, J.A. Harrington, will be authorized to operate it alone for all operations. In addition, the President, D.T. Moore, as well as the Secretary, A. M. Guzmán, will be authorized to operate it alone for all operations.”

Motion 4: Moved by J. Harrington, seconded M. L. Calvo, approved unanimously.

“ICO will keep its current bank account in the United States of America. The Treasurer, J.A. Harrington, will be authorized to operate it alone for all operations. In addition, the President, D.T. Moore, as well as the Secretary, A.M. Guzmán, will be authorized to operate it alone for all operations.”

4. ICO Treasurer’s Report:

As of June, 2012, the ICO has a cash balance of \$137,325 in our treasury. This amount is held in US dollars (\$118,278) at the US Bank of America and in Euros (15,104 €) in the Caisse D’Epargne in Paris. For reference, at the ICO-22 meeting in Puebla in August, 2011, our cash balance was \$137,613. The primary source of income that the ICO receives is derived from membership dues contributed by the Territorial Committees (TCs). The money that the ICO expends is used mostly to support conferences, ICO prizes, and travelling lecture awards.

The collection of dues and dues in arrears remains a persistent problem. In 2011 we collected dues totaling \$37,500 compared to \$39,175 owed for 2011. Somewhat surprisingly the dues collected in 2011 came from only 34 out of 53 or 64% of the Territorial Committees. This high total collected in 2011 results from the fact that a number of TCs decided to pay their back dues. In some cases TCs paid the full share of their back dues and in other cases a financial arrangement was negotiated with the delinquent TC agreeing to pay a percentage of what they owe to remain a member in good standing. I was pleased to see that some TCs who had not paid dues for 4 or more years decided to bring their account up to date.

There is, however, still a problem. As explained in Puebla at ICO-22, only about 65% of the TCs are paying their dues. As the years have gone by this has led to a fairly large amount of money that the ICO is owed in back dues. My estimate is that we are owed about \$41,675 in back dues. The non-payment of dues goes back, in some cases, well beyond 5 years. In fact there are approximately 12 out of 53 TCs who have not paid or never paid dues for greater than 5 years. For these TCs the ICO needs to decide how to handle this situation. According to a motion approved by the Bureau in 2010,

“Territorial Committees which are in arrears on their dues for more than 5 years will have their membership status demoted to Associate status. This means no shares, no votes, no officer on the Bureau, and no ability to ask for financial support. ”

This motion provides a means for a TC in arrears to still remain a member of the ICO but a member with much fewer benefits. Currently the ICO has two Associate member TCs, Ecuador and Morocco. I should also point out that according to Article 7 of the ICO Statutes, a member whose subscription is more than six years in arrears is to be regarded as having withdrawn. One of the purposes of the motion approved in 2010 is to give a final opportunity for a TC to remain a member in good standing rather than being automatically withdrawn.

This year I have written a letter to each of the 12 TCs that face demotion giving them two options:

1. Renew their membership which means that they must pay their 2012 ICO dues of \$xxx. This is based on xxx units at \$235/unit or \$xxx for 2012. As for the dues that are owed prior to 2012 we are willing to negotiate a reduced amount as a way to encourage them to reinstate their TC to full member status.

2. Demotion of their status to Associate member. There are no dues for Associate members but I remind them that Associate members have no shares, no votes, no officer on the Bureau, and no ability to ask for financial support.

The 12 TCs receiving this letter, a sample of which is attached in Appendix A, along with the number of their units and the dues owed only for 2012 are the following:

Territorial Commission	Units	Dollars owed for 2012 @ \$235/unit
Belgium	4	940
Belorussia	2	470
Ghana/West Africa	1	235
Hungary	3	705
Indonesia	1	235
Iran	1	235
Lithuania	1	235
Moldova	1	235
Netherlands	4	940
Optical Society of Taipei	3	705
Singapore	1	235
Turkey	1	235
	Total	\$5,405.00

There are a variety of reasons why some of our TCs have difficulty in paying their dues. One of the main reasons is that some TCs do not see the advantage of an ICO membership. Another reason is that some TCs have difficulty determining which optical organization is currently responsible for paying the TC's ICO dues. Finally some TCs have difficulty paying their dues as a result of political unrest and the difficulty in transferring money to the ICO.

The biggest expense for the ICO outside of the money given to support conferences, travel, and prizes is for publication and mailing of the newsletter and green books. So far in 2011-2012 these publishing and mailing costs have come to \$4,330. In fact most of this money goes to BTB Mailflight for mailing. Just recently IOP Publishing informed us that they will discontinue printing our newsletter. Our secretary, Angela Guzman, is now looking for another source for printing the newsletter.

As you may know, the ICO Bureau approved an arrangement with the OSA Foundation (OSAF) regarding the acceptance of monetary gifts by US donors for the use of the ICO. The reason that we decided to make this arrangement is that the ICO is a 501(c)4 organization which means that monies donated by US citizens to the ICO do not exempt the donor from paying US taxes on their gift. In contrast the OSAF is a 501(c)3 organization (as is the OSA itself) and thus the OSAF can accept donations without the donor paying US tax on their donation.

The easy workaround for the ICO was to have the money donated to the OSAF and then given to the ICO for our use. In this way the US citizen gets a tax-free donation for their monetary gift. We may now solicit donations which will come through the OSAF to the ICO for the activities that we normally support. Those interested may go to the OSAF website (<http://www.osa-foundation.org/news/pressreleases/ico>) for more information and an application for making donations. In Puebla, Liz Rogan, CEO of the OSA, announced that the ICO through the OSAF has received our first monetary gift of \$25,000.

Balance Sheet					
1 October 2011 to 15 June 2012					
Bureau Meeting - Genoa, Italy, July 2012					
Assets					
Current assets					
<u>As of June 15, 2012</u>					
Checking/Saving					
	Bank of America - checking			\$10,975	
	Bank of America - money market			\$107,303	
	French account-converted 1 Euro = 1.26 dollars			\$19,047	
	Total checking/money market				\$137,325
Accounts receivable-dues					
	Dues 2012 - received			\$15,975	
	Dues 2012 - still owed*			\$37,370	
	Prior year dues in arrears			\$4,025	
Miscellaneous - book royalty income				\$225	
Total accounts receivable					\$57,595
Total assets					\$194,920
Liabilities and equity					
Conference support					
	OWLS	Genoa, Italy	July 2012	\$1,500	
	Tecnolaser VII	Havana, Cuba	April 2012	\$2,000	
	TCM 2010	Crete, Greece	October 2011	\$1,000	
	EOS Annual meeting	Paris, France	October 2011	\$2,000	
	Correlation Optics	Chemivtsi, Ukraine	September 2011	\$1,000	
	ICTP Winter School	Trieste, Italy	February 2012	\$5,000	
	ICTP/ICO /TWAS	San Jose, Costa Rica	February 2012	\$1,000	
			Total conference support		\$12,000
Secretariat - A. Guzman				\$4,500	
Traveling lecture award				\$2,000	
Newsletter-printing				\$850	
Newsletter-mailing				\$3,480	
ICSU dues - 2012				\$750	
ICTP/ICO G Denardo				\$1,000	
			Total miscellaneous liabilities		\$12,580
Total liability					\$24,580
Equity					
Retained earnings					\$170,340
Total liabilities and equity					\$194,920
*Includes 12 non-paying TCs					

The 3-year budget for the next triennium that was approved in Puebla showed that there could be a deficit of over \$34,000 if we continue the same spending rate; keep the dues at \$175/unit; and collect annual dues consistent with what we have been receiving. In short this would mean that we would have to draw more money from our reserves, which could diminish rapidly over the next decade unless something is done. To prevent dipping into our reserves I suggested to the ICO Bureau that if we raise our dues from \$175/unit to \$235/unit. Assuming that the unit structure remains the same as do the number of paying TCs then we could avert a long-term financial crisis that could occur in the next 5 to 10 years. The Bureau approved this change for 2012 and for 2012 all dues have been invoiced at \$235/unit.

Budget 2011 – 2014 Triennium - Revised July, 2012. For period 10/1/2011 - 9/30/2014

Income		
Dues		\$144,000
	Less not collectable	\$0
Net dues		\$144,000
Royalties		\$600
Interest		\$600
Total Income		\$145,200
Expenses		
Secretariat		\$18,000
Newsletter distribution - BTB		\$12,000
Mailflight		
Printing - IOP		\$8,000
Bureau expenses		\$3,000
ICO prizes + travel		\$15,000
Meeting support		\$30,000
ICTP school support		\$15,000
ICO-23 Santiago, Spain		\$7,500
Traveling lecture awards		\$5,000
Reserves or new projects		\$2,000
ICSU dues		\$2,100
Total Expenses		\$117,600
Budget Surplus/(Deficit) for three-year period		\$27,600

A somewhat longer term issue is a re-examination of the units that we assess each TC as a means of determining their dues. The current dues rate is based on \$235/unit. The number of units for any territory varies from 1 to 18 units. The units that each TC is assigned are based on information from the World Bank on the economic status of the various countries. The ICO established the numbers of units many years ago but we feel that it is now time to re-evaluate the units assigned to each territory in light of economic changes since the units were established. We want to be certain that the units are assigned equably.

You may recall that at ICO-22 in Puebla last summer, I proposed writing off \$27,325 as bad debt. Basically this bad debt arises from dues that we are owed in arrears that I feel will never be paid. This debt was written off in the Performance Forecast for last year.

J. Harrington reports that none of the 12 addressed countries for demotion have responded, and summarizes as issues of high priority (i) the change of ICO status to be able to accept donations directly, and (ii) to facilitate the payment of the dues by the implementation of

credit card or Paypal payments. He has also received money orders through Western Union. He has consistently faced problems to wire money to Latin America.

M. Calvo: We need to consider as a particular case the case of Iran. We are dealing with Omid Kokabee's case, and we have colleague's representatives in ICO. She is concerned about colleagues if Iran is demoted.

D. Moore: ICO should not take any action that diminishes our International character.

M. Oron: We also do not want to take action that has political implications.

U. Gibson: ICO should not forget that the OSA Foundation (OSAF) is willing to receive ICO proposals and provide financial support for ICO programs if approved by the OSAF Bureau.

D. Moore would prefer to ask for support for programs recommended in the strategic plan under development. He is interested in creating an endowment for ICO.

F. Holler: Potential donors in Germany will have to go to the tax office, and show a document proving that the money has been donated to a non for profit organization. If the tax office approves it, the donor will receive a tax reduction.

D. Moore wants to also to open the possibility for donations from corporations.

U. Gibson: In order to be able to receive international donations in a large number of countries can the UN affiliation be used? We will then working from the top down.

M. Oron: The Weizmann Institute in Israel has created a non for profit organization –The friends of the Weizmann Institute- in each country. Donors get in this way a tax reduction in their own country. All of these non for profit local organizations are allowed to transfer the money to the Weizmann Institute and to Technion. Depending on exchange rates and transfer costs, the money can also be held in the country of origin. He thinks that there is no other international scheme for this purpose, and recommends that ICO thinks of implementing a similar scheme.

F. Höller: In Germany by law, donations for research, scientific and teaching organizations within the EU are tax free. But due anti-corruption laws only few organization are entitled to receive the donations.

J. Harrington: to reach the status of 501(c)3 is also hard in the US.

M. Oron: The list of not for profit organizations is published every year. Proof of being debt-free is required in order dissolve a not for profit organization.

D. Moore: Organizations 504 can accept donations but donors do not receive tax deductions, and can do lobby. 503 cannot have major lobby activity but donations lead to tax deductions in your income. He already has talked to a lawyer, who considers that there will not be problem in switching. He offers to pay for the lawyer from his own resources. This action does not imply a change in the relation between ICO and OSAF.

U. Gibson: An action of ICO to reach the status 501(c) 3 could made the ICO-OSAF MoU seen redundant. She suggests that ICO commences a conversation with OSAF in this regard.

D. Moore: There could be other reasons to continue the agreement with OSAF.

U. Gibson: OSA did a great effort to establish the MoU with ICO.

5. - Committees reports, except nomination & prizes & awards

5a) Committee for the Regional Development of Optics (CREDO) report (prepared by T. Szoplik and presented by Z. Ben Lakhdar)

The Committee for Regional Development of Optics for the period (2011-2014) consists of the following members Members of the ICO Committee for Regional Development: Gert von Bally, Zohra Ben Lakhdar, Ari Friberg, Min Gu, Angela Guzmán, Nataliya D. Kundikova, Carmiña Londoño, John Love, Fernando Mendoza Santoyo, Duncan Moore, Ekmel Ozbay, Tomasz Szoplik (Chair), Ahmadou Wague, Bingkun Zhou.

Activity 1. Stimulation of scientific contacts between Australian and European universities.

Australian National University (ANU) in Canberra applied to join COST Action MP0803 - Plasmonic components and devices. The Action has 21 European partners and 3 partners from non-COST countries: Institute of Semiconductor Physics of NAS of Ukraine, School of Photovoltaic and Renewable Energy Engineering (SPREE) Australia, and Southern Federal University in Rostov, Russian Federation.

The process was initiated by Kylie Catchpole and supported by Ilya Shavdrivov both from ANU. It is endorsed by Alexandre Dmitriev from Chalmers University in Sweden, MP0803 coordinator.

The membership of the non-COST country institution has to be approved by the highest authorities of COST, so it might take time.

Activity 2. Stimulation of scientific contacts between South African and European universities in the fields of photonics, plasmonics and computational electrodynamics

In collaboration with Alexander Quandt from University of Witwatersrand in Johannesburg, South Africa we organized a visit of Robert Warmbier to a 3 European partners in COST Actions MP0702 and MP0803. The trip was sponsored by the University of Witwatersrand.

The first vist was to the University of Warsaw. On May 10th a small workshop was organized: Robert Warmbier gave a talk on "Computational Plasmonics for Complex Dielectric Materials" ; Mohammed M. Shabat, Vice President for Academic Affairs of the Islamic University of Gaza, Gaza Strip, Palestinian Authority, gave talks on "Nonlinear metamaterials waveguide sensors" and on "Education and research in Palestine" . In the audience there were people form the Institute of Physics, Polish Academy of Sciences, Military University of Technology; Institute of Electronic Materials Technology; and UW.

The second visit on May 21st was to Andrei Lavrinenko at the Department of Photonics Engineering, Technical University of Denmark, Copenhagen. Robert Warmbier gave a talk on "Computational Plasmonics for Complex Dielectric Materials". Applications of EELS (electron energy loss spectroscopy) technique to characterization of plasmonic structures was discussed and plans of future collaboration were accepted.

The third visit was to Alexandre Dmitriev, Bionanophotonics at Applied Physics, Chalmers University of Technology in Göteborg, Sweden. Two possible direction of collaboration were discussed: (i) photovoltaics and (ii) the application of ab initio methods developed in South African group to Swedish nanoplasmonics projects. Target: combination of ferromagnetic and plasmonic materials

5b) Report of the Education Committee by Z. Ben Lakhdar (Chair).

The Education Committee promotes the involvement of researchers and teachers from all countries in international conferences on *education as well as on research in optics & photonics*. For that reason it has been involved in the organization of ETOP (Education & Training in Optics & photonics) and agreed to collaborate with EOS, co-locating the PSDM (Photonics for Sustainable Development-Focus on the Mediterranean) conference for the same period in Tunisia. Additionally the Committee has continued working on the ALOP Workshop. The Committee aims for a maximum participation from educators from developed and developing countries, to foster participant's interaction and achieve an enhancement of interest in optics. The ETOP conference has been postponed twice. It was initially planned for July 2011, and then for March-April 2012. In February 2012, EOS, the organizer of PSDM, decided to cancel the PSDM conference due to the fact that they had not received enough contribution abstracts. PSDM was cancelled for economic reasons and not for scientific reasons. Since both conferences shared the same webpage, EOS decision induced in prospective attendants a sense of lack of stability in Tunisia and the ETOP meeting had to be also cancelled again. The local organizers of ETOP in Tunisia had worked hard to prepare for these two events. Z. Ben Lakhdar was asked again to chair the ETOP Meeting in 2013 in Tunisia but she has refused.

5c). Traveling lecturer Award Committee (J. Harrington, Chair): 2011-2012

The travelling lecture award is designed to provide financial assistance to those scientists and engineers who wish to travel to give a series of lectures on topics in the optical sciences. Most often these awards are given for those travelling to developing countries. The awards are not designed to support travel to attend or present a paper at a scientific conference. According to the information on the ICO website:

"The (Travelling Lecture Award) program is aimed specially at developing nations, but is not necessarily restricted to them. It is hoped that visits will lead to closer collaboration between the lecturer and the scientists of the destination territory.... Generally, these grants will not be awarded simply to support international conference attendance."

This year we have provided two awards. Each awardee was given a grant of \$1,000 to help defray travel expenses. The travel grants were given to:

Prof. Vadim Parfenov, Associate Professor, St. Petersburg State Electrotechnical University, Russia. Host university: Dr. Luis Ponce, Instituto Politecnico Nacional CICATA-IPN, Unidad Altamira, Carretera Tampico-Puerto Industrial Altamira, Tamps. C.P.89600, Mexico. April, 2012.

Dr. Annette Ladstätter-Weissenmayer, Institute of Environmental Physics, University of Bremen, Germany. Host university: Prof. Carlos Rudamas, Escuela de Física, Facultad de Ciencias Naturales y Matemática, Universidad de El Salvador, El Salvador, Central America. April, 2012. Her activities were reported in the ICO Newsletter.

As a reminder, we welcome new applicants for our travelling lecture awards. The approximate total allocation for these awards is \$5,000 for the three-year period, 2011 – 2014. We wish we had more applications.

6. - Reports of liaisons with Member Societies & ICTP

6a) International Societies (ICO Bureau members)

SPIE report (M. Yzuel) SPIE is happy to support ICO Activities, and is also supporting activities in ICTP, not only the Winter College but SPIE continues supporting some research activities at ICTP as reported last year. SPIE was very happy to support the ICO webpage for free, and wishes good for the ICO in the new webpage. SPIE student chapters can be used to disseminate information on the ICO awards.

OSA (U. Gibson) OSA is the Optical Society. It is a true international society. There is no “of America” left in the title. It has around 200 student chapters in the world, and 50% of its membership consists of non-US members. OSA organizes and sponsors international meetings. Through the OSAF, OSA supports education activities at the younger level. OSA is willing to support conferences in Latin America. There are two conferences in Latin America, RIAO/OPTILAS and LAOP that need to coordinate better, since they are in an awkward overlapping cycle. OSA support s both of them and we need to coordinate them. The issue will be discussed later in the agenda.

A. Guzmán: Since LAOP is an OSA conference, she hopes that ICO and OSA can coordinate the schedules for these two conferences.

LAM (A. Wagué): In September 2011, LAM held a workshop in Kenya, with attendance of scientists from Dubai, Senegal, Kenya, Mali and Ghana in Spectral Imaging and Microscopy. Currently LAM is preparing a join activity with the Astronomical Physical society in February or March 2013. The information is posted in the LAM webpage. He would like to see LAM activities to be announced by ICO.

A. Guzmán recalls that there are links in the ICO webpage to all of its member societies, so that ICO webpage visitors can go to the webpages of the international society members for information on their activities.

EOS (H. P. Herzig): The largest EOS Meeting is the EOS Annual meeting, which will take place the end of September 2012 in Aberdeen, Scotland. All Bureau Members are cordially

invited to attend. EOS is working on growing the number of contributors and readers of the EOS online journal. The number of submissions is low. The access costs half of that of OSA. He invites all ICO Bureau Members to look at the EOS Journal, and judge by themselves the quality of the contributions. A new journal in Optical Technology has been launched recently. It is not an EOS journal, but EOS is participating in the publication. All Bureau members are invited to contribute and write a tutorial on a specific topic. He considers that Societies live from journals since member fees are too small. In the European framework he recommends that all European members think of being active and defending not only their national societies but also EOS.

OWLS (A. Diaspro): A. Diaspro thanks the ICO Bureau for having supported the OWLS'2012 conference by contributing to finance a larger student participation. The conference was expecting to have 300 participants, but had only 200. This is however a notorious increase in size, since in the last one of the kind in Canada there were 87 participants. The Conference is organized and supported by OWSL with the only additional support from ICO. They have support only for other societies OWLS wants to change its statutes, which allows for accepting support only from other Societies, to be able to receive support from other sources. He will keep the ICO Bureau informed. Springer will publish the contribution of the conference. He thanks the ICO Bureau Members for having accepted his invitation to Genoa, and thanks the administration of the Palazzo Ducale for having facilitated this wonderful location for the ICO Bureau Meeting.

6b) TSOSA Advisory Group (Angela Guzmán, ICO Representative and Chair of TSOSA)

The TSOSA Meeting was held in February at ICTP in Trieste, Italy. There was good news about the continued support of SPIE to the ICTP-INFN research Lab. The group has now a representative from the TWAS and the LAM Network was officially included as a member of the group. The topics of the next Winter College will be Trends in Laser Development and Multidisciplinary Applications to Science and Industry.

After many years of recommending the creation of an Optics Lab for students and associates visiting ICTP, ICTP has assigned a space for an Optics Lab. There will be a one-time budget allocation from ICTP to buy all equipment needed for the Lab. Members of TSOSA and the Education Committee of ICO are kindly requested to help on building this Lab up by helping to specify the kind of experiments to be implemented in this new Lab, and the equipment required for this purpose.

Z. Ben Lakhdar suggests identifying some simple labs.

A. Wagué finds good that the lobby of TSOSA has led to reaching this long time wished objective. He thinks that at some time was an offer from Laussane for donating equipment for holography and fiber Optics.

D. Moore can provide lab that they do for all courses in Rochester. Z. Ben Lakhdar can pick within all well-established labs those that she considers appropriate for ICTP's lab. She should contact him and ask him for sending all information and thereafter for the donation.

Z. Ben Lakhdar would like to have some of the GRID elements shown by D. Moore in the introduction.

D. Moore can donate tenths of the GRID elements because they produce hundreds.

Z. Ben Lakhdar thanks him since they can be very useful for the ALOP Module on refraction.

6c) OiC/Information Photonics Steering Committee (Maria L. Calvo)

OSA, SPIE and ICO joined efforts to organize meetings in the U.S. and outside the U.S. A Steering Committee for the Conference was established. The Conference took place in Saint Petersburg in 2006 and in Japan in 2008. However the Steering Committee became ineffective and the Conference that was supposed to take place in Ottawa in 2010 was postponed to 2011. Since the Steering Committee was inoperative, the ICO took the lead and M.L. Calvo organized the Conference on behalf of ICO and in collaboration with the IEEE in Ottawa in 2011. Next Conference will be in Warsaw in 2013. T. Szoplik is one of the organizers.

7. Report of the recommendations of the Strategic Planning Committee

(Duncan Moore, ICO President and Chair. It was presented at the end of the meeting)

Duncan Moore presents the results of the SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis performed by the SPC the day before. He explains the procedure followed and notes that the analysis is not finished, and will be continued next year. The results are the listed below in order of priority. No idea was thrown out of the table. Numerical values to the right correspond to the vote of the members of the SPC for prioritization.

SWOT Analysis

1. Strengths:

- | | |
|---|----|
| A. Truly international organization. | 33 |
| <i>Best opportunity for international representation in optics.</i> | |
| <i>It has at all times representation from all territories.</i> | |
| <i>International character and friendly atmosphere.</i> | |
| <i>Really international meetings at all levels throughout the world.</i> | |
| B. Relation to ICSU and IUPAP is strong, and through ICTP to UNESCO and is key to ICO's future | 14 |
| C. Meet people from all over the world. No restrictions to membership. | 13 |
| <i>The diversity of countries is very large.</i> | |
| <i>Simplicity to become a member.</i> | |
| D. It covers all of optics. | 12 |
| E. People working in ICO. Voluntary work (100%) | 12 |
| <i>ICO is driven by true optical scientists, not career staffers.</i> | |
| F. It can be an umbrella organization for all societies in optics | 9 |
| G. Political influence in developing countries. | 7 |

The ability to provide support for developing countries.

- H. Size of the meetings (small) is good. 2
 I. Reasonable fees to attend meetings 0

2. Weaknesses:

A. Demographic issues 25

1. The demographics of 2020 are going to be very different than they are today and our governance structure is not well adapted for that change. 8.75
 2. We lack programs and interaction means for young scientist. 8.75
 3. Lack of appeal to optical engineers, and information scientists 3.75
 4. Our presence in Asia, Africa and Latin America is weak. 2.75
 5. Our meetings appeal to older people. 1

B. Financial model: a lot of work for people who are not compensated in any way. Problem of funding. Can we get support from governments and industry? Only fees from Territories. 18

C. Programs 18

1. *We are not designing programs for working and defending the expansion of optics in the world.* 6
 2. We are perceived by some countries as not providing any resources to them. 4
 3. Optics is used by medical professionals but ICO is absent. 3
 4. We are not having a lot of impact in the world of science. 2
 5. We have really nothing to offer to members of developed countries. 2
 6. Some individuals think that ICO has programs only for developing countries. 1

D. ICO is not well recognized. It is not visible.

We lack efficient ways of communicating. 18
We lack marketing.

E. ICO depends on voluntary work. We are an all-volunteer organization. 13

F. Meetings

We are detached from top level optics science and engineering meetings. 10
There is little appreciation for our main meeting

G. Contact with industry is very weak. 5

H. We are part of a very complex system, hard to understand (ICSU, IUPAP) 5

I. Our name (add photonics? optical engineering?) 3

J. ICO is too small 1

3. Opportunities:

A. New Initiatives	28
1. Optics Wikipedia (general public) written by students and monitored by ICO.	5.5
2. International Strategic Plan for all of optics combining Photonics 21 (Europe), Harnessing Light 2, etc.	6.5
3. Young Academy of Optics.	5
4. International Academy of Optics and Photonics.	3.5
5. Photonics web: University research groups, data base for all researchers in the world.	2.5
6. The World of Optics Electronic Magazine	2
7. Write a History of Optics series of papers.	1.5
8. Develop Resource center for optics and photonics.	1
9. Optics in security: surveillance and cryptography.	0.5
B. Education programs:	14
1. <i>Entrepreneurship</i>	5.6
2. <i>Optics professionals.</i>	3.6
3. K-12	2.6
4. College levels.	1.6
5. Museums.	0.6
6. Non optics professionals	0
C. Organize a major conference in which many young people can attend. <i>State of the art conferences.</i>	13
D. Become a member of ICSU -equal to IUPAP (optics, photonics and optical technology)	12
E. We still can enhance cooperation with ICTP through external activities of ICTP. <i>Optics and Photonics Lab at ICTP. Advice and lecturers. MAIS/ICTP Center.</i> <i>Creation of research ICTP affiliate centers in other areas of the world: Recommend to ICTP, and help with donations from industries.</i>	12
F. Spread money around instead of supporting the same conferences.	11
G. Organization that deals with issues of optics: studies of international and or national importance in optics and photonics. We should be in the position of representing the field of optics. Define policies.	8

H. Seek Funds from African Development Bank, World Bank, USAID, UNIDO and UNESCO for education and entrepreneurship programs including young scientists.	8
I. We need to consider emerging areas to plan ICO activities (biomedicine, education, energy, and others).	7
J. Collaborate with Medical societies to raise money for ICO to organize chapters of students in ophthalmology, medical imaging, etc.	1
4. <u>Threats:</u>	
A. Becoming irrelevant	28
Disappearing completely.	
Loss of a distinct identity.	
B. Financial model	26
C. Our governance will not be fast enough to make the required changes.	12
D. Failure to complete the strategic plan by ICO-23 and execute the plan by ICO-25 (2020).	9
E. Students not needing ICO.	8
F. Become irrelevant as a partner in ICTP's TSOSA Committee and/or ETOP.	7
G. Losing some ICO Territories.	6
H. The enormous size of OSA, SPIE, IEEE Photonics Society could overwhelm ICO.	6
5. <u>What can we do to get ICO more relevant?</u>	
1. Organize ICO Congress: Make this Congress a high level Meeting: World Congress:	34
a. More input from the Bureau.	
b. Review ICO former officers and ICO Prize winners.	
c. Very good Program Committee	
2. Survey the Territories to determine what services (meetings, programs, etc.).	23
-Be sure to determine and differentiate needs from developing and developed countries	
3. ICO to become an ICSU Union. Our position in the world of science will be different. We are a political organization.	14
4. Partial financial sponsorship more small topical meetings and schools.	12
5. ICO General Strategy for Latin America, Africa and Asia.	11
6. Offering Programs to international funding agencies, and raise funds for paying salary for a program manager funded by those agencies.	11

7. Develop strategies for improving the participation of students within ICO.	10
8. Make sure that the Bureau knows who we are.	10
9. ICO can organize its own Topical Meetings.	10
10. CREDO and Education Committee could organize a large ICO Meeting	9
11. Spend resources visiting territorial committees.	9
12. Improve communications: website.	7
13. Make sure that our members know who we are.	7
14. Establish direct links to the researchers and to students	7
15. Develop a community of volunteers.	6
16. Permanent regional schools. Volunteers from ICO to teach.	5
17. Strategy on ICO's image issues: professional advertisement of awards and activities.	3
18. Develop student chapters.	2
19. Develop individual memberships.	1
20. Enhance use of the corporate logo.	0

There was a general discussion between the needs of developed countries that provide income and the developing countries that we serve. The ICO has two different type of members with different expectations.

A. Diaspro suggests the possibility of ICO supporting travel or expenses for young Postdocs and PhD students to spend some time in specialized labs for measurements. Such initiative could be considered as an award.

D. Moore notes that ICO needs to establish Programs that international organizations and banks find attractive to fund, and explore new ideas. As examples he mentions that the University of Rochester sent 6 students to Ghana, and the International Mathematical Union went for a bid to see what countries would want to host the Secretariat and finance the staff. ICO has also very limited interaction with industry, which could be improved.

J. Harrington remarks that although one of the strengths of ICO is to be an all-volunteer organization, it would be very helpful to have some staff. We can already solicit donations publicizing announcements in the ICO Newsletter.

U Gibson suggests to thank and give public credit to any donor by publicizing an article on the donation in the ICO Newsletter.

D. Moore emphasizes that ICO needs a strategic plan to guide its activities and programs for the future. A document will allow him to tell prospective donors why they should make donations to ICO. The strategic plan should include several initiatives intended to appeal to different public.

J. Harrington talked to a potential donor to support running conferences in developing countries.

D. Moore mentions that when accepting donations they have to be for programs that ICO is interested on.

The work of the SPC will continue next year, and the partial results presented here will be revisited.

8. ICO Bureau Meeting 2013 and ICO Topical Meeting 2013 (D. Moore)

D. Moore proposed to the Bureau to hold the next ICO Bureau meeting at the 18th Micro-optics conference Oct 27 -30 (MOC'13), which will also be the 2013 ICO Topical Meeting. Former MOC Conferences have been held in Jena, Germany (2004); Seoul, Korea (2006); Brussels, Belgium (2008) and Hsinchu, Taiwan (2010). MOC'13 will be held at the Tokyo Institute of Technology. China was also interested on hosting the ICO Bureau Meeting but has agreed with the proposal from Japan. D. Moore would like to have more than one day for the Strategic Planning Committee (SPC) Meeting. He suggests having the ICO Bureau Meeting on Sunday, October the 26th, 2013. Members of the SPC would be requested to arrive on Thursday 23rd, to be able to have the SPC Meeting on Friday the 24th and Saturday the 25th.

Y. Arakawa describes the MOC'13 conference, which is hosted once in Japan and once outside Japan every three years. MOC'13 will be held in Tokyo. He invites the ICO Bureau to have the annual Bureau Meeting on Sunday the 27th of October.

A. Guzmán requests Y. Arakawa to send the application for MOC'13 to become an ICO Topical Meeting and host the Bureau Meeting to G. von Bally, the ICO Associate Secretary.

9. Reports of Liaisons to ICSU and IUPAP

9a) ICSU links: ICO future as ICSU's Union (Maria L. Calvo, ICO representative)

M. L. Calvo reports on ICSU. ICO became associate member of ICSU in 2005. ICSU is the uppers international organization of Sciences. Scientific Associates have neither the right to vote nor to present a proposal to the ICSU General Assembly, but they can attend it. She attended the ICSU GA in Maputo, Mozambique in 2008. She realized how complex is the structure of ICSU. It lacks presence of Optics and Photonics, and Physics is underrepresented. In 2011 as her last ICO President action, she attended the GA in Rome, Italy. For the first time ICO was given the opportunity to present a poster and to talk two minutes in the GA about what ICO is. She considers that ICO needs to push for becoming visible within the ICSU structure. ICO could cooperate with the ICSU Education committee, which is mainly centered on improving math education. ICO should stay in good contact with ICSU, and in order to achieve a well-defined role in the world of science, ICO should apply to become an ICSU union. The next GA will be in September 2014, in New Zealand.

U. Gibson asks if ICO would be still able to be an Affiliate Commission of the IUPAP in the case of becoming an ICSU Union.

D. Moore answers that ICO would be in that case at the same level as IUPAP within ICSU. While Bio scientists have built a significant number of Unions within ICSU, IUPAP does

not want a spreading of Unions in topics usually considered as part of Physics, which has led to an underrepresentation of Physics interests within ICSU. The position in this regard of the new ICSU Secretary General will determine most probably ICSU's policy about the path for Associates to become Unions.

M. L. Calvo adds that there are now 4 external Affiliates of IUPAP: the ICO, the International Commission for Acoustics, the Commission for General Relativity and Biomedical Physics. ICO and the Commission for Acoustics are the only Scientific Associates in ICSU, so they will try most probably the same route to become a union. Currently there are approximately 20 Commissions within IUPAP and Optics is involved in several of them.

9b) IUPAP links

A. Wagué represents ICO within the C13 Commission for Physics for development. He is representing Senegal at IUPAP, he is a member of the Commission, and he was elected as the Secretary of the C13. He was not able to attend the Meeting of the C13 because the UK denied him the visa. The British embassy in Ghana needed to be sure that he was not going to be an illegal immigrant in UK. IUPAP will complain to the UK Embassy for this situation. The C13 had a Meeting on August 25th, 2011 in Trieste. The ICTP accepts applications for support of the organization of meetings in developing countries. Usual grants amount for US\$15000.

D. Moore asks if the money can be used for supporting entrepreneurship meetings.

A. Wagué informs that ICTP has supported this kind of meetings in Senegal, Algeria and Cameroon. They have new applications coming from Cuba and Cameroon.

A. Guzmán reports that she has lost contact with the C15 Committee since they changed the President and it is the President's prerogative to accept a member of ICO within the Committee.

D. Moore knows the new Chair, Katharine Gebbie from NIST. He can help reestablishing the contact.

Z. Ben Lakhdar suggests that Conferences that receive financial support from IUPAP should publish the award information in the conference website.

A. Diaspro found very difficult to help people, who had been awarded with the IUPAP grant to obtain the visa. He wonders if ICO could provide to the organizers a template letter for this purpose. He sent invitation letters and the Conference program to prospective participants without success in some cases. Each Embassy has different requirements.

A. Guzmán is aware of the complications and mentions that even the ICTP has difficulties with visa issues.

J. Harrington mentions that SPIE recommends starting the process very early. Each Embassy has different criteria, but most of them stop young people and especially young females.

Y. Arakawa reports that the C17 Committee (Quantum electronics) wanted to change its name, as discussed in previous ICO Bureau meetings but nothing has been changed.

D. Moore mentions that the proposal was not in the GA meeting and there was no discussion about it. He was able to get the discussion out of the table and get the appointment of a committee to study the situation. The new Chair of C17 is from Russia and works in Quantum Electronics.

10. - ICO Prize and Awards Committees

10a) Report of the ICO Prize Committee: (prepared by R. Ramponi and presented by Z. Ben Lakhdar under numeral 5)

The ICO Prize Committee for the period 2011-2014 consists of the following members: Roberta Ramponi (Chair, ICO VP), Yasuhiko Arakawa (ICO VP), Zohra Ben-Lakhdar (ICO VP), Yujie Ding (ICO VP), Fernando Mendoza Santoyo (not ICO bureau member), Maria J. Yzuel (ICO VP), Bingkun Zhou (ICO VP). This year there were no new nominations. There were however 7 nominees in 2010-2011, six of whom were still eligible. The Committee recommends to the Bureau to award the ICO Prize to Romain Quidant, nominated by Lukas Novotny, for “his extraordinary scientific accomplishments in nanoscale optical manipulation”. Dr. Romain Quidant, from ICFO, Barcelona, Spain, has made several groundbreaking contributions to the field of NanoOptics. More specifically, in spite of his young age, he is recognized as one of the world leaders of the fast-growing area of nanoplasmonics, namely the study of the optical properties of metallic nanostructures. His most salient achievements are in Surface Plasmon Nanotweezers, Thermo-Plasmonics, and Optical Yagi Nano-Antennae. His nomination was supported by Thomas W. Ebbesen, J. I. Cirac, and Lluís Torner. There are two candidates reserved for 2013.

Motion 5: Moved by M. Yzuel, seconded M. Oron, approved unanimously.

The ICO Bureau accepts the recommendation of the ICO Prize Committee and awards the ICO Prize to Romain Quidant for “his extraordinary scientific accomplishments in nanoscale optical manipulation”.

M. L. Calvo: There were no applications this year. Do we know why?

Z. Ben Lakhdar: It might be due to the change in Chair and to the fact that R. Ramponi took the chair late. She suggests to send the announcement to more people next year.

M. Oron: There was only a new nominee for the IUPAP Prize. In previous years there have been at least 2. In his role as Chair he sent the announcement to friends. But he feels that ICO might not be promoting its awards well. He will expect at least 10 nominations. The ICO Bureau should think about the announcements and send them not only to the TCs but to Universities.

D. Moore asks each Bureau member to think of three possibly candidates and to e-mail them suggesting to apply.

M. Oron gave talks about the Prize in Israel. But he does not understand why the prize is not attractive for the young scientists.

M. L. Calvo thinks that sometimes the leaders do not transfer information to the young people.

A. Diaspro suggests preparing a very simple slide summarizing the award, and sending it to the major journal in optics. Most VPs are involved in editorial journals and they can post it in their journal. Another issue is that sometimes we need the poster printed in Europe. Therefore we need to have the poster in A3 form and not only on US ledger form.

A Wagué suggests updating the ICO webpage. The ICO/ICTP 2013 Award is not still announced there.

H P Herzig recommends sending the poster to the Photonics Doctorate School.

10b) ICO/ICTP Award Committee – A. Wagué (Chair)

A. Wagué reports that the ICO/ICTP Award 2012 was awarded to Selçuk Akturk from Turkey. Akturk obtained his bachelor degree in 2001 from Bilkent University (Ankara, Turkey) and his PhD in 2005 at Georgia Institute of Technology (Atlanta, USA), both in physics. From 2006 to 2009, he worked at Laboratoire d'optique Appliquee of Ecole Polytechnique at Palaiseau, France. Since 2009, he has been a faculty member at Istanbul Technical University (Istanbul, Turkey), Department of Physics Engineering, currently at associate professor level. He was awarded "for his valuable work in the field of ultrashort optical pulses and in particular for his contributions to the development of ultrashort pulse characterization techniques and their applications to ultrafast nonlinear optics".

10c) Galileo Galilei Award Committee - Bingkun Zhou (Chair)

Bingkun Zhou presents the report of the Committee. There were 8 candidates, 3 new nominations this year. The Committee consists of 9 members and recommends awarding the 2012 Galileo Galilei Award Prof. Mikhail Vladimirovich Fedorov, Professor at the Moscow Institute of Physics and Technology, "for development of interference stabilization of atoms and a theory of quantum entanglement features arising from particle symmetry." Prof. Fedorov was nominated by J.H. Eberly, Carnegie Professor of Physics and Professor of Optics University of Rochester, and his nomination was supported by Prof. Dr. Wolfgang P. Schleich ,Fakultät für Naturwissenschaften Institut für Quantenphysik, M. Ivanov ,Professor of Physics, Chair in Attosecond Physics , Department of Physics, Imperial College, Justin Peatross, Professor of Physics, Brigham Young University. Evgeny Shapiro, Department of Chemistry, the University of British Columbia, CANADA. The Award Committee recognized his successful achievement of science and the maintenance of scientific credibility during the more than decade-long social and economic turbulence that distorted all Russian institutions of education and science.

Motion 6: Moved by Bingkun Zhou, seconded by U. Gibson, approved unanimously. The ICO Bureau accepts the recommendation of the Galileo Galilei Award Committee and awards the 2012 Galileo Galilei Award to Prof. Mikhail Vladimirovich Fedorov "for

development of interference stabilization of atoms and a theory of quantum entanglement features arising from particle symmetry."

10d) IUPAP Young Scientist's Committee

M. Oron, chair of the committee reports that there was only one new application. There are two until now. The deadline is two weeks from the date, therefore the process of accepting applications is still open. Until now he has received only one application. We should reconsider the process of announcing the ICO awards. Perhaps to send the announcement through channels different to the Chairs of Department.

D. Moore requests to the ICO VPs to identify 3 Faculty members to whom they want the calls for nominations to be sent.

A. Guzmán recalls that this was the first year that the announcement was only electronic. She sent the electronic announcement with the electronic poster to over 200 researchers worldwide.

J. Harrington remarks that applications can be saved for 3 years.

F. Höller suggests to send the information to all Photonics doctoral schools.

11. ICO participation in meetings and schools – Prepared by Gert von Bally and presented by J. Harrington.

11a) Report on Meetings sponsored or to be sponsored during the period July 2012-Sept. 2013 (Gert von Bally, ICO Associate Secretary)

Explanations Budget Overview ICO Legislative Period 2011-2014:

Legislative Periode Oct 2011 - 30. Sept 2014

	Date	requested by applicants	end/coosp. Grant/risk decision by ICO (proposal marked in blue)	representative: decision by ICO
1. Oct 2011 - 30. Sept 2012 (Period 1)				
One day course in "Laser applications in medicine and stetic medicine" Merida, Venezuela	17 December 2011	cosp. US \$ 0	end. US \$ 0	
1. Oct 2012 - 30. Sept 2013 (Period 2)				
4th International Symposium on Transparent Conductive Materials (TCM 2012), Crete, Greece	21-25 Oct 2012	cosp. US \$ 2-3,000	end. US \$ 1,000	Maria Farsari
5th International Photonics and Optoelectronics Meetings (POEM 2012), Wuhan, China	2-5 Nov 2012	end. US \$ 0	end. US \$ 0	Min Gu
The Latin America Optics & Photonics Conference (LAOP) Sa Paolo, Brazil	11-13 Nov 2012	end. US \$ 0	end. US \$ 0	Angela Guzman
1st EOS Topical Meeting on Photonics for Sustainable Development - Focus on the Mediterranean (PSDM 2011), Tunis Tunisia	beginning 2013	cosp. US \$ 1,300	cosp. US \$ 1,000	Roberta Ramponi
ICTP Winter College 2013, Trieste, Italy	Feb 2013?		different budget	
RIA/OPTILAS 2013 Porto, Portugal	22-26 July 2013	cosp. UW \$ 3,000	cosp. US \$ 2,000	
ETOP 2011, Porto, Portugal	23-26 July 2013		cosp. US\$ 2,000	Maria L. Caivo
Information Photonics 2013, Warsaw, Poland	16-19 Sept 2013	cosp. US \$ 2,500	cosp. 1,500	Maria L. Caivo
			US \$ 5,500	
1. Oct 2013 - 30. Sept 2014 (Period 3)				
			US \$ 0	

Budget overview:	Distribution Plan	Current Expenditures	Rest
1. Oct. 2011 - 30. Sept. 2014 total: (US \$ 32,000)			
+ 2,500 US \$ (past legislative period)			
Budget distribution plan:			
1. Oct 2011 - 30. Sept 2012:	(US \$ 11,000)	US \$ 9,300	US \$ 1,700
1. Oct 2012 - 30. Sept 2013:	(US \$ 13,500)	US \$ 5,500	US \$ 8,000
1. Oct 2013 - 30. Sept 2014:	(US \$ 10,000)	US \$ 0	US \$ 10,000

The Budget Overview shows that we have for the legislative period 1. Oct. 2011 - 30. Sept. 2014 a total budget of US \$ 32,000 with an addition of US \$ 2,500 from the past legislative period. Two meetings had to be postponed from 2011 to 2013: 1st EOS Topical Meeting on Photonics for Sustainable Development - Focus on the Mediterranean (PSDM 2011), Tunis Tunisia, and The Education and Training in Optics and Photonics “ETOP 2011”, Tunis, Tunisia. ICO decided to support the EOS meeting with US \$ 1,000 and the ETOP meeting with US \$ 2,000, which would be US \$ 3,000. This money has so far not been transferred by ICO. But in case we would have paid the money in the past legislative period, we would have had an overdraft of the budget with US \$ 500 so the amount we took over to the current legislative period is therefore US \$ 2,500.

First Call for bids for ICO 24:

G. von Bally sent a letter to all ICO territorial representatives making the first call for bids for ICO 24.

Applicants preparing their bids were referred to the Information and Questionnaire Form on ICO Congresses and other major ICO events or on the ICO home pages <http://e-ico.org/node/29>, and were asked to submit their bid to him electronically or by airmail by 31 December 2012 for the consideration of the Bureau.

11b) Preparation of ETOP 2013

M. L. Calvo and Z. Ben Lakhdar report that ETOP 2013 will be organized jointly with RIAO/OPTILAS in Porto, Portugal. The conference will be chaired by Mourad Zghal and Manuel Filipe Costa. Z. Ben Lakhdar has decided not to be the chair.

11c) Preparation of ICO XXIII- H. Michinel

Michinel reports that the website of ICO 23 is under construction but is fully operative for registration and submission online. He already pre-booked the place for the meeting to avoid problems. He is concerned with having a good list of plenary talks and asks for support of the Bureau with top level contacts. If he wants to invite top level speakers we should invite them well in advance. We have to get as many invited lecturers as possible. The Bureau should give some names for the plenary and invited speakers, taking in account some geostrategic policy. He expects to have invited speakers from all over the world. This year he will work on selecting and inviting speakers and the next year on local organization issues like that of the social program and the distribution of the schedule. He also plans for a satellite meeting on optics for energy in Orense, which is half an hour from Santiago. He will try to keep costs as established and to give support to participant from developing countries.

D. Moore asks if the registration fee is in agreement with IUPAP registration fees.

J. Harrington comments that the registration fee is €550.

M. L. Calvo states that IUPAP fixed the maximum registration fee in €480. Could be that the in the last GA they have been changed.

H. Michinel answers that the registration includes social activities.

12. – The Iberian American Network of Optics (RIAO) – A. Guzmán

D. Moore refers to the application and clarifies that only the GA can make changes into the bylaws. But the Bureau should consider their application and we will inform them of the decision of this body. We already discussed the application in the Executive Committee and he would like to move it this year since we consider Latin America an important part of the developing economies of the world and we would like to get them involved even if they are unofficially part of ICO. We could even invite them next year to attend this meeting.

A. Guzmán presents the application of the Iberian American Network on Optics (RIAO) to become a member of ICO as an International organization. The Iberian American Network of Optics was organized when A. Guzmán was Chair of the ICO CREDO Committee and was presented in her report to the ICO GA in 2008 in Sidney. Two years ago they sent a request to ICO to be accepted as international society member attaching copy of the bylaws and other supporting documentation. At that time the Bureau tabled the application. The Network was officially presented to the Iberian American Community in the RIAO/OPTILAS Meeting in Peru in 2012. Originally the Network was formed by Mexico, Colombia, Venezuela, Cuba, Spain and Argentina, but Argentina for internal reasons decided to get out invalidating the signature of its ICO representative. Now the Network does not include Argentina but does include Portugal. The President of the Network is Eric Rosas, former President of the Mexican Academy of Optics. The application was not part of the Agenda of the last ICO Bureau Meeting but the discussion of the application was untabled under the request that I bring to the Bureau the rules that were applied by the Bureau at the time of admission of international societies as ICO members. The discussion of admission of LAM and OWLS is recorded in the Minutes of the ICO Bureau 2002 in Florence (provided as supporting document). At the time it was only required in order to consider an application that at least 20% of the membership of the organization were from outside of the most represented country. I think that on establishing the rule at the time consideration was made of the fact that OSA and SPIE by then did not have a large number of members outside the US. The rule has not been modified by ICO. The RIAO is an organization of societies and there are also some territorial committees involved like Venezuela that does not have a society and uses the ICO Territorial Committee as their own organization in optics. The same happens with Cuba. Spain, Mexico and Portugal are involved in RIAO through their societies of optics and Colombia through the Colombian Network on Optics. In pages 53 and 54 of the Bureau Meeting Booklet you can find their application, accompanied by the following supporting documentation: (1) A letter from Eric Rosas, President of the network; (2) the signed Spanish and Portuguese version of the

RIAO Constitution and Bylaws accompanied by their English translation; (3) the RIAO governance and leadership structure with the corresponding 2010-2013 officers names, as to the date of the application; (4) a brief summary of recent actions (20 since 2008) and 12 forthcoming activities of the RIAO Network planned until the end of 2013. In pages 55 and 56, I have also provided as requested in the former ICO Bureau Meeting, copy of the ICO Bureau Minutes regarding the acceptance of the international member societies.

M. Yzuel knows the region, Latin America, Portugal and Spain in the sense of the optical community. The ICO President has said that this cannot be approved until presented to the GA, and she considers that the application is not too much elaborated. The applicants pretend to represent the Latin American region without three very important countries: Brazil, Argentina and Chile. The RIAO is not a professional society, and they do not have individual members. She can say that the members of the individual societies have not been asked if they want to do this Network. From her perspective RIAO is still not developed to be an ICO Member Society. She considers that RIAO is not a Society and we cannot say that there is a 20% of members from outside the region because probably there is none because they are represented by their societies and their ICO territorial committees in the region and this will create a precedent that could lead to confusion in the future. My opinion is just to leave it for further work and study and to define better which is going to be considered an international society, not a group of territorial committees. This opinion has been shared by other members of the Bureau, who are not present here. I think that it is prudent to table it. We can read in the minutes in page 29 that P. Stahl asked for a definition of when a professional society classifies to be an international society member of ICO. That information was what A. Guzmán provided about the need of a 20% of members outside the region. She is not in favor of discussing the application now.

M. L. Calvo wants to help all ICO Bureau members the meaning of the application and Yzuel's comments. Her concern is if we are demanding more now than in all precedents cases. Latin America (LA) indeed consists of more than 18 countries, but we all know that it is very difficult to approach some internal situations in particular in LA countries. We could be waiting for years for this request to be approved by ICO if we require a large number of countries to be involved. In the meantime many colleagues from other areas would be suffering from isolation. That is the case of Central America. When we were in Costa Rica the participants were very interested in the RIAO Network. For small communities it is easier to join RIAO than to create a territorial committee. Our approach cannot be homogenized. There are particular cases. Ecuador is an Associate member of ICO that could largely benefit from joining RIAO. Mexico is a very strong country in Optics, and is a warranty of seriousness if you need one. Be aware of not to be more demanding in this particular case than in the preceding ones.

A. Wagué mentions that under the Maria Yzuel's reading of the rules the LAM Network could not be an ICO member society and they would have to leave ICO. He is in favor of having the RIAO Network as a member of ICO as international society. RIAO can help having permanent representation for LA, even if not all countries in LA are currently represented. We are aware that during this period, we lack a representative from LA. If the LAM Network had to apply now for an ICO membership, it would never be able to become

a member. If we want to be together at the continental level and work globally in meetings and conferences, and the RIAO wants to join ICO, why not?

H. Michinel was not present in the first discussion last year, but he is not aware about serious differences between LAM and RIAO. He considers appropriate to send them a message in the sense that we are seriously considering their application and asks if we can accept RIAO as an Associate member or as a kind of member in waiting.

M. Oron: The application has to be posed for vote in the General Assembly (GA).

M. L. Calvo: There has to be a positive consensus in the ICO Bureau before proceeding for approval by the GA. RIAO cannot be Associate member.

H. Michinel: RIAO can be an international associate member

M. Yzuel wants to add information that she has from some colleagues in LA. The acronym RIAO is one of the things that divide the community. The Argentinean community does not agree with the name, and would like RIAO to change its name because of the coincidence of the name of the network with that of the RIAO/OPTILAS conference. In addition, the RIAO includes Spain and Portugal, therefore if RIAO is to be accepted, ICO has to request that the VP appointed by RIAO be from LA. Central America can be considered as a Territorial Committee.

M. Yzuel considers that the application is not too much elaborated. The applicants pretend to represent the Latin American region but Brazil, Argentina and Chile are not included. The RIAO is not a professional society, and they do not have individual members. For her RIAO is still not developed to be an ICO Member Society. This is a precedent that could lead to confusion. In the minutes of the last ICO Bureau, P. Stahl asked for the rules of ICO regarding admission of the international society members. She is not in favor of discussing the application now.

M. L. Calvo wants to help all ICO Bureau members the meaning of the application and Yzuel's comments. Latin America (LA) indeed consists of more than 18 countries, but we all know that it is very difficult to approach some countries. We could be waiting for years for this request to be approved by ICO if we require a large number of countries to be involved. RIAO can help to gather other members. Mexico is a very strong country in Optics. It seems that we are more demanding in this particular case than with others. Under Maria Yzuel's rules the LAM Network could not be an ICO member society. RIAO can help having permanent representation for LA. We are aware that during this period, we lack a representative from LA. If the LAM Network had to apply now for an ICO membership, it would never be able to become a member.

H. Michinel was not present in the first discussion last year, but he is not aware about serious differences between LAM and RIAO. He considers appropriate to send a message to them in the sense that we are seriously considering their application.

M. Oron: The application has to be posed for vote in the General Assembly (GA).

M. L. Calvo: There has to be a positive consensus in the ICO Bureau before proceeding for approval by the GA. RIAO cannot be Associate member because is applying for international society member. The figure of partners has been suggested but does not exist in the statutes.

H. Michinel: RIAO can be an international associate member

M. Yzuel wants to add information that she has from some colleagues in LA. The acronym RIAO is one of the things that divide the community. The Argentinean community does not agree with the name, and would like RIAO to change its acronym because of the coincidence of the name of the network with that of the RIAO/OPTILAS conference. In addition, the RIAO includes Spain and Portugal, therefore if RIAO is to be accepted, ICO has to request that the VP appointed by RIAO be from LA. Central America can be considered as a Territorial Committee.

D. Moore suggests to prepare a message for RIAO establishing the point of view of the ICO Bureau and making some recommendations that they can follow and bring it back to the Bureau in 2013 before the next GA.

A. Guzmán mentions that one of the reasons of these application is what we have seen in the composition of this Bureau. She is the only representative of LA, but she is indeed half American. The Iberian American community is a very active community in optics that is confronting new initiatives of OSA within LA that they understand as a competition to their main conference RIAO/OPTILAS as M. Yzuel will comment later. RIAO/OPTILAS was born as an initiative from the LA and Iberian research communities, while OSA is opening its own space in LA through Brazil. I foresee that LA will be then divided into North and South. France has actually already two regional offices for research collaboration with LA. Brazil works very well with OSA but the northern community feels a bit threatened by the advance of OSA with a new conference intended to compete with RIAO/OPTILAS. ICO has to decide if ICO wants to send a message to the LA community in the sense that ICO wants to support their efforts and their LA activities on optics, or decide to continue postponing an answer to their application. There is an active community that has been holding an international meeting with regularity since two decades, and they want to join ICO. Should we keep them applying for ever?

D. Moore wants to have a sense of how many people support the admission of RIAO (under some conditions) to ICO with the same status of the other international society members in order to proceed to draft a motion.

U. Gibson asks if this decision will mean that RIAO will have an appointed ICO VP.

D. Moore answers that international society members contribute financially according with their size buy all have an appointed VP. He is afraid that since the RIAO includes two European countries, the ICO could end having more representation from Europe and lose the intended representation from Latin America.

M. L. Calvo mentions that this is not the only case. ICO has EOS representing European optical societies, and also we can have American or European persons representing the

international societies, and also Americans in the Bureau. There are always interconnections and this is not what matters. She thinks that the main concern for ICO is the current situation of this community in optics, and she thinks that ICO has to support it. If we are thinking of becoming a Union it would be positive to have regional offices in Africa and LA. To have all of those countries within ICO is positive.

H. Michinel comments that the idea of Spain and Portugal on being members of RIAO is not to get more representation within ICO but to establish scientific links with the LA community. M. Yzuel wants to clarify that Central America can create an ICO Territorial Committee.

A. Guzmán mentions that ICO has been making efforts to include a country like Peru, which has a larger optics community than the countries in Central America, has not been able to build an organization of its own able to apply for membership in ICO. The point of RIAO is that they are helping all of these countries and trying to improve research in optics in countries that are less developed in that area.

M. Yzuel does not understand the recommendation of having a rule for appointing a VP from LA. Spain and Portugal have the same rights as the others.

D. Moore will support the motion only under this condition.

Motion 7: (Moved by M. Oron, seconded by H. Michinel, approved by 11 votes in favor. 1 against, and 1 abstention).

That the ICO Bureau will recommend to the 2014 ICO General Assembly to accept the organization currently named Iberian American Network on Optics as an International society member of ICO with the following recommendations:

1. That the RIAO considers the possibility of a change of name in order to avoid coincidence with the name of the RIAO/OPTILAS conference.
2. That RIAO considers a system by which their representative to the ICO Bureau be from Latin America.

Discussion:

J. Harrington asks why we just do not remove Spain and Portugal.

D. Moore answers because he is a big advocate of having more diversity in this group. Spain and Portugal can be financial supporters for RIAO. They have historical roots of collaboration since 500 years.

M. Yzuel thinks that if it is forbidden for Spain and Portugal to have a representative through RIAO in ICO better is to for them to leave the Network.

A. Guzmán comments that the community has been working together for many years. For example RIAO/OPTILAS has a history of almost two decades and only next year the meeting will be back in Europe.

13. - RIAO/OPTILAS and LAOP - M. Yzuel

M. Yzuel thanks ICO's President and Secretary for introducing this item in the ICO Bureau Agenda. She asked for it since her message of March 20th regarding the conflict between RIAO/OPTILAS and the LAOP conference organized by OSA was not answered. She presents the historic background to the Bureau. RIAO, the Iberian American Conference in Optics and Photonics with a broad scope, started on 1992 with participation of Latin America, Portugal and Spain. OPTILAS, the Latin American Meeting on Optics, Lasers and applications started much earlier (*Note of the ICO Secretariat: The first Meeting took place in Colombia in 1984; the second, in Niteroi, Brazil in 1986. The III OPTILAS was organized by Argentina in Mar del Plata in 1988; the IV OPTILAS took place in Oaxtepec, México in 1993 and the V OPTILAS in La Habana, Cuba in 1995*). OPTILAS was organized every two years, and in 1995 was held in Havana, Cuba. The RIAO was held first in Barcelona, Spain, in 1992, and II RIAO in Guanajuato, Mexico, in 1995. When both OPTILAS and RIAO applied for sponsorship to ICO for 1995, ICO suggested to merge these two conferences in the future. The two conferences merged in 1998 in Cartagena de Indias, Colombia, where Angela Guzmán was the joint Conference Chair. (*Note of the ICO Secretariat: negotiations between Colombia and Argentina, prospective hosts of OPTILAS and RIAO respectively were mediated by ICO's then Past President Anna Consortini*). The series continues since then taking place every three years in order not to coincide with the ICO General Congress: 2001, Tandil, Argentina; 2004, Isla Margarita, Venezuela; 2007, Campinas, Brazil; 2010, Lima, Peru; 2013, Porto, Portugal, collocated with ETOP. In 2010 there was another bid to host the conference from Chile which was left for 2016.

The Latin America Optics and Photonics (LAOP) Conference is also a wide scope conference and was held for the first time on October 2012 in Brazil, and as far as she knows there are plans to hold it in 2014 in Mexico and in Chile in 2016. The ICO has sponsored RIAO-OPTILAS, which is also supported by OSA, SPIE, EOS, etc. LAOP will take place in October 2012 and is organized by OSA and the Brazilian Physical Society. ICO has also endorsed LAOP and approved A. Guzmán as the ICO representative. She suggested by e-mail to the Bureau the need of sending our advice to the organizers. She questions if the Latin American Optics and Photonics Community is big enough to have many conferences in the region. She would like to discuss if the two conferences could merge, and if there is a conflict of interest for the attendants. As a consequence the number of attendees to each conference may diminish. And what will happen in 2016 when the two conferences will be held in Chile? RIAO-OPTILAS is triennial and has been organized the year before the ICO Congress to avoid overlap. But LAOP has a two year periodicity.

D. Moore is concerned with the overlap of the conferences in Chile.

J. Harrington remarks that LAOP is an OSA conference, and that he received a letter from the Brazilian Territorial Committee supporting the solicitude of ICO endorsement of the LAOP conference.

U. Gibson informs that OSA is giving US\$5000 to RIAO/OPTILAS. She was not informed of the plans to hold both conferences in Chile in 2016.

14. Other Business: The Omid Kokabbe's case (discussed after numeral 6)

M. L. Calvo: O. Kokabbe is an Iranian student. He received his Master's degree at the Polytechnic University of Cataluña, and later he took a PhD student position in the University of Texas. On February 2011 when he was leaving Teheran after visiting his family he was detained at the airport, spent 36 days in isolation, and thereafter was transferred to a prison in the area of Teheran. On May 2012 there was a trial along with other 13 prisoners. He was charged of spying, cooperating with the Mossad, and working for the enemy. He was condemned to 10 years of prison. During the trial he refused to speak. In August 31st of last year we were discussing at the ICO Bureau Meeting in Puebla a proposal from SPIE, OSA and EOS for sending a letter addressed to the Ayatollah Khomeini with copy to the representative of Iran to the United Nations. She signed the letter. Later she was approached in Spain by many friends of O. Kokabbe and she initiated contact with Amnesty International on a personal basis. Colleagues of O. Kokabbe from Barcelona have started actions trying to disseminate this case.

This case is very delicate. ICO is the only International organization representing optics. We have political and diplomatic issues. Iran is an ICO Territory member and we have colleagues working there, in particular Prof. Tavassoly, who is in a very weak position. Some colleagues of O. Kokabbe commented to her that at the beginning the family was very reluctant to disseminate his case, but now O. Kokabbe's family considers that International pressure is the only way for solving this difficult case. They got the letters from O. Kokabbe from prison written in Persian and she got a translation of the letters into English that can be found online, as well as many other undergoing actions. The Committee for Concerned Scientists have signed a letter, and this week during a meeting on magnetism and superconductivity there is going to be a special session on O. Kokabbe and she was invited to make a presentation. The cluster decide to write a letter. Very recently OSA, SPIE and EOS signed also a second letter. She is contact with the Madrid contact for Amnesty International.

Her personal opinion after being involved for several months in this case is that we should avoid a protagonist role from the USA. If we are requesting to overturn the sentence we could get a worse end result. His lawyer does not speak English. He is not even able of speaking fluently with O. Kokabbe. There are 31 students in prison, one condemned to death penalty. She suggests that the ICO President sends a letter to Catherine Ashton, the High Representative of the Union for Foreign Affairs and Security Policy for the European Union, whom has dealt with many cases of political prisoners. This an action for Amnesty International. We could also approach Iranian embassies. Iranian authorities are very proud of Iranian scientist and of contributions of Iran to science, and they might hear the international scientific community in this regard.

M. Yzuel represents the SPIE. She thanks M. L. Calvo for all of these actions and she understands that she has been involved in the case at personal level. She has also signed as an individual the letter from concerned scientists. But what we have here is a request of SPIE, OSA and EOS to the ICO President of signing the letter prepared by them. A vote was initiated by e-mail, and the request was tabled by M. L. Calvo. She wants to know the result of the vote and to have an answer to the request of SPIE, OSA and EOS.

D. Moore: The motion to sign the letter has been tabled. The conversation has been then brought back here: To do something we need a motion to bring back the discussion.

A. Guzmán: The motion to postpone (table) a decision on this issue (co-signing SPIE/OSA letter concerning Mr. Kokabbe's case) until the meeting in Genoa was approved. There were 9 votes in favor of postponement, 3 against, and 3 abstained, for a total of 15 votes.

M. Oron: The situation has changed since he has been condemned. We should be very careful because we want to help. If Israel or the USA are mentioned in the letter, consequences for the student could be very bad. But it is very important to show that the whole scientific community cares about him, otherwise he can be treated badly and even die.

M. Yzuel wants an answer to SPIE request.

D. Moore: The request is still tabled. What we have to decide is if ICO will sign the letter, or probably if ICO will send a different letter because even if we consider SPIE and OSA to be international organizations they are based in the USA, and their request can be interpreted as a request from the USA, which can cause damage. I am thinking of the possibility of sending a letter from ICO from ICO's French address to the Iranian government talking about the rich history of optics in Persia from the 12th century, and the early work on optics done in the Persian peninsula trying to appeal to the Iranian authorities. I would try to rekindle this history with the efforts of this wonderful young people who continue that long Persian tradition on optics and translate into Persian. We do not want to do any harm. We talked yesterday in the Exec committee, and we arrived to this conclusion. I will inform to USA authorities but I will not ask them to do anything. We face the problem that he is not a USA citizen, but if the USA authorities know they might remember if a possibility of negotiation opens. We can untable the motion or have a new one.

M. L. Calvo indeed acted on a personal basis but she was approached by colleagues on her capacity as the ICO Past President. Now the situation is different. At the time of the last letter he was in prison but now he is charged with espionage. Now the situation is delicate because we can for example succeed obtaining a revised sentence and get a worse decision. We scientists are most afflicted but we need actions from the diplomatic world. The Iranian ambassador in Italy was approached and he was disturbed by this case.

M. Yzuel: when SPIE, OSA and EOS wrote the second letter O. Kokabbe was already condemned. The societies were approached by the journalist that published the letter in Nature.

M.L.Calvo wants to decide what of the position of ICO.

D. Moore asked for all opinions.

H. Michinel feels not to have enough international experience. We were asked to sign a letter by SPIE, OSA, and EOS. If we do not sign, we have to do something. ICO is not a professional society but represents the Optics community worldwide, and the student is a member of that community. He does not understand why to send a letter to Iran. We do not

have relationship to the Iranian government or to the European Foreign office. In some sense ICO is part of the United Nations (UN), therefore we should address the letter to the Secretary General of the UN with copy to the Iranian representative of Iran to the UN.

D. Moore wants to know if we want to send a letter and to whom should be address.

Z. Ben Lakhdar agrees with H. Michinel_thinks that we have to send the letter to the scientists first and then to someone to have power to change the situation, but not to the president of Iran

M. Oron: we can only remind the world that O. Kokabbe exists. Since Iran is a member of ICO, ICO should write a letter and send it to an Iranian authority. The mere fact that we are interested in him would make his release easier or faster. Whether we send a letter to the UN or Iranian authorities or publish it in nature, the important thing is to demonstrate that there are many people who cares about him.

D. Moore: There is press released sent on July 12th to Nature saying that the letter was signed by ICO. The letter was found by F. Höller.

F. Höller reads the press release and he remarks that since the letter prepared by SPIE already appears in the web as signed by SPIE, OSA and the ICO, the current discussion is irrelevant.

D. Moore asks then if we have to send another letter

A. Wagué thought that we had to sign the letter, which he thinks was very well written.

D. Moore thinks that we have to avoid causing any damage.

H. P. Herzig thinks that we have to keep him alive and the most he appears on the web the best. We should increase the number of links in the web to keep the case active. Regarding the letter we have no choice: it appears as being signed.

A. Guzmán sent her opinion by e-mail. Gert von Bally, the ICO Associate Secretary, was in contact with the ministry of foreign relationships of Germany. Diplomats did not know about the case because they do not read Nature. They were surprised of hearing that O. Kokabbe was only condemned to 10 years of prison. He could have been condemned to death. In their opinion the worst that can be done is to associate the name of O. Kokabee with the USA if he is charges with espionage. Therefore it was recommended that if a letter was going to be sent by ICO, it might be better that it be signed by the Past president than by the current President because he could be associated with the USA. My main worry is not that the letter be ineffective, but the terms of the letter and what the reaction of the government can be. If the Iranian President receives a letter from the USA neither asking for an appeal nor addressing the Iranian government respectfully but demanding an immediate overturn of a decision of a Judge, I do think that his reaction would be favorable to the demand. I think that international organizations should write more diplomatic letters than what was presented to us to be signed.

U. Gibson has reactions on several levels. As a representative of OSA she would ask for ICO to sign. But after listening to this very good discussion as an individual she has a rather different reaction. Because the document that has been published in the web is inaccurate we should not go with it and ask the SPIE to take it down. To have a draft of a letter that was not signed in the web is not appropriate and should be fixed. In my opinion H. Michinel had a wonderful point. We do not have status in the diplomatic world and what we can do is to initiate a food chain to impress the Iranian diplomats through the UN rather than using any other mechanism. I would like to see a letter coming from ICO upwards through the food chain saying that O. Kokabbe is a respected member of our community, who has to offer many things to Iran as well as to the world and that we request that he is treated with due respect. To ask that they change their laws is a nonstarter. I am sorry that there has been a temporal problem of ICO that lead to a delayed answer to the request of OSA and SPIE. But the deliberations of this body have come with some very good suggestions.

F. Höller advices to leave the things the way they are. Corrections can be interpreted as if we did not agree. Whether we like it or not, the publication of letter on the web has happened. He would have signed the letter.

Y. Arakawa does not know if the letter sent to Iranian authorities will have any effect. He agrees with sending a letter but he does not know if sending to the Iranian President would be effective. He asks is the letter is a draft.

D. Moore confirms that the letter is in the SPIE website in a different version that the one sent to Nature.

M. L. Calvo says that it is clear that anybody who reads the letter on the web will assume that ICO signed, even if it is a copy.

Bingkun Zhou thinks that we had to be very careful to sign the letter, but it already appears in the web. But he was not against signing the letter.

J. Harrington. I want to point out that if we are worried about an American organization sending the letter there is no reference to America in the letter. If association with the USA could be harmful why the societies went forward?

U. Gibson informs that in the August letter it does not appear the word America but in the June letter it says the Optical Society of America in the text.

D. Moore wants to have a sense of how many people think that ICO should write another letter, and ask for showing hands. Everybody does. How many people we should send it to somebody in the UN versus somebody yet to be determined in Iran? 11 hands up. How many say that it should go to Iran?

H. Michinel thinks that sending a copy to the Iranian representative in the UN is sending the message to Iran.

A. Wagué thinks that we have to be careful whom to send in Iran to avoid association of local people with our cause. It should be sent either directly to the Ayatollah or to the UN.

H. Michinel thinks that since this is the first time that the Bureau has been involved in this kind of situation, in some sense we will be able to establish a kind of protocol for action. Our decision now might set our protocol for similar unfortunate cases in the future.

D. Moore proposes to agree on a motion for sending a letter.

M. Yzuel makes the motion that if ICO writes a letter, ICO should invite SPIE and OSA to sign. It is not seconded.

J. Michinel thinks that SPIE and OSA are members of ICO, therefore not separate signature is needed.

A. Wagué thinks that there is a problem on writing another letter and not signing the letter means that we are not solidary with the other organizations.

M. L. Calvo reaffirms that this is a serious case. She requests that the colleagues in the ICO Bureau accept that ICO, because of its international character, can send a letter without inviting OSA and SPIE to sign.

U. Gibson remarks that there has not been an official vote but a sense of general opinion. In some ways it is a little unfortunate that there have been two letters and that the first one seems to have been easier than the second one. I think that the OSA and the SPIE, although they are large members of this organization, do not drive its agenda by themselves. You can have members of a Committee or a Commission that ask for a certain thing happening and the answer can be no, when we looked at a broader perspective we were not comfortable with that. My sense is that is what is occurring here, that two of our members are comfortable with a certain action but this Commission as a broader body is not unified on its decision to follow through on that.

Motion 8: (Moved by M. L. Calvo, seconded by F. Höller, approved unanimously).

That the President of the ICO be directed to write a letter on behalf of Omid Kokabbe expressing the ICO support for him and his work, with reference to the historic role played by Iranian optics. This letter should be sent to United Nations Secretary General and to the ambassador from Iran to the United Nations. The letter should be reviewed before being sent by the ICO Executive Committee. The letter will be translated into the appropriate language and retranslated back into English so that we can be sure that the text is correct. The letter should be distributed widely.

Discussion of the motion:

U. Gibson suggests the possibility of sending a copy to the new TV channel al Jazeera. We have to decide if the letter is going to be a communication only to the UN or disseminate it.

M. Oron considers that it go to the public. We are an international organization that has to do this job in a different way than a publication in Nature.

M. Yzuel is in favor that ICO writes a letter even if it does not invite OSA and SPIE to sign. A separate letter is better than nothing.

Motion 9: Moved by U. Gibson and seconded by A. Guzmán, withdrawn without a vote.

That a request be made of SPIE and if necessary of OSA, that any copies of letters not signed by ICO be removed from their websites.

Discussion:

F. Holler. Removing the letter does not help.

M. Yzuel prefers to continue with a friendly relationship with the societies and votes against this motion.

A. Wagué is afraid that any request of this kind would be interpreted as if the International organizations on Optics do not agree with the purpose.

U. Gibson Is A. Wagué's preference to leave the things the way they are? What she is asking is for a quiet disappearance of all unsigned drafts to avoid conflicting versions of the letters in the future. We are requesting that anything that was a draft should vanish.

A. Guzmán wants to comment, for the first letter M. Calvo did not want to sign and there was an extremely strong pressure from SPIE and OSA to make ICO sign the letter prepared by them without too much debate. I think that the motion can be withdrawn but ICO and SPIE have to understand that this body consists of many other members who can dissent from their initiatives, and they have not the right to send communications using the ICO logo, even if they are ICO members, on issues that have not been discussed with the Bureau. Not even ICO Territories organizing their own conferences can use the ICO logo without authorization. I am in favor of friendly solutions but I would like to have a commitment of the representatives of these societies in the sense that the societies understand ICO's point of view in this regard.

U. Gibson considers that a discussion with OSA Executive director will clear things up from OSA point of view.

D. Moore thanks A. Diaspro for offering the magnificent location of the Palazzo Ducale for the ICO Bureau meeting and thanks all of A. Diaspro's collaborators for their excellent job on organizing the meeting. The hospitality of the people has been wonderful. He finds that the Hotel staff was also very helpful and thanks again for the generosity of the people in Genoa. He wishes to be back sometime.

Meeting adjourned – 7:00PM

First version by the ICO Secretariat, September 2012

Approved by the ICO Bureau, October 27, 2013

LIST OF MOTIONS:

Motion 1: (Moved by M.L. Calvo, seconded by J. Harrington, approved unanimously) The ICO Bureau approves the minutes of the previous Bureau Meetings held in Puebla, Mexico, August 14, 2011, with a correction in the affiliation of U. Gibson.

Motion 2: (Moved by M. L. Calvo, seconded by J. Harrington, approved unanimously) The ICO Bureau approves the proposed agenda for the meeting, with the following changes: Z. Ben Lakhdar will present the report of the ICO Prize Committee before her report of the Education Committee. The issue of the ICO Bureau Meeting and the ICO Topical Meeting

2013 is included after numeral 6. The report of the SPC Meeting will be given at the end of the meeting. Omid Kokabee's case will be discussed under other business.

Motion 3: Moved by J. Harrington, seconded M. L. Calvo, approved unanimously) "ICO will keep its current bank account in France. The Treasurer, J.A. Harrington, will be authorized to operate it alone for all operations. In addition, the President, D.T. Moore, as well as the Secretary, A.M. Guzmán, will be authorized to operate it alone for all operations."

Motion 4: Moved by J. Harrington, seconded M. L. Calvo, approved unanimously) "ICO will keep its current bank account in the United States of America. The Treasurer, J.A. Harrington, will be authorized to operate it alone for all operations. In addition, the President, D.T. Moore, as well as the Secretary, A.M. Guzmán, will be authorized to operate it alone for all operations."

Motion 5: (Moved by M. Yzuel, seconded M. Oron, approved unanimously) The ICO Bureau accepts the recommendation of the ICO Prize Committee and awards the ICO Prize to Romain Quidant for "his extraordinary scientific accomplishments in nanoscale optical manipulation".

Motion 6: (Moved by Z. Bingkun, seconded by M. L. Calvo, approved unanimously) The ICO Bureau accepts the recommendation of the Galileo Galilei Award Committee and awards the 2012 Galileo Galilei Award to Prof. Mikhail Vladimirovich Fedorov "for development of interference stabilization of atoms and a theory of quantum entanglement features arising from particle symmetry."

Motion 7: (Moved by M. Oron, seconded by H. Michinel, approved by 11 votes in favor, 1 against, and 1 abstention) That the ICO Bureau will recommend to the 2014 ICO General Assembly to accept the organization currently named Iberian American Network on Optics as an International society member of ICO with the following recommendations:

1. That the RIAO considers the possibility of a change of name in order to avoid coincidence with the name of the RIAO/OPTILAS conference.
2. That RIAO considers a system by which their representative to the ICO Bureau be from Latin America.

Motion 8: (Moved by M. L. Calvo, seconded by F. Höller, approved unanimously) That the President of the ICO be directed to write a letter on behalf of Omid Kokabbe expressing the ICO support for him and his work, with reference to the historic role played by Iranian optics. This letter should be sent to United Nations Secretary General and to the ambassador from Iran to the United Nations. The letter should be reviewed before being sent by the ICO Executive Committee. The letter will be translated into the appropriate language and retranslated back into English so that we can be sure that the text is correct. The letter should be distributed widely.

LIST OF ACTIONS:

1. ICO SECRETARY: To send the pdf file of the presentation “ICO History in a nutshell” prepared by P. Chavel to the ICO Bureau members for reference.
2. ICO TREASURER: To initiate the process required for authorization of the ICO President D. Moore become authorized to operate the current ICO bank account in France alone for all operations.
3. ICO TREASURER: To initiate the process required for authorization of the ICO President D. Moore become authorized to operate the current ICO bank account in the US alone for all operations.
4. Z. BEN LAKHDAR: To Contact D. Moore to get all information on the Rochester Labs, and the possible donation of equipment.
5. Y. ARAKAWA: To apply to ICO for endorsement of MOC’2013 by ICO as ICO Topical Meeting.
6. ALL ICO BUREAU MEMBERS: To think of three Faculty members to whom to address the information on the ICO Awards.
7. M. YZUEL: To arrange for dissemination of the calls for nominations to ICO Awards through the SPIE student chapters.
8. ICO SECRETARY: To prepare the posters of ICO Awards in a format that could be printed in the US and in Europe.
9. ICO SECRETARY: To inform the ICO Prize and Galileo Galilei Awardees of their Awards and prepare articles on the awardees in the ICO Newsletter.
10. ICO SECRETARY: To communicate to the President of the RIAO Network the recommendations of the ICO Bureau.
11. ICO SECRETARY: To send a short version of Robert’s rules to the members of the ICO Bureau.
12. ICO PRESIDENT: To write a letter on O. Kokabbe’s case addressed to the Secretary General of the UN, with copy to the Iranian ambassador to the UN. The letter should be presented to the ICO Executive Committee for review before being sent and be translated into the appropriate language and retranslated back into English to assure that the text is correct.

DRAFT MINUTES OF THE 2013 ICO BUREAU MEETING

Sunday October 27th, 2013, 9:00 AM – 5:30 PM. Tokyo, Japan

Participants: Yasuhiko Arakawa, Z. Ben Lakhdar, Bingkun Zhou, U. Gibson, A. Guzmán, J. Harrington, F. Höller, H. Michinel, D. Moore, M. Oron, A. Wague, G. von Bally

Apologies for absence have been received from: C. Cisneros, Y. J. Ding, R. Ramponi, T. Szoplik, María L. Calvo, Maria J.Yzuel, A. Diaspro, H. P. Herzig

Confirmed attendance by video call: R. Ramponi, María L. Calvo, H. P. Herzig

1. Welcome and Opening of the Meeting (Duncan Moore, Chair)

The Chair called to order and welcomed all participants, noting the apologies.

2. Adoption of the Agenda (Duncan Moore, Chair)

The Chair introduced the agenda, asked the Bureau members if there were requests for changes or additions and invited the Bureau to adopt it.

Motion 1: To approve the Agenda. Moved by Jim Harrington, Seconded by U. Gibson, approved unanimously.

3. Minutes of the ICO Bureau Meeting 2012 (Duncan Moore, Chair)

The final version of the Minutes of the ICO Bureau Meeting 2012 was sent to the ICO Bureau members and comments and corrections were inserted.

Motion 2: To approve the minutes of the 2012 ICO Bureau Meeting. Moved by U. Gibson, seconded by F. Höller. Approved unanimously

4. ICO President's report (Duncan Moore, ICO President)

ICO President reported on some of the discussions held on the Strategic Planning Committee (SPC) and on its own activities as follows:

1. The SPC recommended to hold major ICO meetings in developing countries.

The SPC discussed at length the procedure to be followed for updating the way in which the units of ICO Territorial Committees are allocated. The SPC suggested to use a combination of GDP and H index to bring a proposal to the next General Assembly in 2014.

The ICO President attended the Award ceremony for Prof. Mikhail Vladimirovich Fedorov (Russia), Galileo Galilei Awardee 2012, held in Rochester during the **Tenth Rochester Conference on Coherence and Quantum Optics and 2nd International Conference on Quantum Information and Measurement (QIM-2)**. He notes the high quality of the ICO Diploma, handmade in parchment.

The ICO President attended RIAO/OPTILAS and ETOP in Porto, Portugal. The joint conference had a large attendance. He presided the IUPAP Young Scientist Prize ceremony organized for the 2012 awardee, Nirit Dudovich (Israel), and delivered a lecture on a session on Entrepreneurship.

Early December 2013 he will attend a course on entrepreneurship in Mexico. There have been planned also two other activities on entrepreneurship that he will attend: one in Ghana (Fall 2014) and a second one at ICTP (April 2014)

ICO President attended the meeting of the *IUPAP* Council and Commission Chairs (referred to as *C&CC meetings*) at *CERN*, October 1-2, 2013. He noticed that the structure of other affiliated commissions is different from that of ICO. The affiliated commission AC2, International Commission on General Relativity and Gravitation, does not have Territorial Committees but only individual members. The affiliated commission AC3, International Commission for Acoustics does their electoral process around regions, and has elected members at large. The affiliated commission AC4, International Commission on Medical Physics, is both an affiliated commission of IUPAP and a member organization of the International Union for Physical and Engineering Sciences in Medicine of ICSU. ICO might need to find a partner international organization to become an International Union of ICSU.

5. ICO Secretary's report (Angela Guzmán, ICO Secretary)

ICO Secretary reports on her activities in connection with ICO and implementation of new communication tools for ICO:

- The online ICO publication: “[Selected experiments of the 20th century to understand coherence properties of light](#)” by M. L. Calvo is available at <http://e-ico.org/node/255>.
- The ICO Secretariat created the [ICO Bureau](#) as a Community in Google +
- ICO has also a Twitter address: @ICOPNews. The ICO Secretariat tweets news on awardees, and other news relevant for the ICO Community.
- There is a new account in Flickr for collecting photos: [Secretariat ICO](#)
- The ICO Secretariat has bought and keeps the following ICO domains: e-ico.org, myico.org, and ico-optics.org.

Since the last ICO Bureau, she has edited and published 5 ICO Newsletters, two of them the January 2103 and April 2013 reporting on the initiative of the International Year of light and on the International Planning Meeting for the Year of Light held at ICTP in Trieste. The July 2013 call for attendance to the Topical Meeting in Tokyo, and in the October issue, she published her own article entitled “ICO is steering its future in Tokyo”, where she referred to the forthcoming SPC Meeting and the interrelations between ICO, IUPAP and ICSU, and the road for ICO to become an international union.

The ICO Secretary attended the following meetings:

- a) International Conference “Micro- to Nano-Photonics III - ROMOPTO 2012, Sept 3-6, 2012.
- b) TSOSA and IYoL Meeting, February 10-15, 2013.
- c) USAC ICO Meeting, March 17, 2013.
- d) Workshop in renewable energies, ICSU-ROLAC, April 8-10, 2013. During the meeting ICSU presented the objectives and planned implementation of the Future Earth Programme, a 10-year global initiative for facing challenges posed by the global climate changes, achieve sustainable energy development, prevention of disasters, etc. Optics can play a large role on the program on topics like energy generation, illumination, environmental sensing and space monitoring of the environment.
- e) SPIE Optics and optoelectronics, Prague, April 15-18, 2013, where she organized and presided the award ceremony for the ICO Prize awardee 2012, Romain Quidant (Spain); the IUPAP Yung Scientist Prize in Optics 2010, Shuang Zang (UK); and the Galileo Galilei Prize Awardee 2011, Jan Peřina (Czech Republic). The ceremony was organized in collaboration with SPIE, to whom she thanks for facilitating the venue and providing advertising. The organizers of the Conference ask for ICO endorsement following the ICO Secretariat’s advice, in order to be able to deliver the ICO Galileo Galilei Award to Prof. Peřina, who was unable to travel.

The Secretariat coordinated in similar way the Award ceremony for the ICO Galileo Galilei Prize awardee 2012, Mikhail Vladimirovich Fedorov (Russia), at the Tenth Rochester Conference on Coherence in Quantum Optics (June 17-21, 2013). The ICO Secretary planned to attend the conference but decided not to when the ICO President accepted to preside the ceremony, which was taking place at his home town.

- f) The ICO Secretary attended RIAO/OPTILAS & ETOP 2013, July 22-26, 2013 and performed the following activities:

Invited Lecturer to report on the Workshops on Active Learning on Optics and Photonics held in Latin America and the related activities. She is the UNESCO’s coordinator of the Workshop in Latin America, and the director of this UNESCO’s initiative is Joe Niemela (ICTP).

Preparation and attendance to the IUPAP Award ceremony for Nirit Dudovich

Speaker at the Women in Optics session

Meeting with the Council of the Iberian American Network on Optics

Establishment of contacts to build a Central American ICO TC.

Establishment of contacts to build an Ecuador & Peru & Bolivia ICO TCHolding extremely time demanding discussions on the issue of the overlap in 2016 of the RIAO/OPTILAS (a conference organized by the Iberian American Community and the RIAO Network, with the support of ICO) & LAOP (a conference organized by OSA). She calls again for collaboration of OSA in this regard. The OSA representative mentions that OSA is considering to avoid overlap after 2016, and suggesting to hold both conferences in Chile in 2016.

Other activities of the ICO Secretary are the publishing and distribution of the posters announcing ICO awards. The posters are currently design by a professional and published in American and European formats. The ICO Secretary is the Chair of TSOSA Advisory Committee, which advises ICTP in all optics related activities, in particular the ICTP Winter College, and which consists of representatives of other international organizations, UNESCO, TWAS, NAS, and international societies. On occasion of the TSOSA Committee meeting, she suggested to hold the first international meeting on the International Year of Light initiative in Trieste, and currently there have been two meetings, and a third one programmed for February 2014 at ICTP. She and Maria L. Calvo proposed to ICTP a second activity within the ICO/ICTP initiative for Central America, the “College in Optics and Energy” to be held April 28-May 9, 2014, in Chiapas, Mexico, at the new MCTP, the Mesoamerican Centre for Theoretical Physics. Directors of this activity are A. Guzmán, M. L. Calvo and A. Zepeda, the director of MCTP.

The ICO Secretary presented to the SPC a draft for an ICO Membership survey, with the aim of collecting the opinions of the ICO Territorial Committee Members about ICO services and projection into the future.

Regular activities of the ICO Secretariat are the preparation and coordination of ICO Bureau meetings and the elaboration of Agendas and Minutes of Bureau and SPC meetings. For this meeting the secretariat posted all supporting documents in Google drive in a link available to everybody who knows it. A. Guzmán thanks Y. Arakawa for all of his help on coordinating this Bureau Meeting and providing an excellent venue for it. She also thanks him for his hospitality and warm welcome to all Bureau members, and for organizing social activities to improve the interaction of the ICO Bureau members with the local community.

She finally puts in consideration of the Bureau the following matters that require approval by the ICO Bureau:

5.1. Reactivation of the Singapore Territorial Committee: The former adhering body has dissolved completely. A. Asundi took the initiative of organizing a new optical society, the Optics and Photonics Society of Singapore, for which he requested to become the adhering body responsible for the ICO Territorial Committee and committed with the financial dues.

Motion 3: To send a welcome back note. Moved by A. Guzman, seconded by J. Harrington, Approved unanimously.

Action 1: ICO Secretariat: To send to the Optics and Photonics Society of Singapore a welcome back note.

5.2 The ICO Secretary proposed to the SPC an amendment to ICO's mission and vision in the ICO Bylaws, in order to include "photonics" as a topic properly covered by the ICO. The ICO Bureau will come back to this point later when discussing the SPC recommendations.

5.3 Reassignment of ICO dues from ICO Territorial Committees and ICO member societies.

The ICO Secretariat presents documentation about the allocation of ICSU National Members' dues, and ICSU Unions' dues 2012-2105. She explains that after long discussions, ICSU arrived to a table based on GDP. The vote is not weighted by payment except for financial issues. For financial issues, votes are weighted proportionally to what is paid. Unions pay according with their income. She presents graphics showing the evolution of the number of ICO Territorial Committees since ICO's birth in 1948, and that of the number of units by regions. She presented to the SPC a proposal for reassignment of ICO. The ICO Bureau will come back to this point later when discussing the SPC recommendations.

6. ICO Treasurer's report (James Harrington, ICO Treasurer)

The ICO Treasurer presents the financial report 2012-2013:

As of October 1, 2013, the ICO has a cash balance of \$153,370 in our treasury. This amount is held in US dollars (\$114,147) at the US Bank of America and in Euros (28,798€) at the Caisse D'Epargne in Paris. This is a significant increase in our cash balance of \$132,325 that I reported at the Bureau meeting in Genoa, Italy in July, 2012. The primary source of income that the ICO receives is derived from membership dues contributed by the Territorial Committees (TCs). The money that the ICO expends is used mostly to support conferences, ICO prizes, and travelling lecture awards.

A persistent problem in 2013 as in past years is the collection of dues and dues in arrears. While this problem is not quite as severe as in past years, it is an issue that we continue to address. The 2013 dues collected as of October, 2013 total \$38,520 compared to a total of \$48,170 owed in 2013. That is, we have collected 80% of the dues owed for this year. Interestingly, these 2013 dues were collected from 28 out of 45 **dues paying** Territorial Committees (TCs). That is, only 62% of the TCs paid their dues but those TCs paying accounted for 80% of the money received. The \$38,520 collected so far this year is about equal to what was collected in each of the past few years. However, he feels that many of the 17 TCs who have yet to pay their 2013 dues will do so. His assumption is based on the fact that many of these TCs have been members in good standing in the past and that they eventually will pay their dues. He continues to work to not only collect the remainder of the 2013 dues but also money owed by a few TCs from prior years.

As explained in Puebla at ICO-22, only about half of the 56 member TCs in 2011 were paying their dues. As the years have gone by this has led to a fairly large amount of money that the ICO is owed in back dues. My estimate in 2011 was that the ICO was owed about

\$41,675 in back dues. To partially address this situation we wrote off \$27,325 in bad debt in 2011. The non-payment of dues goes back, in some cases, well beyond 5 years. In fact there are 11 out of 56 TCs who have not paid or even never paid dues for greater than 5 years. For these TCs the ICO has decided to demote them to Associate status. As a reminder, the Bureau passed the following resolution in 2010,

“Territorial Committees which are in arrears on their dues for more than 5 years will have their membership status demoted to Associate status. This means no shares, no votes, no officer on the Bureau, and no ability to ask for financial support. ”

In 2012 I made one last attempt to have these 11 TCs settle their dues. I wrote to each of the TCs listed in the table below and told them that they would be demoted to Associate Status unless they paid their dues. He encouraged them to remain members in good standing as well as emphasizing the benefits of ICO membership. However, not a single one of the delinquent TCs responded positively so now these 11 TCs are Associate Members.

Belgium	Ghana/West Africa	Indonesia	Lithuania	Netherlands	Turkey
Belorussia	Hungary	Iran	Moldova	Optical Society of Taipei	

One of the problems associated with membership is that some TCs have difficulty determining which optical organization is currently responsible for paying the TC’s ICO dues. Sometimes this has resulted in invoices being sent to the wrong person but usually he is able to locate the correct person responsible for seeing that the dues are paid. He is also concerned about two of our current TCs, Canada and Denmark, as they seem to be having considerable difficulty paying their dues. Unless some financial arrangements can be made they are likely to be demoted to Associate status. Finally, some TCs have difficulty paying their dues as a result of political unrest and difficulty in transferring money to the ICO.

Last year we learned that the IOP would discontinue printing the ICO newsletter. Since the IOP stopped printing our newsletter we have found another printer of our newsletter as well as a less expensive company to mail out the newsletters. He is pleased to report that the editing and typesetting of the newsletter is being done in the UK by Alison Gardiner a former employee of the IOP and that the mailing is handled by Gemini West. So far the cost of editing, printing, and mailing the newsletters using these new services has been a reasonable \$3,627 compared to \$7,700 for the same costs in 2011 which also included printing and mailing the Green books.

As a reminder, the ICO Bureau approved an agreement with the OSA Foundation (OSAF) regarding the acceptance of monetary gifts from US donors for international activities for which ICO can apply to the OSAF for supporting its own programs. ICO is a 501(c)4 organization which means that monies donated by US citizens to the ICO do not exempt the donor from paying US taxes on their gift. In contrast the OSAF is a 501(c)3 organization (as is the OSA itself) and thus the OSAF can accept donations without the donor paying US tax on their donation.

A somewhat longer term issue is a re-examination of the units that we assess each TC as a means of determining their dues. The current dues rate is based on \$235/unit. The number of units for any territory varies from 1 to 18 units. The units that each TC is assigned are based on information from the World Bank on the economic status of the various countries. The ICO established the numbers of units many years ago but we feel that it is time to re-evaluate the units assigned to each territory in light of economic changes since the units were established. We want to be certain that the units are assigned equably.

D. Moore noticed that the triennium budget presented was the elaborated with the value of the unit as of 2011, and presents a deficit that was corrected by the General Assembly by increasing the value of the unit. He requested the treasurer to prepare a balanced budget with the new value of the unit.

Action 2: ICO Treasurer: To prepare a balanced budget with the new value of the unit.

7. Committees reports, except nomination & prizes & awards

7a) Committee for the Regional Development of Optics (CREDO) (Tomasz Szoplík, Chair)

The Chair presented his apologies for not being able to attend the meeting. The report was presented by A. Guzmán.

Members of the ICO Committee for Regional Development:

Gert von Bally, Zohra Ben Lakhdar, Ari Friberg, Min Gu, Angela Guzman , Nataliya D. Kundikova, Carmiña Londoño, John Love, Fernando Mendoza Santoyo, Duncan Moore, Ekmel Ozbay, Tomasz Szoplík, Ahmadou Wague, Bingkun Zhou.

Activity 1. Stimulation of scientific contacts between Australian and European universities (Period September 1011-December 2012).

Australian National University in Canberra applied to join European Cooperation in Science and Technology (COST) Action MP0803 - Plasmonic components and devices. The Action had 21 European partners and 3 partners from non-COST countries: Institute of Semiconductor Physics of NAS of Ukraine, School of Photovoltaic and Renewable Energy Engineering (SPREE) Australia, and Southern Federal University in Rostov, Russian Federation.

The process was initiated by Kylie Catchpole and supported by Ilya Shavdrivov both from ANU. It was endorsed by Alexandre Dmitriev from Chalmers University in Sweden, MP0803 coordinator.

The procedure of granting the membership of COST to the non-COST country institution has been interrupted by termination of Action 0803 in December 2012.

Activity 2. Stimulation of scientific contacts between South African and European universities in the fields of photonics, plasmonics and computational electrodynamics (January 2012-June 2012)

In collaboration with Alexander Quandt from University of Witwatersrand in Johannesburg, South Africa, we organized a visit of Robert Warmbier to a 3 European partners in COST Actions MP0702 and MP0803. The trip was sponsored by the University of Witwatersrand.

The first visit was to the University of Warsaw, Faculty of Physics, with Tomasz Szoplik as a host. At a workshop organized on May 10th:

- a) Robert Warmbier, University of Witwatersrand, gave a talk on "Computational Plasmonics for Complex Dielectric Materials".
- b) Mohammed M. Shabat, Vice President of the Islamic University of Gaza, Gaza Strip, Palestinian Authority, gave talks on "Nonlinear metamaterials waveguide sensors" and on „Education and research in Palestine”.
- c) In the audience there were researchers from the Institute of Physics, Polish Academy of Sciences; Military University of Technology; Institute of Electronic Materials Technology; and the University of Warsaw.

The second visit on May 21st was to the Technical University of Denmark, Department of Photonics Engineering, Copenhagen, with Andrei Lavrinenko as a host.

- a) Robert Warmbier gave a talk on „Computational Plasmonics for Complex Dielectric Materials”.
- b) A meeting on applications of EELS (electron energy loss spectroscopy) technique to characterization of plasmonic structures was organized, where plans of future collaboration were accepted.

The third visit was to Bionanophotonics Laboratory at Applied Physics Dept., Chalmers University of Technology in Göteborg, Sweden, with Alexandre Dmitriev as a host. Two possible directions of collaboration were discussed:

- a) Photovoltaics and
- b) The application of ab initio methods developed in South African group to Swedish nanoplasmonics projects. Target: combination of ferromagnetic and plasmonic materials.

Activity 3. The First African Summer School on Optics and Applications to Sustainable Development was held in Carthage, Tunisia on 1-10 September 2013.

The School was supported by US \$1,500 ICO grant to fully support students participation. The ICO was represented by Zohra Ben Lakhdar.

Two CREDO members gave important contributions to organization of the School: Prof. Zohra Ben Lakhdar (Tunis El Manar University, Tunisia) and Prof. Ahmadou Wague (Université Cheikh Anta Diop de Dakar).

Both of them gave invited talks: Zohra Ben Lakhdar on „ICO activities” and Ahmadou Wague on „Laser spectroscopy and applications.” PPT presentation of Zohra Ben Lakhdar follows the present report.

Activity 4. The University of Zilina, Slovakia, in 2012-2015 realizes the 7FP EU project “The support of quality improvement of universities and the Slovak Academy of Science”.

The Faculty of Electrical Engineering, the University of Zilina, realizes a sub-project „Improving the competitiveness of technical curricula reflecting the current needs of business practice”.

On October 14-18th, 2013, Tomasz Szoplik (University of Warsaw) will give 10 hours tutorial on „Plasmonics and its applications.”

On October 16-18th, 2013, Marian Marciniak (National Institute of Telecommunications, Warsaw) will give 10 hours tutorial on „Optical communication and data transmission”

7b) Education Committee (Zohra Ben Lakhdar, Chair) Report not available.

7c) Traveling Lecturer Committee (James Harrington, Chair)

The traveling lecturer award provides small grants for scientists and engineers to lecture in the optical sciences. Generally they lecture in developing countries. The typical grants are around \$1,000. The target is to award \$5,000 in next triennium. Grants are not to support travel to conferences. We could use more applications.

In the last year there were two awardees:

- a) Prof. César Costa Vera, from the Dept. of Physics, Escuela Politecnica Nacional, Quito, Ecuador, was hosted at the Faculty of Sciences of the University of Porto, Portugal (July, 2013), and within other activities, attended the RIAO-OPTILAS meeting.
- b) Prof. Jyoti Mazumder, Robert H. Lurie Professor of Mechanical Engineering & Materials Science and Engineering at the Univ. of Michigan was hosted by Prof. Anand Asundi, Director of the Centre for Optical and Laser Engineering, School of Mechanical and Aerospace Eng. Nanyang Technological University, Singapore. (April, 2013).

8. Reports of liaisons with Member Societies & ICTP

8a) International Societies (ICO Bureau members)

OSA: The general message of OSA is to offer its support to ICO activities. But most important is to have a concrete proposal. For a general request OSA cannot answer.

D. Moore asked if U. Gibson was a member of the OSA International Council. ICO should suggest that U. Gibson be a member of the International Council. Is the President of ICO an ad-hoc member of the International council of OSA?

K. Apter offered information on speakers and other activities supported by OSA like student or speaker support for an ICO conference. D. Moore asks if ICO could put a request of money for students to attend the ICO 23 Conference in Santiago de Compostela. U. Gibson

suggests to contact the OSAF or the International Council. She also suggests that a member of the OSA Board be invited to attend the ICO 23 Conference. It could be OSA's President, **Philip Bucksbaum**, or OSA's Vice President, Alan Willner. U. Gibson can contact Kari to know whom to send the application for financial support to ICO 23.

Duncan Moore stated that the ICO President & Bureau members would like to have a lunch or other social activity with students at ICO 23. In ICO 22 in Puebla there was a poster session for students only.

SPIE: M. Yzuel is no more in the Board, and SPIE does not have an International Committee. SPIE offers support to student chapters in Spain and Portugal, and there is a student chapter in Salamanca, which could receive support from SPIE to attend the ICO Conference. Phil Stahl could be representing the SPIE at ICO 23.

LAM is organizing a meeting in Senegal, January 13-18, 2014, with a meeting of the Council of the African Optical Society and celebrating the 10th anniversary of the African Laser center. SPIE and OSA were asked to send representatives. LAM wants an official representative of ICO. They would be delighted if the ICO President can attend, or if he is not able to, they would like to have the ICO represented by the ICO Past President, Maria L. Calvo.

LAM participated in the meeting in Tunisia, which was attended by Maria Yzuel. The Chinese optical society was also invited. On January the 14th, 2014, there will be a session for launching the African Optical Society. **Members:** Optical societies, networks, centers, and representatives of international societies. The Japanese Optical Society will be also attending. They would like to have the worldwide Optical community to be represented.

Meeting of African laser center in South Africa. LAM is a founder member.

African network of Academies of Sciences: LAM is working with them on science education program.

Visit from somebody from the IC of OSA to the student chapter in Senegal (3 days visit and visited several authorities in the country). The chapter has students from several countries. K. Svanberg helped organizing it. He was supposed to go to Ghana

OWLS sent a letter to the United Nations and got accredited by it, G. von Bally attended a conference and get regular invitations and get space for poster and announcements for the participants. Members in 66 countries. Summits (1) Environment and (2) health. A detailed report on OWLS History, structure and activities were presented. OWLS went recently through changes to its bylaws in order to allow re-election of the President for a further 2 years and to allow all communications to members in electronic form (some aspects specified letters to be written). There will be new elections to the Board in 2014. OWLS also has created a Regional Council with representatives from Africa, Asia, North America, Central and South America, Europe, Austria and New Zealand. OWLS has four standing committees on (i) Technology Transfer, Standardization and Technology Assessment, (ii) Education and Ethics, (iii) Bylaws and Regulatory Statutes, and (iv) Finances. The next

OWLS Meeting will be hosted by University of Nottingham, Ningbo Campus, China. The Co-chairs are Steve Morgan, Paul O'Shea, and Mike Somekh.

8b) TSOSA Advisory Group (Angela Guzman, ICO Representative and Chair of TSOSA)

The TSOSA Meeting was preceded by the meeting of the Year of Light 2015, which provided the first opportunity for a multi-partner discussion of progress-to-date and future actions relating to the planning for the International Year of Light in 2015 (IYL2015). The meeting began with a general overview provided by John Dudley, who reviewed the significant progress made since the idea for an IYL was first mooted in an IQCE planning meeting in 2009. The background to achieving endorsement by the International Union of Pure and Applied Physics (IUPAP) in 2011 and by the UNESCO Executive Board in October 2012 was described.

Although the anniversaries planned as focal points of the IYL could also overlap with a celebration in 2016, the consensus was to aim for the IYL in 2015 as planned. All participants were provided with a list of the supporting scientific and other partners, a list of the nations who supported the proposal at UNESCO, and a copy of the Resolution passed by the UNESCO Executive Board as well as the accompanying Explanatory Note. Minutes of the meeting were elaborated by John Dudley and A. Guzmán and have been provided as supporting document to the ICO Bureau Members.

During the TSOSA Meeting there were reports of ICTP activities on Optics. A proposal presented by Pavel Cheben, Luis Ponce, and Lorenzo Pavesi for the Winter College 2014 on Fundamentals of Photonics - theory, devices and applications was approved. It was also agreed that all proposals for the Winter College have to be sent before a deadline fixed by the TSOSA Chair and have to include an Italian and a woman in the trio of directors. For the Winter College 2014 Maria L. Calvo will be part of a quartet of directors.

As reported in the ICO Secretary report, ICTP, ICO and ICTP joined to organize a College on Optics and Energy (28 April - 9 May 2014) at the Mezo American Center for Theoretical Physics (MCTP), Chiapas, México. Directors are Maria L. Calvo (ICO), Angela M. Guzmán (ICO), Arnulfo Zepeda (MCTP), and Joe Niemela (ICTP). The event is the second of the ICO/ICTP initiative for Central America.

9. Report of the recommendations of the Strategic Planning Committee

9.1 Allocation of units: Duncan Moore, ICO President and Chair of the SPC, reports that there was an extensive discussion on the issue of a reallocation of units. The proposal of the SPC for reassignment of ICO dues is to use a formula based on an average of GDP and H index for Atomic and Molecular Physics and Optics. In order to avoid drastic changes there should be some phasing time for adjusting.

Motion 4: The allocation of ICO units should be a formula based system. Moved by D. Moore, seconded by J. Harrington; approved unanimously

Motion 5: The reallocation of units should be phased in two steps. Half way in 2017, and the other half 2020. After this initial reallocation, a review of the units should be done for

each General Assembly. Moved by D. Moore, seconded by J. Harrington; approved unanimously.

An analysis of the allocating resulting of applying the formula shows that Russia and Italy will have less votes. And we will have to ask if USA, Japan, China, and Germany are interested on having the same amount of votes. D. Moore suggests that this issue should be included in the USAC ICO meeting Agenda.

Action 3: ICO Secretary: To prepare the proposal for consideration of the ICO Bureau, and send the reviewed proposal in advance to the delegates to the ICO General Assembly.

9.2 Amendment to Article 1 of ICO Statutes: The SPC recommended to amend the Article 1 of the ICO Statutes describing the ICO Objective in order to add the word photonics in the ICO Objective, while maintaining the ICO name. The new Article 1 should read:

“The objective of the International Commission for Optics (ICO) is to contribute, on an international basis, to the progress of the science of Optics and Photonics and its applications. It emphasizes the unity of the cross disciplinary field of Optics.

Optics and Photonics are defined as fields of science and engineering encompassing the physical phenomena and technologies associated with the generation, transmission, manipulation, detection, and utilization of light. It extends on both sides of the visible part of the electromagnetic spectrum as far as the same concepts apply.

In particular, the ICO promotes international co-operation and facilitates the rapid exchange of information, by encouraging and furthering the organization, on an international basis, of scientific meetings and summer schools. It emphasizes actions for the education and training in Optics and Photonics internationally. It undertakes special actions for the development of optics in regions where particular support is needed. It strives to improve the recognition of Optics and Photonics as fields of science with a significant impact on economy. It works also for the promotion of international agreements on nomenclature, units, symbols and standards.”

Motion 6: To recommend to the General Assembly an amendment of the Article 1 of the ICO Statues in order to include the word Photonics as written above. Moved by D. Moore, seconded by U. Gibson; approved unanimously.

9.3 Financial Support for ICO Bureau Members from developing countries: The SPC discussed and agreed to recommend to the ICO Bureau to consider applications of ICO Bureau members from developing countries as defined by the World Bank for ICO support to attend ICO Bureau Meetings and up to a limit of US\$1000.

Motion 7: Beginning with 2014 the President and the treasurer can approve travel expenses for a Bureau member to a Bureau meeting up to \$1000. The treasurer should include in the triennial budget \$3000 per year to support this activity. The intent is to

support the travel of Bureau Members from developing countries. Moved by U. Gibson, seconded by F. Höller. Approved by 9 votes in favor and 2 abstentions.

9.4 ICO role: The SPC members reaffirm their opinion on the ICO role: ICO is a truly international organization and has a role as representative of the Optical Community to IUPAP and ICSU. The member societies of ICO could not play this role in IUPAP and ICSU.

9.5 ICO activities: ICO supports meetings in regions where its member societies do not have strong interests. Member societies do not qualify to hold IUPAP meetings. ICO has an important role on supporting conferences in developing countries. The main financial support for the ICO Congresses comes from the host countries. ICO Congresses are intended to increase the image of the local Committee and not the visibility of ICO. Therefore the SPC proposes to have a world conference on optics in developing countries. In order to do this, ICO needs to (i) find a trustable local organizer, and (ii) have a financial commitment from the host country. ICO could take a partial risk on possible loss (up to \$20000). The SPC considers that two out of three ICO Congresses should be held in a developing country. ICO should look for ways to raise money for the conference with foundations or local organizations. ICO can go to the OSA Foundation and other financial sources. If the conferences are organized on a voluntary basis, they cannot be very large. ICO VPs will have to perform specific tasks, offering additional support for the organizers, for example, in the process of reviewing papers. The ICO would collect the registration fees, the submitted papers and help reviewing. The problem is that it is that hosting a large conference results being very expensive for a developing country. But ICO has a history of work in areas of the world where infrastructure needs improvement. In order to be able to hold a large international meeting in a developing country, ICO should encourage its TCs to make bids, while developing in parallel strategies to solve the funding problem. ICO gives only \$7500, therefore the ICO Bureau has to build a financial model in order to secure some fix amount of money. A goal could be to hold the ICO Congress in 2020 in a developing country.

The SPC considers that a way for ICO to be unique, and differentiate itself from other international organizations would be to hold the ICO Congress one out of 3 times in a developing country. G. von Bally mentions that to hold a meeting of 250-300 participants in Germany costs approximately €100000. Doubling the number of participants increases the budget in a 30%. A. Wagué mentions that in Senegal a conference center for 1000 people, charges €2000 per day, and states that African participants have to be totally supported.

Decision: ICO will encourage bids from developing countries to hold the 2020 ICO Congress. F. Höller and H. Michinel offered help on providing advice on budget issues. ICO should help raising financial support with local governments and USAID.

9.6 ICO support for conference series: The SPC would like to see more applications for meeting support in order to have more diversity in or portfolio. The ICO Bureau can establish a rule for the number of times that ICO gives support to a specific meeting, and decide what particular meetings will be supported regularly. Currently ICO supports

regularly the ICO Congress, the ICTP Winter College, and ETOP. G. von Bally considers that a way to get more applications is to simplify the application process both on timing rules and requirements.

Action 4: ICO Associate Secretary: To prepare a proposal for a new procedure and a new simplified application form for meeting support to be distributed to the Bureau Members within 3 months.

Motion 8: To direct ICO President to write a letter reminding TCs of their ability to obtain funding for meetings attaching a simplified application form as recommended by the ICO Associate Secretary. Moved by J. Harrington, seconded by Frank Höller. Approved by 10 votes in favor and 1 abstention.

Motion 9: To approve the recommendations of the Strategic Planning Committee and to establish the actions required to implement them. Moved by J. Harrington, seconded by Frank Höller. Approved unanimously.

10. Liaisons to ICSU and IUPAP

10a) ICSU links: News from ICSU and the Future Earth Program.

M. L. Calvo was not able to participate via videoconference. A. Guzmán reported that Future Earth is a new 10-year international research initiative that will develop the knowledge for responding effectively to the risks and opportunities of global environmental change and for supporting transformation towards global sustainability in the coming decades. It was born as a response towards current global damage, with the aim to construct a path that guides us to a sustainable Earth in the near future. Future Earth is being established by a partnership for global sustainability including researchers, funders and users of knowledge. It is a Science and Technology Alliance for Global Sustainability, consisting of the following partners: ICSU, the Belmont Forum, the International Social Science Council, the United Nations University, the UNESCO, the UN Environment Program, and the International Group of Funding Agencies for Global Change Research (*IGFA*). Future Earth will mobilize thousands of scientists while strengthening partnerships with policymakers and other stakeholders to provide sustainability options and solutions.

A. Guzmán reports that ICSU is going through a process of external review. The panel list and ToR for the external review and the 14th ICSU CFRS Meeting Report were sent for information to the ICO Secretariat.

10b) IUPAP links: Ahmadou Wagué (C13): Physics for development. The C13 has given support for the LAM meeting, and for attendants to a meeting in Mexico and in Nigeria. During the last year C13 has co-sponsored only one meeting in optics. C13 has also suggested a classification of countries for dues.

Angela Guzmán (C15) has not attended the meetings of C15. Since the Chair changed, she does not receive invitation to attend, because ICO does not have a permanent representative in the Commission. It is up to the Chair of the Commission to include a representative from

ICO. D. Moore mentions that the new Chair of the Commission is Katherine Gebbie, and he can contact her in order to obtain a permanent representative position for ICO.

Action 5: ICO President: to contact the Chair of C15 to discuss the issue of a permanent ICO representative or liaison in the IUPAP Commission C15.

Yasuhiko Arakawa (C17) is in C17 in the same situation of A. Guzmán in C15.

Action 6: ICO Secretary: to write a letter to the President of IUPAP with copies to the chairs of the commission C17 reminding them of the liaison with ICO, and asking him for having an associate member of the Commissions C15 and C17 from ICO.

11. ICO Prize and Awards Committees

11a) ICO Prize Committee (Roberta Ramponi, Chair) was not able to attend but sent her report, which is presented by Y. Arakawa.

The Committee members (2012-2014) are Roberta Ramponi (Chair, ICO VP), Yasuhiko Arakawa (ICO VP), Zohra Ben-Lakhdar (ICO VP), Yujie Ding (ICO VP), Fernando Santoyo (not ICO bureau member), Maria J. Yzuel (ICO VP), and Bingkun Zhou (ICO VP).

There was a nominee 2011-2012 whose nomination was renewed, and there were 6 new nominations in 2013. The ICO Prize Committee recommends to the ICO Bureau to award the ICO Prize 2013 to Tobias Kippenberg for “for his innovative and pioneering research on cavity optomechanics and optical frequency combs using optical microresonators”. Dr. Tobias Kippenberg has given widely recognized, innovative and forward looking contributions to cavity optomechanics, notably cooling and quantum measurements of mechanical motion and the demonstration of quantum coherent coupling between light and mechanical oscillators. Over the timeframe of the last 6 years, he contributed in a major fashion to two highly active fields of research in modern optics.

There are 6 candidates reserved for 2014. R. Ramponi acknowledges support from the ICO Prize Committee and the ICO Bureau.

Motion 10: To approve the recommendation of the ICO Prize Committee and award the ICO Prize 2013 to Tobias Kippenberg for “for his innovative and pioneering research on cavity optomechanics and optical frequency combs using optical microresonators”. Moved by Y. Arakawa, seconded by Frank Höller. Approved unanimously.

Additional general information about the ICO Prize: The cash award presently carries an amount of US\$2000 and up to US\$1000 for travel expenses. In addition to the rules adopted by ICO, the Carl Zeiss foundation has generously agreed to donate an Ernst Abbe glass sculpture to the winner.

11b) ICO/ICTP Award Committee (Ahmadou Wagué, Chair) A. Wagué reports that the 2013 award was awarded to Dr. Al-Amri was awarded the ICO/ICTP Prize 2013 for “his pioneering research in the field of optical lithography and microscopy, quantum

teleportation and multi-qubit systems, and the reversal of weak measurements in optical systems, as well as for his leadership role in establishing a quantum optics research program at KACST, Saudi Arabia under difficult circumstances.”

For the 2014 Award 7 nomination have been received. All very good.

11c) Galileo Galilei Award Committee (Bingkun Zhou, Chair) Z. Bingkun reports that there were 6 candidates. The Committee recommends the ICO Bureau to award the Galileo Galilei 2013 Award to Kazimierz Rzażewski. He has a Scopus lists 123 publications and H-index after 1995 equals 23, 2224 citations, 2112 without self-citations. He is near 70 years old; half of his scientific life was behind the Iron Curtain, but keeping collaborations with distinguished colleagues from some of excellent centers in the world in his field. He has published outstanding works in theoretical physics: seminal papers in Bose-Einstein condensation and interaction of radiation and matter; over 200 papers in journals with high impact factors; 4 papers cited more than 100 times; best cited more than 350 times (Scholar Google). The Committee proposed several possible versions of the citation to the ICO Bureau, which highlighted the justification for his scientific work to be considered as achieved under difficult circumstances. After some discussion, U. Gibson recalled that the award is given for people working under difficult circumstances, and the citation should state that.

Motion 11: To approve the recommendation of the ICO Galileo Galilei Award Committee and award the ICO Galileo Galilei 2013 Award to Kazimierz Rzażewski “For scientific contributions to the area of theoretical quantum optics, ultracold atomic gases and theory of intense laser-matter interactions as well as to the creation of Polish quantum optics school under difficult political circumstances”.

Moved by Z. Bingkun, seconded by Frank Höller. Unanimous support of the award but 10 votes in favor and one abstention with respect to the wording of the citation.

11d) IUPAP Young Scientist’s Committee (Moshe Oron, Chair)

The committee members were: Prof. Carmen Cisneros, Prof. Maria Calvo, Prof. Nicholas George, Prof. Tomasz Szoplik, Dr. Moshe Oron-Chair. There were five candidates. The committee recommends to the ICO Bureau to award the 2013 IUPAP Young Scientist Prize in Optics to Dr. Andrea Alù “For ground breaking work in metamaterials and plasmonics, and for the introduction of the concept of scattering-cancellation-based metamaterial cloaking”. He is the principal author on the paper which introduced the concepts of scattering-cancellation-based metamaterial cloaking and “invisibility” (670 citations).

Motion 12: To approve the recommendation of the ICO Committee for the IUPAP Young Scientist Prize in Optics and award the 2013 IUPAP Young Scientist Prize in Optics to Dr. Andrea Alù “For ground breaking work in metamaterials and plasmonics, and for the introduction of the concept of scattering-cancellation-based metamaterial cloaking”.

Moved by M. Oron, seconded by A. Wagué. Approved unanimously.

12. ICO participation in meetings and schools

12a) Report on Meetings sponsored during the period July 2012- Sept. 2013 (Gert von Bally, ICO Associate Secretary)

G. von Bally reports on Meetings with ICO Support for the legislative period from Oct. 1st, 2011 to Sept 30th, 2014 (Status Oct. 2013) .

Budget overview:	Distribution Plan	Current Expenditures	Rest
1. Oct. 2011 - 30. Sept. 2014 total: (US \$ 32,000)			
+ 2,500 US \$ (past legislative period)			
Budget distribution plan:			
1. Oct 2011 - 30. Sept 2012:	(US \$ 11,000)	US \$ 9,300	US \$ 1,700
1. Oct 2012 - 30. Sept 2013:	(US \$ 13,500)	US \$ 12,000	US \$ 1,500
1. Oct 2013 - 30. Sept 2014:	(US \$ 10,000)	US \$ 6,000	US \$ 4,000
			US \$ 7,200

1 Oct 2011 - 30 Sept 2012 (Period 1)	date	requested by applicants	decision by ICO	ICO representative
One day course in "Laser applications in medicine and stetic medicine" <i>Merida, Venezuela</i>	17 December 2011	cosp. US \$ 0	end. US \$ 0	
ICTP Winter College on Optics: "Advances in Nano-Optics and Plasmonics", Trieste, Italy	6-17 February 2012		different budget	
VII International Workshop Technolaser, "TECNOLASER 2012", and III International Meeting Optics, Life & Heritage, under the theme "Optics and Laser Technology in Science, Industry and Culture", La Habana, Cuba	10-13 April 2012	cosp. US \$ 5,000	cosp. US \$ 2,000	Maria L. Calvo,
FIRST ICO-ICTP-TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations, San José, Costa Rica	30 April-11 May 2012	cosp. US \$ 2,300	cosp. US \$ 2,300	Angela Guzman
3rd Int. Topical Meeting on Optical Sensing and Artificial Vision (OSAV 2012), St. Petersburg, Russia	14-17 May 2012	end. US \$ 1,000	end. US \$ 1,000	Alexander Priezzhev
ICO Topical Meeting: 6th International Conference on Nanophotonics (ICNP 2012), Beijing, China	27-30 May 2012	end. US \$ 0	end. US \$ 0	Min Gu
8th International Conference on Optics-photonics Design and Fabrication "ODF'12, St. Petersburg", Russia	2-5 July 2012	cosp. US \$ 0	end. US \$ 0	Hans Peter Herzig
ICO Topical Meeting: 12th Conference of the International Society on Optics Within Life Sciences "OWLS 12", Genoa, Italy	4-6 July 2012	cosp. US \$ 2,500	cosp. US \$ 1,500	Alberto Diaspro
International Conference "Micro- to Nano-Photonics III "Romoplo 2012", Bucharest, Romania	3-6 Sept 2012	cosp. US \$ 2,000	cosp. US \$ 1,500	Valentin Vlad
5th International Conference "Singular Optics 2012", Sevastopol, Ukraine	16-21 Sept 2012	end. US \$ 4,000	end. US \$ 1,000	Oleg Angelsky
			US \$ 9,300	

1 Oct 2012 - 30 Sept 2013 (Period 2)	date	requested by applicants	decision by ICO	ICO representative
4th International Symposium on Transparent Conductive Materials (TCM 2012), <i>Crete, Greece</i>	21-25 Oct 2012	cosp. US \$ 2-3,000	end. US \$ 1,000	Maria Farsari
5th International Photonics and Optoelectronics Meetings (POEM 2012), <i>Wuhan, China</i>	2-5 Nov 2012	end. US \$ 0	end. US \$ 0	Valery Tuchin
Entrepreneurship Workshop, <i>Addis Ababa, Ethiopia</i>	5-9 Nov 2012	cosp. US \$ 5,000	end. US \$ 500	
The Latin America Optics & Photonics Conference (LAOP) <i>Sa Paolo, Brazil</i>	11-13 Nov 2012	end. US \$ 0	end. US \$ 0	Angela Guzman
ICTP Winter College on Optics: "Trends in Laser Development and Multidisciplinary Applications to Science and Industry", <i>Trieste, Italy</i>	4-15 Feb 2013		different budget	
icOPEN2013 (International Conference on Optics in Precision Engineering and Nanotechnology), <i>Singapore</i>	9-13 April 2013	cosp. US \$ 5,000	cosp. US \$ 1,500	Duncan Moore
SPIE Optics + Optoelectronics 2013, <i>Prague, Czech Republic</i>	15-18 April 2013	end. US \$ 0	end. US \$ 0	Angela Guzman
Digital Holography and 3D Imaging, <i>Hawaii, USA</i>	21-25 April 2013	cosp. US \$ 2,000	cosp. US \$ 1,000	Gert von Bally
Tenth Rochester Conference on Coherence and Quantum Optics, <i>Rochester, USA</i>	17-21 June 2013	US \$ 0	end. US \$ 0	Angela Guzman
Satellite Meeting to "Tenth...", QIM-2, <i>Rochester, USA</i>	18-20 June 2013	US \$ 0	end. US \$ 0	Angela Guzman
RIA/OPTILAS 2013 <i>Porto, Portugal</i>	22-26 July 2013	cosp. US \$ 3,000	cosp. US \$ 2,000	Maria L. Calvo
ETOP 2013 (2011), <i>Porto, Portugal</i>	23-26 July 2013		cosp. US \$ 2,000	Maria L. Calvo
First African Summer School on Optics and Applications to Sustainable Development, <i>Tunis, Tunisia</i>	1-13 Sept 2013	cosp. US \$ 5,000	cosp. US \$ 1,500	Zhora Lakhdar
Information Photonics, <i>Warsaw, Poland</i>	16-19 Sept 2013	cosp. US \$ 2,500	cosp. US \$ 1,500	Maria L. Calvo
Correlation Optics 2013, <i>Chernivtsi, Ukraine</i>	18-21 Sept 2013	cosp. US \$ 3,000	cosp. US \$ 1,000	Tomasz Szoplik
			US \$ 12,000	

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1 Oct 2013 - 30 Sept 2014 (Period 3)	date	requested by applicants	decision by ICO	ICO representative
ICO Topical Meeting: 18th Microoptics Conference (MOC'13), <i>Tokyo, Japan</i>	27-30 Oct 2013	cosp. US \$ 0	cops. US \$ 0	Yasuhiro Arakawa
LAM 10 International Workshop: Lasers Optics and Photonics and Applications, <i>Dakar, Senegal</i>	13-18 Jan 2014	cosp. US \$ 3,000	cosp. US \$ 1,500	Paul Buah Bassuah
ICTP Winter College on Optics: "Fundamentals of Photonics - Theory, Devices and Applications", <i>Trieste, Italy</i>	10-21 Feb 2014		different budget	
Design and Fabrication "ODF'14", <i>Itabashi, Tokyo, Japan</i>	12-14 Feb 2014	cosp. US \$ 0	cosp. US \$ 0	Yosuhiko Arakawa
XXXVIII Annual Symposium of the Optical Society of India "International Conference on Optics & Optoelectronics (ICOL 2014)", <i>Dehradun, India</i>	5-8 March 2014	end. US \$ 0	end. US \$ 0	Lakshminarayan Hazra
Int. Conference on Optics Within Life Sciences (OWLS 2014), <i>Ningbo, China</i>	10-12 June 2014	cosp. US \$ 3,000	cosp. US \$ 1,500	Gert von Bally
ICO 23rd.General Congress "Enlightening the Future", <i>Santiago de Compostela, Spain</i>	26-29 Aug 2014		(US \$ 7,000, different budget)	Humberto Michinel
2nd International Symposium on Optics and its Applications, <i>Yerevan-Ashtarak, Armenia</i>	1-5 Sept 2014	cosp. US \$ 1,500	cosp. US \$ 1,500	
Int. Conference on Optics, Photonics and Photosciences (CIOFF), <i>Havana, Cuba</i>	11-14 Nov 2014	cosp. US\$ 3,000	cosp. US\$ 1,500	
			US \$ 6,000	

12b) Preparation of ICO XXIII (Humberto Michinel).

H. Michinel reports that the First call for ICO XXIII has been issued, and the webpage for the event will be ready soon. He presents photos of the location, and reports on the composition of the organizer and Academic Committees. He has planned to hold the first Bureau Meeting: on Monday, August 2014, the ICO General Assembly on Thursday 3PM-6PM (5 hours), the conference dinner on Thursday at 9PM, and the second Bureau meeting on Friday afternoon starting at lunch and ending at 5 PM.

12c) MoU for ETOP (Angela Guzmán) The MoU for ETOP is put down for consideration of the ICO Bureau.

Motion 13: To accept the ETOP MoU with the substitution of IEEE/LEOS by IEEE Photonics Society. Moved by U. Gibson, seconded by Y. Arakawa. Approved unanimously.

12d) Conflict between LAOP, a conference from OSA, RIAO/OPTILAS, and ICO XXIII (Humberto Michinel)

No further comments.

12e) Bid for ICO XXIV (Yasuhiko Arakawa) Y. Arakawa makes a presentation of Japan's detailed proposal for hosting ICO XXIV in Yokohama, in September 3rd -8th 2017. The bid was put to consideration of the ICO Bureau.

Motion 14: To recommend to the ICO General Assembly that the ICO 24 be held in Yokohama on September 3rd -8th 2017. Moved by H. Michinel, seconded by M. Oron. Approved unanimously.

13. No other business

Meeting adjourned at 5:10PM

ICO Secretariat, First version: February 12, 2013

LIST OF MOTIONS

Motion 1: To approve the Agenda. Moved by Jim Harrington, Seconded by U. Gibson, approved unanimously.

Motion 2: To approve the minutes of the 2012 ICO Bureau Meeting. Moved by U. Gibson, seconded by F. Höller. Approved unanimously.

Motion 3: To send a welcome back note. Moved by A. Guzman, seconded by J. Harrington, Approved unanimously.

Motion 4: The allocation of ICO units should be a formula based system. Moved by D. Moore, seconded by J. Harrington; approved unanimously

Motion 5: The reallocation of units should be phased in two steps. Half way in 2017, and the other half 2020. After this initial reallocation, a review of the units should be done for each General Assembly. Moved by D. Moore, seconded by J. Harrington; approved unanimously.

Motion 6: To recommend to the General Assembly an amendment of the Article 1 of the ICO Statues in order to include the word Photonics as written above. Moved by D. Moore, seconded by U. Gibson; approved unanimously.

Motion 7: Beginning with 2014 the President and the treasurer can approve travel expenses for a Bureau member to a Bureau meeting up to \$1000. The treasurer should include in the triennial budget \$3000 per year to support this activity. The intent is to support the travel of Bureau Members from developing countries. Moved by U. Gibson, seconded by F. Höller. Approved by 9 votes in favor and 2 abstentions.

Motion 8: To direct ICO President to write a letter reminding TCs of their ability to obtain funding for meetings attaching a simplified application form as recommended by the ICO Associate Secretary. Moved by J. Harrington, seconded by Frank Höller. Approved by 10 votes in favor and 1 abstention.

Motion 9: To approve the recommendations of the Strategic Planning Committee and to establish the actions required to implement them. Moved by J. Harrington, seconded by Frank Höller. Approved unanimously.

Motion 10: To approve the recommendation of the ICO Prize Committee and award the ICO Prize 2013 to Tobias Kippenberg for “for his innovative and pioneering research on cavity optomechanics and optical frequency combs using optical microresonators”. Moved by Y. Arakawa, seconded by Frank Höller. Approved unanimously.

Motion 11: To approve the recommendation of the ICO Galileo Galilei Award Committee and award the ICO Galileo Galilei 2013 Award to Kazimierz Rzażewski “For scientific contributions to the area of theoretical quantum optics, ultracold atomic gases and theory of intense laser-matter interactions as well as to the creation of Polish quantum optics school under difficult political circumstances”.

Moved by Z. Bingkun, seconded by Frank Höller. Unanimous support of the award but 10 votes in favor and one abstention with respect to the wording of the citation.

Motion 12: To approve the recommendation of the ICO Committee for the IUPAP Young Scientist Prize in Optics and award the 2013 IUPAP Young Scientist Prize in Optics to Dr. Andrea Alù “For ground breaking work in metamaterials and plasmonics, and for the introduction of the concept of scattering-cancellation-based metamaterial cloaking”. Moved by M. Oron, seconded by A. Wagué. Approved unanimously.

Motion 13: To accept the ETOP MoU with the substitution of IEEE/LEOS by IEEE Photonics Society. Moved by U. Gibson, seconded by Y. Arakawa. Approved unanimously

Motion 14: To recommend to the ICO General Assembly that the ICO 24 be held in Yokohama on September 3rd -8th 2017. Moved by H. Michinel, seconded by M. Oron. Approved unanimously.

LIST OF ACTIONS

Action 1: ICO Secretariat: To send to the Optics and Photonics Society of Singapore a welcome back note.

Action 2: ICO Treasurer: To prepare a balanced budget with the new value of the unit

Action 3: ICO Secretary: To prepare the proposal for reassignment of ICO dues using a formula based on an average of GDP and H index for Atomic and Molecular Physics and Optics for consideration of the ICO Bureau, and send the reviewed proposal in advance to the delegates to the ICO General Assembly.

Action 4: ICO Associate Secretary: To prepare a proposal for a new procedure and a new simplified application form for meeting support to be distributed to the Bureau Members within 3 months

Action 5: ICO President: to contact the Chair of C15 to discuss the issue of a permanent ICO representative or liaison in the IUPAP Commission C15.

Action 6: ICO Secretary: to write a letter to the President of IUPAP with copies to the chairs of the commission C17 reminding them of the liaison with ICO, and asking him for having an associate member of the Commissions C15 and C17 from ICO.



FINANCES

ICO TREASURER'S REPORT (2011-2014)

As of July 1, 2014, the ICO has a cash balance of \$172,467 in our treasury. I am pleased to report that this cash balance represents an increase of approximately \$35,000 over the cash held at the time of the ICO-22 general assembly in August, 2011 in Puebla, Mexico. This amount is held in US dollars (\$119,147) at the US Bank of America and in Euros (39,149 €) in the Caisse D'Epargne in Paris. The primary source of income that the ICO receives is derived from membership dues contributed by the Territorial Committees (TCs). The money that the ICO expends is used mostly to support conferences, ICO prizes, and travelling lecture awards. The consolidate budget will be updated at the ICO-23 meeting as this report is being prepared in advance of that meeting.



A persistent problem this year as in past years is the collection of dues and dues in arrears. This is a problem which has existed for some time and it is an issue that we continue to address. So far in 2014, only 25 out of 44 territories or 57% have paid their dues through June, 2014. These 25 TCs account for 72% of the total (\$48,175) 2014 dues that are owed. Actually, this is close to the percentages normally collected at this point in any year. I anticipate that more TCs will pay their 2014 dues prior to the general assembly in Santiago this summer. Yet there are still non-paying TCs but the number of delinquent TCs is much less than in previous years. As a reminder those TCs in arrears for more than 5 years face demotion to Associate status. According to a motion approved by the Bureau in 2010,

“Territorial Committees which are in arrears on their dues for more than 5 years will have their membership status demoted to Associate status. This means no shares, no votes, no officer on the Bureau, and no ability to ask for financial support. ”

One of the problems associated with ICO membership is that some TCs have difficulty determining which optical organization is currently responsible for paying the TC’s ICO dues. In some cases we are working with these TCs to restructure their dues schedule and to arrive at an equitable settlement for their back dues.

The biggest expense of the ICO outside of the money given to support conferences, travel, and prizes is for publication and mailing of the newsletter and green books. So far in 2011-2014 these publishing and mailing costs come to \$15,200. This is less than the budgeted amount of \$20,000 and less than these costs in prior years. One reason for the decrease in publishing costs is the switch from IOP Publishing (UK) to Gemini West (UK) and the reduced cost of editing the newsletters. One way to further reduce printing and mailing costs would be to consider sending CDs of the green book instead of a printed copy and to transition to an electronic version of the newsletter.

Since the last General Assembly in Puebla we have been fortunate to make an arrangement with the Optical Society of America Foundation (OSAF) for the acceptance of monetary gifts by US donors for the support of ICO activities. The reason for this is that the ICO is an 501(c)4 organization. This means that monies donated by US citizens directly to the ICO do not exempt the donor from paying US taxes on their gift. In contrast the OSAF is a 501(c)3 organization (as is the OSA itself) and thus the OSAF can accept donations from US tax payers and their donation will be tax deductible. The Memorandum of Understanding (MOU) is now in place between the OSAF and the ICO so we may now solicit donations which will come through the OSAF to the ICO for the activities that we normally support. Those interested may go to the OSAF website (<http://www.osa-foundation.org/news/pressreleases/ico>) for more information and an application for making donations. To date the ICO has received one donation of \$25,000.

A somewhat longer term issue is a re-examination of the units that we assess each TC as a means of determining their dues. The current dues rate is based on \$235/unit. The number of units for any TC varies from 1 to 18. The units that each TC is assigned are based on information from the World Bank on the economic status of the various countries. The ICO established the numbers of units many years ago but we feel that it is now time to re-evaluate the units assigned to each territory in light of economic changes since the units were established. We want to be certain that the units are assigned equably. While several proposals for readjusting the units have been discussed, there has been no reallocation of units to date. At this time we do not envision an increase in the \$235/unit dues in the foreseeable future.

Performance Budget*					
For period 10/1/2011 - 9/30/2014					
Revenue	Actual				Approved Budget
	Year 1	Year 2	Year 3*	3 Year Total	
Dues	\$48,175	\$48,175	\$48,175	\$144,525	\$144,525
Less not collected	\$10,006	-\$1,850	\$13,584	\$21,740	\$33,000
Net dues	\$38,169	\$50,025	\$34,591	\$122,785	\$111,525
Royalties	\$226	\$0	\$171	\$397	\$600
Total Revenue	\$38,395	\$50,025	\$34,762	\$123,182	\$112,125
Expenses					
Secretariat	\$4,526	\$7,457	\$5,517	\$17,500	\$20,000
Newsletter - copyediting	\$250	\$1,248	\$525	\$2,023	\$4,000
Newsletter - printing & distribution	\$4,329	\$2,379	\$2,465	\$9,173	\$12,000
Printing & distribution - Green Book*	-----	-----	\$4,000	\$4,000	\$4,000
Bureau expenses	\$1,908	-----	\$1,903	\$3,811	\$3,000
ICO prizes + travel	\$5,650	\$8,000	\$4,000	\$17,650	\$15,000
Conference support	\$9,300	\$12,000	\$9,000	\$30,300	\$30,000
ICTP school support	\$5,000	\$5,000	\$5,000	\$15,000	\$15,000
ICO-23 Santiago, Spain	-----	-----	\$7,500	\$7,500	\$7,500
Traveling lecture awards	\$2,000	\$2,000	\$1,000	\$5,000	\$5,000
Reserves or new projects					\$2,000
ICSU dues	\$750	\$750	\$687	\$2,187	\$2,100
Total Expenses	\$33,713	\$38,834	\$41,597	\$114,144	\$119,600
Surplus/(Deficit) for 3 year period				\$9,038	(\$7,475)

*Preliminary as of 1 July 2104

The first budget shown in above is the performance budget of our society for the past three years. The last column compares the estimated 3-year totals to the budget approved at ICO-22 in Puebla for the 2011-2014 triennium. Note that none of the budget data presented in this and the other appendices includes the \$25,000 held in the OSA Foundation for ICO activities. Furthermore, none of this donation has been spent to date.

In Appendix 1, the Balance Sheet for this past year from 1 October 2013 to 1 July 2014 is given. It is interesting to look at the retained earnings now compared to those of approximately \$161,963 presented at ICO-22. In general, this is a reflection of better than anticipated dues collection, the reduction of dues in arrears, and lower expenses.

APPENDIX 1:

Balance Sheet: Estimated as of July 2014, ICO 23, Santiago, Spain.**Assets**

Checking/Saving		
	Bank of America - checking	\$8,693
	Bank of America - money market	\$110,454
	French account-checking (1 Euro= 1.362 dollars)	\$28,795
	French account-savings (1 Euro = 1.362 dollars)	\$24,524
Total checking/money market		\$172,466
Accounts receivable		
	Current year dues collected	\$34,591
	Dues in arrears - past 3 years	\$21,740
Total accounts receivable		\$56,331
Total assets		\$228,797

Liabilities and equity

Secretariat	\$5,517
Newsletter - copyediting	\$525
Newsletter - printing & distribution	\$2,465
Printing & distribution - Green Book*	\$4,000
Bureau expenses	\$1,903
ICO prizes + travel	\$4,000
Conference support	\$9,000
ICTP school support	\$5,000
ICO-23 Santiago, Spain	\$7,500
Traveling lecture awards	\$1,000
ICSU dues	\$687
Total liability	\$41,597
Equity	
Retained earnings	\$187,200
Total liabilities and equity	\$228,797

* Does not include \$25,000 in the OSA Foundation

As of July 1, 2011
ICO-22 Puebla, Mexico

Total liabilities and equity	\$161,963
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The final appendix includes for comparison the budgets for this triennium as well as a proposed budget for the next 2014-2017 triennium.

APPENDIX 2

Proposed budget for the next 2014-2017 triennium.

Revenue	Budget*		
	Estimated* 2011-2014	Approved 2011-2014	Proposed 2014-2017
Dues	\$144,525	\$144,525	\$144,525
Less not collected	\$21,740	\$33,000	\$14,000
Net dues	\$122,785	\$111,525	\$130,525
Royalties	\$397	\$600	\$300
Total Revenue	\$123,182	\$112,125	\$130,825
Expenses			
Secretariat	\$17,500	\$20,000	\$22,000
Newsletter - copyediting	\$2,023	\$4,000	\$4,000
Newsletter - printing & distribution	\$9,173	\$12,000	\$12,000
Printing & distribution - Green Book*	\$4,000	\$4,000	\$4,000
Bureau expenses	\$3,811	\$3,000	\$4,000
ICO prizes + travel	\$17,650	\$15,000	\$20,000
Conference support	\$30,300	\$30,000	\$32,000
ICTP school support	\$15,000	\$15,000	\$15,000
ICO Congress	\$7,500	\$7,500	\$8,000
Traveling lecture awards	\$5,000	\$5,000	\$5,000
Reserves or new projects		\$2,000	\$2,000
ICSU dues	\$2,187	\$2,100	\$2,100
Total Expenses	\$114,144	\$119,600	\$130,100
Surplus/(Deficit) for 3 year period	\$9,038	(\$7,475)	\$725

*As of 1 July 2104



COMMITTEE REPORTS AND AWARDS

ICO ELECTIONS 2014

INTERIM REPORT OF THE ICO NOMINATING COMMITTEE FOR 2014 ICO BUREAU ELECTIONS



Yoon Kim (South Korea).

According to established procedures in the ICO Rules and Codes of Practice, elections for members of the ICO Bureau occur every three years and will take place this year at the ICO-23 Congress, “Enlightening the future,” to be held 26-29 August 2014 in Santiago de Compostela, Spain.

The procedures and protocols for the election are as described in the ICO Rules and Codes of Practice. For the upcoming elections the Nominating Committee consists of Maria L. Calvo (Spain, Chair), Anna Consortini (Italy), René Dändliker (Switzerland), Ari. T. Friberg (Finland), Asher Friesem (Israel), Ajoy Ghatak (India), Min Gu (Australia) and Kyoung

According to ICO rules letters have been sent to the Territorial Committees (TCs) in October 2012 and November 2013 for nominations to be received by March 15, 2014. As of 26 May 2014, the following nominations have been received and/or established by protocol, to wit: Candidate for

Candidate for		TC
President	Prof. Yasuhiko Arakawa	Japan
Secretary	Prof. Angela M. Guzmán	Colombia
Assoc.Secretary	Prof. Gert von Bally	Germany
Treasurer	Prof. James A. Harrington	USA

Candidates for Vice President (those in industry are marked with an asterisk*):

Prof. Manuel F. Costa	Portugal
Prof. Qihuang Gong	China
Prof. John Harvey*	New Zealand
Prof. Joseph Niemela	USA
Prof. Seung-Han Park	South Korea
Dr. Haim Russo*	Israel
Prof. Alexei Taichenachev	Russia
Prof. Jakub Zakrzewski	Poland

Prof. Mourad Zghal	Tunisia
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Present Vice Presidents eligible for a second term are:

Dr. Franz Höller*	Germany
Prof. Humberto Michinel	Spain
Prof. Roberta Ramponi	Italy

Past President: The position of Past President for the term 2014-2017 will be automatically assumed by the current President, Duncan T. Moore (USA).

Added to these in the Bureau composition will be individuals appointed as Vice President by the Member societies. However, it should be remembered that nominations for all positions/officers close 24 hours before the second business meeting of the International Commission for Optics General Assembly in Santiago de Compostela.

The election activities will take place as indicated during the ICO General Assembly-first session scheduled for 5:00 PM - 7:00 PM, August 26, 2014, while the second and final ICO General Assembly is scheduled for 4:30 PM-7:30 PM, August 28, 2014.

Additionally, in the immediate future the Nominating Committee will be collecting candidate CVs and endorsements of candidates from the Territorial Committees.

*Professor Maria L. Calvo
International Commission for Optics Past President
Chair, ICO Nominating Committee*



ICO TRAVELING LECTURER PROGRAM REPORT

The travelling lecture award is designed to provide financial assistance to those scientists and engineers who wish to travel to give a series of lectures on topics in the optical sciences. Most often these awards are given for those travelling to developing countries. The awards are not designed to support travel to attend or present a paper at a scientific conference. According to the information on the ICO website:

"The (Travelling Lecture Award) program is aimed specially at developing nations, but is not necessarily restricted to them. It is hoped that visits will lead to closer collaboration

between the lecturer and the scientists of the destination territory.... Generally, these grants will not be awarded simply to support international conference attendance."

During this three year period we have provided five awards. Each awardee was given a grant of \$1,000 to help defray travel expenses. The travel grants were given to:

April, 2012

Prof. Vadim Parfenov, Associate Professor, St. Petersburg State Electrotechnical University, Russia.

Host university: Dr. Luis Ponce, Instituto Politecnico Nazional CICATA-IPN, Unidad Altamira, Carretera Tampico-Puerto Industrial Altamira, Tamps. C.P.89600, Mexico.

April, 2012



Dr. Annette Ladstätter-Weissenmayer, Institute of Environmental Physics, University of Bremen, Germany.

Host university: Prof. Carlos Rudamas, Escuela de Física, Facultad de Ciencias Naturales y Matemática, Universidad de El Salvador, El Salvador, Central America

April, 2013

Prof. Jyoti Mazumder, Robert H. Lurie Professor of Mechanical Engineering & Materials Science and Engineering at the Univ. of Michigan

Host University: Prof. Anand Asundi, Director of the Centre for Optical and Laser Engineering, School of Mechanical and Aerospace Eng. Nanyang Technological University, Singapore.

July, 2013

Dr. Cesar Costa Vera, Escuela Politecnica Nacional, Department of Physics, Quito, Ecuador.

Host university: Manuel Filipe P. C. M. Costa, Universidade do Minho, Departamento de Fisica, Campus de Gualtar, 4710-057 Braga, Portugal.

January, 2014



Dr. Humberto Michinel-Alvarez,
Optics Lab, University of Vigo, Vigo,
Spain.

Host University: Prof. Ahmadou
Wague, Université Cheikh anta Diop,
Dakar, Senegal.

A photograph of Dr. Michinel-Alvarez
working with students in Senegal
illustrates how well our visiting lecturers
interact with students and faculty in the
host institution.

As a reminder, we welcome new
applicants for our travelling lecture

awards. The approximate total allocation for these awards is \$5,000 for the three-year
period, 2011 – 2014.

Jim Harrington, ICO Treasurer



COMMITTEE FOR REGIONAL DEVELOPMENT (CREDO)

CREDO members

<p>Prof. h. c. (Acad. Sci. UA) Gert von Bally Centrum für Biomedizinische Optik und Photonik Universitätsklinikum Münster 48149 Münster Tel: (+49)-251-83-56888 E-mail: Ce.BOP@uni-muenster.de</p>	<p>Prof. Zohra Ben Lakhdar Tunisian Society of Optics, President Department of Physics, Faculty of Sciences of Tunis, Tunis, Tunisia E-mail: zohra_lakhdar@yahoo.fr</p>
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Prof. Ahmadou Wague	Prof. Bingkun Zhou Department of Electronic Engineering

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Action 1.

Stimulation of scientific contacts between Australian and European universities.

(Period: September 1011-December 2012).

Australian National University in Canberra applied to join European Cooperation in Science and Technology (COST) Action MP0803 - Plasmonic components and devices. The Action had 21 European partners and 3 partners from non-COST countries: Institute of Semiconductor Physics of NAS of Ukraine, School of Photovoltaic and Renewable Energy Engineering (SPREE) Australia, and Southern Federal University in Rostov, Russian Federation.

The process was initiated by Kylie Catchpole and supported by Ilya Shavdrivov both from ANU. It was endorsed by Alexandre Dmitriev from Chalmers University in Sweden, MP0803 coordinator.

The procedure of granting the membership of COST to the non-COST country institution has been interrupted by termination of Action 0803 in December 2012.

Action 2.

Stimulation of scientific contacts between South African and European universities in the fields of photonics, plasmonics and computational electrodynamics.

(Period: January 2012-June 2012).

In collaboration with Alexander Quandt from University of Witwatersrand in Johannesburg, South Africa, we organized a visit of Robert Warmbier to 3 European partners in COST Actions MP0702 and MP0803. The trip was sponsored by the University of Witwatersrand.

- The first visit was to the University of Warsaw, Faculty of Physics, with Tomasz Szoplak as a host. At a workshop organized on May 10th:

- Robert Warmbier, University of Witwatersrand, gave a talk on "Computational Plasmonics for Complex Dielectric Materials".
- Mohammed M. Shabat, Vice President of the Islamic University of Gaza, Gaza Strip, Palestinian Authority, gave talks on "Nonlinear metamaterials waveguide sensors" and on „Education and research in Palestine”.

In the audience there were researchers from the Institute of Physics, Polish Academy of Sciences; Military University of Technology; Institute of Electronic Materials Technology; and the University of Warsaw.

- The second visit on May 21st was to the Technical University of Denmark, Department of Photonics Engineering, Copenhagen, with Andrei Lavrinenko as a host.
 - Robert Warmbier gave a talk on „Computational Plasmonics for Complex Dielectric Materials”.
 - a meeting on applications of EELS (electron energy loss spectroscopy) technique to characterization of plasmonic structures was organized, where plans of future collaboration were accepted.
- The third visit was to Bionanophotonics Laboratory at Applied Physics Dept., Chalmers University of Technology in Göteborg, Sweden, with Alexandre Dmitriev as a host. Two possible directions of collaboration were discussed:
 - photovoltaics and
 - the application of ab initio methods developed in South African group to Swedish nanoplasmonics projects. Target: combination of ferromagnetic and plasmonic materials.

Action 3.

Stimulation of scientific contacts between Ukraine and universities in Europe and USA.

On September 10-12, 2012, Prof. Oleg V. Angelsky, the director of Correlation Optics Department at Chernivtsi University, Ukraine, co-organized celebration of the 50th anniversary of Optics in Chernivtsi University. Polish and Ukrainian optics communities decided to commemorate Prof. Wojciech Rubinowicz (1889-1974) world-known physicist and optician who was born in Bukovina and was many years affiliated in Chernivtsi University. The bronze memorial plaque was unveiled by Dr. Barbara Rubinowicz, the granddaughter, see photo.

- Prof. Oleg V. Angelsky, the director of Correlation Optics Department at Chernivtsi University, Ukraine, organizes a series of conferences "Correlation Optics" held in Chernivtsi under the aegis of SPIE, ICO, OSA, and EOS. The 11th International Conference on Correlation Optics held 18-21 September, 2013, had the status of an 'ICO Cosponsored Meeting' and was supported by US \$1,000



Unveiling of bronze memorial plaque honoring Prof. Wojciech Rubinowicz (1889-1974).

China, Mexico, Republic of South Africa, Iran, Lithuania and Ukraine. Among highlights of the conference were: Prof. M. Berry (UK), Prof. E. Derenyak (USA), Prof. J. C. Wyant (USA) Prof. S. Hanson (Denmark), Dr. M. Dennis (UK), Prof. K. Bliokh (Japan), Prof. S. Odoulov (Ukraine), Prof. A. Desyatnikov (Australia) and others.

ICO grant to assist the participation of students and young highly deserving scientists from developing areas. The the ICO Bureau representative was the ICO CREDO chair Prof. Tomasz Szoplik (University of Warsaw).

- Three ICO CREDO representatives were on the International Programme Committee: Prof. Gert von Bally, Prof. Min Gu and Prof. Tomasz Szoplik.

- A series of selected papers reflecting recent progress of correlation optics and showing the trend from micro-optics to nano-optics was published in Applied Optics 10th issue of 53rd volume.

- Prof. Angelsky reported on the 11th International Conference on Correlation Optics: The conference program has included 38 invited talks, 33 regular orals and 116 posters, as well as 7 Invited lectures for SPIE/OSA Student Chapters members. The contributions were presented by about 120 researchers from 23 countries: USA, UK, Germany, France, Denmark, Japan, Australia, Poland, Romania, Czech Republic, Russia, Canada, Italy, Japan, India, South Korea,

Action 4.

The First African Summer School on Optics and Applications to Sustainable Development was held in Carthage, Tunisia.

(1-10 September 2013)

The School was supported by US \$1,500 ICO grant to fully support students' participation. The ICO was represented by Prof. Zohra Ben Lakhdar.

Two CREDO members gave important contributions to organization of the School: Prof. Zohra Ben Lakhdar (Tunis El Manar University, Tunisia) and Prof. Ahmadou Wagué (Université Cheikh Anta Diop de Dakar). Both of them gave invited talks: Zohra Ben Lakhdar on „ICO activities” and Ahmadou Wagué on „Laser spectroscopy and applications.”

Action 5.

The University of Zilina, Slovakia, realizes a project “The support of quality improvement of universities and the Slovak Academy of Science” under the 7th Framework Programme of the EU (2012-2015).

Professor Milan Dado, the dean of the Faculty of Electrical Engineering, University of Zilina, who is responsible for the task „Improving the competitiveness of technical curricula reflecting the current needs of business practice” has organized a series of tutorials given by experts invited from several European countries.

On October 14-18th, 2013, at Physics Laboratory in Zilina with Prof. Dušan Pudiš as a host, Tomasz Szoplík (University of Warsaw) gave 10 hours tutorial on „Plasmonics and its applications.”

On October 16-18th, 2013, at Physics Laboratory in Zilina with Prof. Jarmila Müllerová as a host, Marian Marciniak (National Institute of Telecommunications, Warsaw) gave 10 hours tutorial on „Optical communication and data transmission.”

Tomasz Szoplík, Chair of CREDO, 23 June 2014



TRIENNIAL REPORT OF THE ICO PRIZE COMMITTEE

ICO established the ICO Prize in 1982, to be given each year to an individual who has made a noteworthy contribution to optics, published or submitted for publication before he or she has reached the age of 40. (Specifically, the Prize winner must not have reached the age of 40 before December 31 of the year for which the Prize is awarded). The character of the work of successive Prize recipients should preferably alternate between predominantly experimental or technological and predominantly theoretical. The "noteworthy" contribution in optics is mainly measured by its impact (past or possibly future) on the field of optics generally, opening a subfield or significantly expanding an established subfield in research or technology.

The Prize includes:

- a citation,
- a cash award of an amount established in the triennial budget of ICO, and the invitation to present an invited paper and receive the award at the next ICO Congress or another ICO meeting mutually agreed to by the bureau and the award winner.



*Ernst Abbe Medal donated by the
Carl Zeiss Foundation.*

Every year, the ICO Prize Committee issues a call for nominations that is published in the ICO Newsletter, receives the nominations and selects the recipients for approval by the Bureau at its next meeting. The award needs not be made each year if the Prize Committee so chooses. The Prize is preferably given to an individual, but it can be shared by two persons. Eligibility for the Prize is not excluded by previous prizes awarded to the individual. The selected Prize winner is then announced in the ICO Newsletter and, as appropriate, in one or more optics journals. The prize will be presented at the next appropriate major ICO meeting and the Prize winner will be expected to deliver an invited talk at that Meeting. Posters of the Prize are also available under request

to ICO Secretariat.

The formal rules of the ICO Prize are found in section 9 of the Rules and Codes of Practice in this booklet. Award nomination form: <http://e-ico.org/activities/awards>

The award winners to this date are:

- 1982 Antoine Labeyrie, France
- 1983 James R. Fienup, USA
- 1984 J. Christopher Dainty, U.K.
- 1985 Sergei I. Stepanov, USSR
- 1986 Kensuke Ikeda, Japan
- 1987 Alain Aspect, France
- 1988 no prize bore the number of the year 1988. The 1988 prize was changed to 1989 in order to coincide with the year of the award
- 1989 Demetri Psaltis, USA
- 1990 Rosario Martinez-Herrero, Spain
- 1991 David A.B. Miller, U.K. and USA
- 1992 Wolfgang Peter Schleich, Germany
- 1993 Aleksander K. Rebane, Estonia
- 1994 Emmanuel Desurvire, France
- 1995 Tony F. Heinz, USA
- 1996 Vladimir Buzek, Slovakia
- 1997 Andrew M. Weiner, USA
- 1998 David Mendlovic, Israel and Haldun Ozaktas, Turkey
- 1999 Hugo Thienpont, Belgium
- 2000 Stefan W. Hell, Germany
- 2001 Nabeel A. Riza, Pakistan and USA
- 2002 Prize not accorded

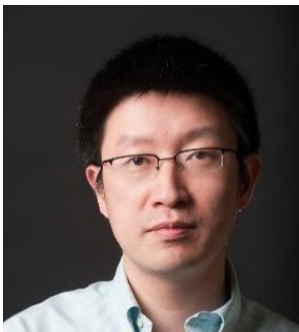
- 2003 Benjamin J. Eggleton, Australia
 2004 Ashok V. Krishnamoorthy, India
 2005 Immanuel Bloch, Germany
 2006 Hideyuki Sotobayashi, Japan
 2007 Susana Marcos, Spain
 2008 Zeev Zalevsky, Israel
 2009 Rajesh Menon, USA
 2010 Reinhard Kienberger, Germany
 2011 Xuanlai (Nick) Fang, USA
 2012 Romain Quidant, Spain
 2013 Tobias J. Kippenberg, Switzerland

The ICO Prize Committee for the term 1 October 2011 to 30 September 2014 has been chaired by Professor Roberta Ramponi, ICO Vice President, (roberta.ramponi@polimi.it) from the Department of Physics, Politecnico di Milano and the Institute of Photonics and Nanotechnologies of CNR, piazza Leonardo da Vinci 32, 20133 Milano, Italy. Other members of the Committee are five ICO Vice Presidents, Prof. Yasuhiko Arakawa, Prof. Zohra Ben Lakhdar, Prof. Zhou Bingkun, Prof. Yujie J. Ding, Prof. María J. Yzuel Giménez, and Prof. Fernando Mendoza Santoyo (not ICO Bureau member). Since 2011, the Carl Zeiss Foundation donates a laser engraved glass trophy for the ICO Prize winner.



The committee is in the process of selection of the 2014 prize and the winner will be announced at ICO-23.

2011 ICO Prize: Xuanlai (Nick) Fang, USA



The 2011 ICO Prize was awarded to Xuanlai (Nick) Fang, Associate Professor at the Department of Mechanical Engineering of the Massachusetts Institute of Technology and d'Arbeloff Career Development Chair. Nick Fang was recognized for “his pioneering work in optical metamaterials, optical superlenses and nanofocusing.” Research concentrating on creating devices for focusing light into a nanometer scale and using them for imaging and nanofabrication is a fore front in nanophotonics.

Dr. Fang conducted the first experimental demonstration and the key validation of the hotly debated superlens

theory proposed by Sir John Pendry (Imperial College, UK) in 2000, and broke the fundamental barrier of “diffraction limit” in optics. The research group led by him breaks the record again with a smooth optical superlens, showing the possibility of molecular scale optical imaging and high-density optoelectronic devices. He also contributed significantly to discovery of THz magnetism. Dr. Fang will receive the prize at the ICO 23 General Congress, where he will deliver his Ernst Abbe Lecture.

2012 ICO Prize: Romain Quidant, Spain



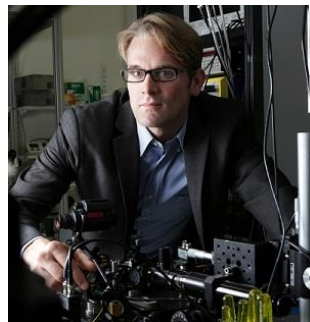
The 2012 ICO Prize was awarded to Romain Quidant, group leader of the “Plasmon Nano-Optics” Group at ICFO (The Institute of Photonic Sciences, Castelldefels, Barcelona, Spain). Romain Quidant was recognized for “his extraordinary scientific accomplishments in nanoscale optical manipulation.”

Dr. Romain Quidant has made several groundbreaking contributions to the field of NanoOptics. More specifically, in spite of his young age, he is recognized as one of the world leaders of the fast-growing area of nanoplasmonics, namely the study of the optical properties of metallic nanostructures. His most salient achievements are in Surface Plasmon Nanotweezers,

Thermo-Plasmonics, and Optical Yagi Nano-Antennae. Dr. Quidant received the prize at the 2013 SPIE Optics & Optoelectronics Conference in Prague, Czech Republic, where he delivered his Ernst Abbe Lecture on “Plasmon Nano-Optics: Taming Light on the Nanometer Scale.”

2013 ICO Prize: Tobias J. Kippenberg, Switzerland

The 2013 ICO Prize was awarded to Tobias J. Kippenberg, Full Professor of Physics and Electrical Engineering at the École Polytechnique Fédérale de Lausanne. Tobias Kippenberg was recognized for “his innovative and pioneering research on cavity optomechanics and optical frequency combs using optical microresonators.” Dr. Tobias Kippenberg has given widely recognized, innovative and forward looking contributions to cavity optomechanics, notably cooling and quantum measurements of mechanical motion and the demonstration of quantum coherent coupling between light and mechanical oscillators. Over the timeframe of the last years, he contributed in a major fashion to two highly active fields of research in modern optics. Dr. Kippenberg will receive the prize at the ICO Award Ceremony taking place during ICO 23, where he will deliver his Ernst Abbe lecture.



TRIENNIAL REPORT OF THE IUPAP YOUNG SCIENTIST PRIZE IN OPTICS COMMITTEE

In 2005 the International Union of Pure and Applied Physics (IUPAP) created the Young Scientist Prizes for its commissions. The international Commission of Optics (ICO), as an Affiliated Commission of IUPAP, decided in 2008 to adopt the IUPAP Young Scientist Prize in Optics. The IUPAP prize in optics will be awarded annually through ICO to a scientist who has made noteworthy contributions to applied optics and photonics during a maximum of 8 years of research experience after having earned a PhD degree. Career interruptions will not be counted as time of research experience.



The Prize includes:

- The IUPAP Young Scientist Medal with the name and discipline (optics) of the awardee engraved on the back.
- A citation.
- A 1000€ award as established by IUPAP.

The Prize is awarded at a major ICO meeting, where the recipient is expected to deliver an invited presentation.

The IUPAP Prize Committee members (for the term October 1, 2011 - September 30, 2014) are; Moshe Oron (Israel, Chair), Maria Calvo (Spain), Tomasz Szoplik (Poland), Carmen Cisneros (Mexico, IUPAP representative) and Nicholas George (USA).

IUPAP Young Scientist Prize in Optics 2012: Nirit Dudovich

The IUPAP Young Scientist Prize in Optics 2012 was awarded to Dr Nirit Dudovich from the Weizmann Institute of Science, Israel. Dr Nirit Dudovich has a PhD in physics from the Weizmann Institute of Science, Rehovot, Israel, where she leads the attosecond science group. In 2012 she was awarded the IUPAP Young Scientist Prize in Optics for her outstanding achievements on “Developing a completely new approach to attosecond pulse metrology”.

One of the most important breakthroughs in ultrafast science was achieved over the past decade with the production of attosecond (10^{-18} seconds) laser pulses in the XUV regime, in a process known as high harmonic generation (HHG). The study of new areas of science, such as time-resolved measurement of multi-electron dynamics on attosecond timescales, can now be explored in its natural timescale. Attosecond technology produces a combination of photons and electrons that are mutually coherent and are linked by the presence of a strong laser field. Their underlying dynamics provide direct insight into a

broad range of fundamental phenomena such as multiple channel ionization, core rearrangement, and charge transfer, all of which evolve on an attosecond timescale.



Dr Dudovich performed her post-doctoral research with Prof. Paul Corkum at the National Research Council (NRC) in Canada, who is one of the pioneers in attosecond science. During her postdoc she developed new methods for time resolved measurement in the attosecond regime. A major achievement was the introduction of perturbation in strong-field light-matter interactions. In this concept she imported the basic scheme, developed for the weak-field regime, into the extreme nonlinear regime. Specifically, she demonstrated that this approach allows us to measure attosecond pulses as they are produced (Nature Physics, 2006 and Phys. Rev. Lett., 2006). In 2007 Dr Dudovich joined the physics faculty at the Weizmann Institute of Science as a senior scientist. Her current research combines basic schemes developed for manipulating light-matter

interactions in the femtosecond regime and new concepts introduced by attosecond science. Strong-field light-matter interactions and attosecond measurements offer a new “playground” that enables us to import ideas from other disciplines in physics and mathematics, and to implement them in the new, growing field of attosecond science. Motivated by the challenge of characterizing attosecond pulses, her group developed a new scheme for the phase retrieval problem – an extensively studied problem in mathematics, which is of fundamental importance in many fields of research. Her group introduced a new linear and all-optical method that enables one to characterize attosecond pulses (Phys. Rev. Lett., 2011). A closely related direction of research is the study of caustics in attosecond science. Her group has shown, for the first time that fundamental strong-field phenomena can be described by the extensively studied field of Catastrophe theory. Basic concepts, imported from Catastrophe theory, revealed new phenomena in HHG (Nature Photonics, 2012). Both directions of research; pulse characterization and catastrophes in HHG open up new opportunities for measurement and control of strong-field and attosecond processes.

Dudovich’s group contributed to the study of the basic mechanism underlying attosecond processes. They studied these processes very close to the ionization threshold, where the standard model that describes the mechanism fails (Phys. Rev. Lett., 2010). In a different experiment, performed at the Bordeaux University, they studied the role of the ionic Coulomb force in attosecond processes and found that it plays a major role on both its temporal and spatial properties (Phys. Rev. Lett., 2012). Attosecond technology can also be applied to perform spatial measurements with Angstrom accuracy. Dudovich’s group introduced a new measurement scheme that allows one to probe systems that cannot be directly controlled in the laboratory. This scheme enabled them to reveal the structure of atomic wave functions (Nature Physics, 2009). Although strong-field interactions hold

great promise, they pose new challenges: can we resolve the dynamics of the interaction while all degrees of freedom are strongly coupled? Dudovich's group has established the concept of perturbative measurements in attosecond science. Applying this approach provided direct insight into one of the most fundamental strong-field phenomena – tunnel ionization. Their experiment resolved, with attosecond accuracy, the time at which an electron exits a tunneling barrier. When the scheme was extended to molecular systems, her group was able to resolve subtle differences between the dynamics associated with two ionization channels (Nature, 2012).

Dr Dudovich wishes to acknowledge her strong collaborations with leading experimental and theoretical centres such as the Bordeaux University in France, the Max Born Institute in Berlin, Germany, and the National Research Council in Ottawa, Canada. These collaborations are a key component in the scientific achievements acknowledged by the IUPAP Young Scientist Prize.

IUPAP Young Scientist Prize in Optics 2013: Andrea Alù



Andrea Alù is an Associate Professor and the David & Doris Lybarger Endowed Faculty Fellow in Engineering, in the Department of Electrical and Computer Engineering at the University of Texas at Austin in Austin, Texas, USA. He has been awarded the IUPAP Young Scientist Prize in Optics 2013 “for groundbreaking work in metamaterials and plasmonics, and for the introduction of the concept of scatteringcancellation-based metamaterial cloaking”.

Prof. Alù received the Laurea, MS and PhD degrees from the University of Roma Tre, Rome, Italy, respectively in 2001, 2003 and 2007. After spending one year as a postdoctoral research fellow at the University of Pennsylvania, Philadelphia, in 2009 he joined the faculty of the University of Texas at Austin. His research interests span a broad range of technical areas, including applied electromagnetics, nano-optics, nanophotonics, and acoustics. He is the co-author of an edited book on optical antennas and over 210 journal papers, among them several high-impact publications with a large number of citations to date. His findings in metamaterials, plasmonics and cloaking have been regularly highlighted in the general press. In light of his scientific record, Alù has received several prestigious scientific awards and recognitions from various technical societies, including the OSA Adolph Lomb Medal (2013), the inaugural Franco Strazzabosco Award and the Medal of Representation of the President of the Republic of Italy (2013), the SPIE Early Career Investigator Award (2012), the URSI Issac Koga Gold

Medal (2011), an NSF CAREER award (2010), the AFOSR and the DTRA Young Investigator Awards (2010, 2011). Alù is currently a Fellow of IEEE and OSA, a full member of URSI and a senior member of SPIE, an associate editor of five journals, including the IEEE Antennas and Wireless Propagation Letters and Optics Express. He has guest-edited special issues for the IEEE Journal of Selected Topics in Quantum Electronics, for Optics Communications, for Metamaterials and for Sensors on a variety of topics involving metamaterials, plasmonics, optics and electromagnetic theory. He has been serving as OSA Travelling Lecturer since 2010 and as the IEEE joint AP-S and MTT-S chapter chair for central Texas.



TRIENNIAL REPORT OF THE ICO GALILEO GALILEI COMMITTEE

The ICO Galileo Galilei Award was established in 1993 and has been awarded annually since 1994. The Award is granted to those who in addition to their scientific work in pure or applied optics and photonics are active in management and organization of optics in her/his homeland and cooperation outside the homeland. The Award is justified by comparatively unfavorable circumstances under which outstanding contributions are achieved. "Comparatively unfavorable circumstances" refers to difficult economic or social conditions or lack of access to scientific or technical facilities or sources of information.

The award winners are:

- 1994 Ion N. Mihailescu, Romania.
- 1995 Rajpal S. Sirohi, India.
- 1996 Daniel Malacara, Mexico.
- 1997 Natalya D. Kundikova, Russia.
- 1998 Ajoy K. Ghatak, India.
- 1999 Mario Garavaglia, Argentina.
- 2000 Vladimir P. Lukin, Russia.
- 2001 Kehar Singh, India.
- 2002 Rashid A. Ganeev, Uzbekistan.
- 2003 Cid B. de Araujo, Brazil.
- 2004 Milivoj Belic, Serbia and Montenegro, and Caesar Saloma, Philippines.
- 2005 Valentin Ionel Vlad, Romania.
- 2006 Mohammed M. Shabat, Palestine.
- 2007 Oleg V. Angelsky, Ukraine.
- 2008 Joewono Widjaja, Thailand.
- 2009 Dumitru Mihalache, Romania, and Marat Soskin, Ukraine.
- 2010 Mohammad Taghi Tavassoly, Iran
- 2011: Jan Peřina, Czech Republic

2012: Mikhail V. Fedorov, Russia

2013: Kazimierz Rzażewski, Poland.

In the period Oct 1, 2011 - Sep 30, 2014 the ICO Galileo Galilei Award Committee was composed of Gert von Bally (Germany), Paul K. Buah-Bassuah (Ghana), Prof. Yujie Ding (USA), Prof. Min Gu (Australia), Prof. Bishnu P. Pal (India), Prof. Tomasz Szoplík (Poland), Prof. Valentin I. Vlad (Romania), Prof. Ichirou Yamaguchi (Japan) and chaired by Prof. Zhou Bingkun (China).

The award consists of:

- The Galileo Galilei Medal. The silver medal with the portrait of Galileo Galilei is donated by the Italian Society of Optics and Photonics, SIOF (Società Italiana di Ottica e Fotonica),
- assistance in travel to present an invited paper and receive the award at the next ICO Congress or another ICO meeting mutually agreed to by the Bureau and the award winner,
- a cash donation, and
- special attention and appropriate measures of ICO to support the future activities of the award winner.



The formal rules of the ICO Galileo Galilei award are found in section 10 of the Rules and Codes of Practice in this booklet.

The Galileo Galilei Award winner 2011: Jan Peřina, Czech Republic



Jan Peřina is professor of quantum electronics and optics at the Department of Optics, Palacký University, Olomouc, Czech Republic. He was born in Mestec Králové (Czech Republic). He received his Doctor of Natural Sciences (RNDr) and PhD degrees from Palacký University in 1966 and 1967, respectively and his degree of Doctor of Sciences (DrSc) from Charles University in Prague in 1984. He is the author of more than 350 scientific papers and reviews in the fields of coherence theory, photocount statistics, and nonlinear and quantum optics that have received more than 2000 citations.

He was awarded "for his impressive results on quantum optics and coherence regarding non-classical states achieved under difficult circumstances". The committee considered it

impressive how he could make so much work in the difficult conditions existing in Czechoslovakia during the years of his maximum activity.

His research papers and books, especially the original Coherence of Light (published 1972), have served as a major source of information and educational inspiration for generations of scientists and students. While the Czech Republic no longer qualifies as a developing nation, much of Peřina's contributions saw the light of day when his institution in Olomouc was still part of the old Czechoslovakia, i.e. under unfavourable conditions. Peřina worked at Istituto di Ricerca sulle Onde Elettromagnetiche in Florence (1968), was a visiting professor at Wrocław Technical University (1974 and 1977) and Jena University (1976), the I I Rabi visiting scientist at Columbia University in New York (1983), a visiting professor at Roma University "La Sapienza" (1981 and 1986) and at universities in Austria (Innsbruck, Graz and Atominstitut-Wien, 1991).

Peřina was elected fellow of the Optical Society of America in 1984 and of the Czech Learned Society in 1995, and has been vice-chairman of the Czech and Slovak Chapter of SPIE. He is a member of the international editorial boards of Progress in Optics, Optics and Fine Mechanics and Aptica Applicata, and has served as a member of the editorial boards of Journal of Modern Optics (Optica Acta), Quantum Optics, Czechoslovak Journal of Physics, Acta Physica Slovaca, Optics Letters and Acta Physica Polonica. Peřina has been a member of the organizing and advisory committees of several ICO Congresses and was elected ICO vice-president for 1987-1990. Among other distinctions, he has received the State Award of the Czech Republic for Merit.

The Galileo Galilei Award winner 2012: Mikhail Vladimirovich Fedorov from the Russian Academy of Sciences



Professor Mikhail V. Fedorov was born in Moscow in 1940. He graduated from the Physics Faculty of Moscow State University in 1964 and joined the P.N. Lebedev Physical Institute, USSR Academy of Sciences. Since 1987, Professor Mikhail V. Fedorov has been with the General Physics Institute, Russian Academy of Sciences, where he now heads the Theoretical Laboratory in the Division of High-Power Lasers. He was awarded the ICO Galileo Galilei Award "for development of interference stabilization of atoms and a theory of

quantum entanglement features arising from particle symmetry and his successful achievement of science and the maintenance of scientific credibility during the more than decade-long social and economic turbulence that distorted all Russian institutions of education and science." It was during the difficult years between 1987 and 1990 when Prof. Fedorov made one of his most remarkable discoveries. In a paper in J. Phys. B, 21 L155 (1988) he predicted a very unusual and counter-intuitive effect: atomic stabilization in

intense laser fields. For the next decade, atomic stabilization has become a hot topic at every major conference on the physics of laser-matter interaction.

More than half a century ago Prof. Fedorov worked on the theory of stimulated bremsstrahlung in a strong laser field. The obtained result is the analytical expression for multiphoton probabilities known as the Bunkin-Fedorov formula. After 1979 he elaborated a multiphoton quantum theory of Free-Electron Lasers that described saturation.

During the decade of the breakdown of the former Soviet Union, he worked out a theory of interference stabilization of Rydberg atoms in a strong laser field. The phenomenon is counterintuitive and consists in a slowing down growth of the ionization rate with a growing field intensity. The effect is predicted and explained in terms repopulation of Rydberg levels in the process of ionization in a sufficiently strong field and destructive interference of transitions from these levels to the continuum. The effect remains interesting and attractive attention of researches even nowadays.

Since 2004 and until now Prof. Fedorov has been investigating quantum biphoton systems. He has shown that entanglement can be extremely high in states with continuous variables, such as angular variables or frequencies of photons. Experimental confirmation of the results derived theoretically. Analysis of the degree of entanglement in simple systems like polarization biphoton qutrits and polarization-frequency ququarts with a special attention paid to features of such states determined by the Bose-Einstein statistics of photons as bosons and resulting symmetry requirements for biphoton wave functions.

The Galileo Galilei Award winner 2013: Kazimierz Rzażewski from Poland



Professor Kazimierz Rzażewski was awarded the 2013 Galileo Galilei Award "for scientific contributions to the area of theoretical quantum optics, ultracold atomic gases and theory of intense laser-matter interactions as well as to the creation of Polish quantum optics school under difficult political circumstances." He was born in Warsaw, Poland, and obtained his Master and PhD degrees in Physics from the Warsaw University, in 1966 and 1972 respectively, and his Habilitation in 1979. Since 1988 he is Professor at the Center for Theoretical Physics of the Polish Academy of Sciences, and during 1998-2002 he was appointed as its director.

His research interests comprise quantum optics, atom optics and fundamental problems of quantum mechanics. His recent work has been centered on the study of cold, quantum degenerate gases, and in particular of the Bose-Einstein condensation. By means of a classical field approximation for temperature effects in a Bose-Einstein condensate, he and his co-workers have recently predicted spontaneously generated solitons in a quasi one-

dimensional Bose gas. He is fellow of the American Physical Society since 1998, and of the Institute of Physics (UK) since 2002. Prof. Rzażewski has been member of the organizing committees of a large number of international conferences, between them the organizing committee of the series Quantum Optics that has been held in Poland every four years since 1985; since 2005 he has chaired the Organizing Committee.



TRIENNIAL REPORT OF THE ICO/ICTP GALLIENO DENARDO AWARD COMMITTEE

ICO, the International Commission for Optics, and ICTP, the Abdus Salam International Centre for Theoretical Physics, Trieste, agreed to establish since 2000 a joint prize, called the ICO/ICTP Award. In September 2007, the ICTP and ICO agreed to rename the ICO/ICTP Award as ICO/ICTP Gallieno Denardo Award to honor the memory and legacy of the late Prof. Gallieno Denardo.

The award winners to this date are:

- 2000: Arbab Ali Khan (Pakistan)
- 2001: Arashmid Nahal (Iran) and Fernando Pérez Quintián (Argentina)
- 2002: Alphan Sennaroglu (Turkey)
- 2003: Robert Szpöcs (Hungary)
- 2004: Imrana Ashraf Zahid (Pakistan) and Revati Nitin Kulkarni (India)
- 2005: Sarun Sumriddetchkajorn (Thailand)
- 2006: Héctor Manuel Moya Cessa (México)
- 2007: Svetlana Boriskina (Ukraine)
- 2008: Mourad Zghal (Tunisia)
- 2009: Saifollah Rasouli (Iran)
- 2010: Cleber Mendonça (Brazil)
- 2011: Iván Moreno (Mexico) and Ryan Balili (Philippines)
- 2012: Selçuk Akturk (Turkey)
- 2013: Mohammad D. Al-Amri (Saudi Arabia)
- 2014 María Florencia Pascual-Winter (Argentina) and John Fredy Barrera Ramírez (Colombia).

Members of the ICO/ICTP Gallieno Denardo Award Committee are Ahmadou Wague (Chair), Joe Niemela, Anna Consortini and Mitcho Danailov.

The award is reserved for young researchers from developing countries (as defined by the United Nations), who conduct their research in a developing country. It will be given to scientists less than 40 years old (on December 31 of the year for which the award is given), who are active in research in Optics and have contributed to the promotion of research activities in Optics in their own or another developing country.

The award consists of the following:

1. The ICO gives a cash amount of US\$1000 and a diploma.
2. The ICTP invites the winner to attend a three-week-long College at Trieste at the next appropriate opportunity, and to give a seminar on his/her work when appropriate. ICTP will pay for travel and living expenses.

The award is presented to the winner at the ICTP in Trieste in the presence of representatives of ICO and ICTP. The winner is selected on the basis of nominations received by the Award Committee in response to a call published by both ICO and ICTP. The nominations must be documented with a complete curriculum vitae including a list of publications and selected reprints (no more than three) as well as a complete employment history and a description of the nominee's achievements for the promotion of research activity in developing countries. Award nomination form: <http://e-ico.org/activities/awards>

2012 ICO/ICTP Gallieno Denardo Award winner: Selcuk Akturk, Turkey



The ICO/ICTP Gallieno Denardo Award 2012 was awarded to Selcuk Akturk from Istanbul Technical University, Istanbul, Turkey, "for his valuable work in the field of ultrashort optical pulses and in particular for his contributions to the development of ultrashort pulse characterization techniques and their applications to ultrafast nonlinear optics".

Selçuk Akturk obtained his bachelor degree in 2001 from Bilkent University (Ankara, Turkey) and his PhD in 2005 at Georgia Institute of Technology (Atlanta, Ga, USA), both in Physics. From 2006 to 2009, he worked at Laboratoire d'optique Appliquée of Ecole Polytechnique at Palaiseau, France. Since 2009, he is a faculty member at Istanbul Technical University (Istanbul, Turkey), Department of Physics Engineering, currently at Associate Professor level. His research is mainly on the subject of Ultrafast Optics, including fundamental and applied aspects of femtosecond-pulsed lasers. Recently, he engaged space-time beam and pulse-shaping methods in applications of ultrafast lasers. In these areas, he has authored 34 peer-reviewed articles with more than 550 citations and performed over 80 presentations in international conferences. He has two patents pending. His works were awarded by several institutions including the Turkish Academy of Sciences (TÜBA), SPIE and Berthold Leibinger Foundation. He is a member of the Optical Society (OSA), SPIE and Turkish Physical Society, and has joined now the ICO Golden Book of young ICO awardees, whose work is expected to contribute to further development of Science and technology in their native countries.

2013 ICO/ICTP Gallieno Denardo Award winner: Mohammad D. Al-Amri from Saudi Arabia

Prof. Mohammad D. Al-Amri obtained his M.Sc. degree from Sussex University in 2001, working with Prof. Barry Garraway on problems in the area of quantum optics. He was awarded his PhD degree in Physics in 2004 by the University of York. His advisor was Prof. Mohamed Babiker and he was awarded the best doctoral thesis Stott Prize.

Back in Saudi Arabia, in 2005, he joined King Khalid University for two years and then moved to the National Center for Mathematics and Physics (NCMP) at King Abdulaziz City for Science and Technology (KACST), where he established a quantum optics and informatics group. During his stay at NCMP, he established a fruitful research collaboration with Prof. M. Suhail Zubairy and his group at Texas A&M University (TAMU). Several Ph.D. students are participating in this collaborative program between KACST and TAMU.

His work comprises a proposal for a novel and simple optical lithography scheme for subwavelength lithography based on Rabi oscillations to overcome the diffraction limit. This method is similar to the traditional photolithography but adding a critical step before dissociating the chemical bound of the photoresist. The subwavelength pattern is achieved by inducing the multi-Rabi-oscillation between the ground state and one intermediate state. The work in this area resulted in several publications. One of them [Physical Review Letters 105, 183601 (2010)] was spotlighted by the American Physical Society and cited in the *Research Highlights* section of *Nature Photonics* [Vol. 5, January (2011)],

He and his collaborators have contributed in quantum information with a protocol for the teleportation of arbitrary quantum states of four-dimensional qudits [Phys. Rev. A **82**, 022329 (2010)], and discussed quantum teleportation of a high-dimensional entangled state through a single quantum channel [J. Phys. B: At. Mol. Opt. Phys. **45**, 095502 (2012)].

Recently they also presented a scheme where the entanglement change of a two-qubit state due to amplitude damping or weak measurement can be probabilistically reversed [Phys. Rev. A **82**, 052323 (2010)]. The reversal procedure involves a weak measurement, preceded and followed by bit flips applied to both qubits, and proposed a linear optics scheme for the experimental demonstration of these procedures. Their current scheme [J. Phys. B: At. Mol. Opt. Phys. **44**, 165509 (2011)] is based on repeated applications of Hadamard and CNOT gates, work which was granted the US patent No. 20120098564.

2014 ICO/ICTP Gallieno Denardo Award winners: María Florencia Pascual-Winter from Argentina and John Fredy Barrera Ramírez from Colombia.



In 2014 two Latin American Scientists were awarded: María Florencia Pascual-Winter working on quantum optics and John Fredy Barrera Ramírez working in optical encryption. The Award Ceremony was held as customary at the Abdus Salam International Centre for Theoretical Physics (ICTP) during the Winter College on Optics: Fundamental of Photonics – Theory, devices and applications held in February 10-21, 2014.

María Florencia Pascual-Winter is a permanent researcher of the Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina, working in the Institute for Nanoscience and Nanotechnology at the Atomic Center of Bariloche (ACB) in Argentina. She obtained her PhD in Physics in 2009 working on

the generation and optical detection of coherent phonons in nanostructures under the joint supervision of the Laboratory for Photonics and Optoelectronics of the ACB and the Institut of Nanosciences of Paris (INSP) at the Université Pierre et Marie Curie, Paris, France. During her stay at the INSP, she performed pioneering experiments on the generation and detection of acoustic phonons in semiconductor multilayers, based on very sophisticated pump probe experiments using tunable femtosecond lasers. From 2010 to 2013 she performed Postdoctoral research at the Research group for Atomic and Molecular Processors in Solids of the Laboratoire Aimé Cotton, Orsay, France. She was awarded “For her creative theoretical and experimental investigation of original schemes for coherent coupling of optical and microwave interactions in quantum memories for light, and for her commitment to the expansion of the scope of scientific international collaboration between diverse research groups.” She has 11 peer-reviewed publications in international journals and has been awarded six full national and international scholarships from bachelor to graduate level.

John Fredy Barrera Ramírez received his BSc, MSc, and PhD degrees in physics from the University of Antioquia (Medellín, Colombia) in 2001, 2003, and 2007, respectively. His Doctoral Thesis received the academic distinction of Summa Cum Laude. Since 2006 he has been with Antioquia University, where he is currently associate professor in the Physics Institute and coordinator of the Optics and Photonic’s Group.

John Fredy was the recipient of the Greatest impact research during 2012-2013 award given by the Municipality of Medellín-Colombia for his novel contributions in the field of Optical encryption (December 2013). He has been awarded with several fellowships from institutions such as the International Centre for Theoretical Physics ICTP, the World Academy of Sciences TWAS and CONICET (Argentina). His research interests include optical information processing, optical encryption, diffractive optics, holography, and optical pattern recognition. He has authored 36 peer-reviewed articles in international

journals and 13 publications in international conference proceedings with more than 430 citations.

John Fredy was awarded “For his breakthrough contributions to the field of Optical Encryption and its potential applications, as well as his promotion of research and training in optics in Colombia, and dedication to public outreach.”

He has proposed and implemented novel and simple applications for protecting information with optical processors. Some remarkable contributions by John Fredy Barrera Ramírez and his collaborators during the last three years have allowed some limitations of the optical encryption systems to be overcome, thus representing advanced practical tools.

The paper “Optical encryption and QR codes: Secure and noise-free information retrieval”, *Optics Express* 21 5373-5378 (2013) was covered in the Research Highlights section of *Nature Photonics*. Vol. 7 (April 2013) and has appeared in the Top Downloaded Articles in *Image Processing from the Optical Society OSA Journals* over the past two years (February 2014). In this work, a double random phase technique in a 4f architecture and the quick response coding are combined to eliminate any kind of noise in the recovered information. The technique represents an advance in presenting a practical tool, which can be massively used, and solving the problem of ever-present speckle noise altering the outcome in the preceding optical encrypting methods.

The contribution on the “Experimental multiplexing protocol to encrypt text of any length”, *Journal of Optics* 15 055404 (2013), was included in the exclusive section "IOPselect of *IOP Science* (May 2013) and in the collection ‘Highlights of 2013’ of the *Journal of Optics* (January 2014). This experimental technique employs a double random phase encoding technique in a joint transform correlator architecture with a selection-position key not only to encrypt messages of any length, but also to increase the security of the process. A multiplexing procedure allows the processing of messages that the optical system could not process in a single step, while the repositioning technique prevents both natural background noise over recovered characters and possible cross talk.

As another aspect to highlight, the article “All-optical encrypted movie”, *Optics Express* 19 5706-5712 (2011), was nominated and selected by OSA among its six major technical divisions to be showcased in *Spotlight on Optics* (March 2011). In this contribution the first reported technique to obtain an all-optical encrypted movie was proposed and implemented. This movie joins several encrypted frames corresponding to a time evolving situation employing the same security key. The degradation caused by the simultaneous spatial overlapping of the decrypted frames is overcome when the theta modulation method is



applied over each encrypted frame of the movie. The movie can be displayed after correct synchronizing of the filtering and decrypting procedures.

The research line in Optical Encryption was born through a collaboration between the Optics and Photonic's Group (Medellin-Colombia) and Professor Roberto Torroba from Centro de Investigaciones Ópticas CIOp (La Plata, Argentina), and nowadays its collaborative spirit is preserved. Professor Torroba is presently a principal researcher of the Argentinean National Research Council (CONICET), and full professor at the engineering school of the University of La Plata (La Plata-Argentina). Several professors and undergraduate and graduate students from both the Optics and Photonic's Group and CIOp have been involved in this fruitful scientific alliance. The great results of this research collaboration were highlighted in the TWAS Annual Report 2012 (July 2013), and in the TWAS web site with the article "The creative power of collaboration" (August 2013).



MEETINGS WITH ICO PARTICIPATION 2011-2014

Legislative Period Oct 2011 – 30 Sep 2014

1 Oct 2011 - 30 Sept 2012 (Period 1)	date	requested by applicants	decision by ICO	ICO representative
One day course in "Laser applications in medicine and stetic medicine" <i>Merida, Venezuela</i>	17 December 2011	cosp. US \$ 0	end. US \$ 0	
ICTP Winter College on Optics: "Advances in Nano-Optics and Plasmonics", Trieste, Italy	6-17 February 2012		different budget	
VII International Workshop TecnoLaser, "TECNOLASER 2012", and III International Meeting Optics, Life & Heritage, under the theme "Optics and Laser Technology in Science, Industry and Culture", <i>La Habana, Cuba</i>	10-13 April 2012	cosp. US \$ 5,000	cosp. US \$ 2,000	Maria L. Calvo,
FIRST ICO-ICTP-TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations, <i>San José, Costa Rica</i>	30 April-11 May 2012	cosp. US \$ 2,300	cosp. US \$ 2,300	Angela Guzman
3rd Int. Topical Meeting on Optical Sensing and Artificial Vision (OSAV 2012), <i>St. Petersburg, Russia</i>	14-17 May 2012	end. US \$ 1,000	end. US \$ 1,000	Alexander Priezzhev
ICO Topical Meeting: 6th International Conference on Nanophotonics (ICNP 2012), Beijing, China	27-30 May 2012	end. US \$ 0	end. US \$ 0	Min Gu
8th International Conference on Optics-photonics Design and Fabrication "ODF'12, <i>St. Petersburg, Russia</i>	2-5 July 2012	cosp. US \$ 0	end. US \$ 0	Hans Peter Herzig
ICO Topical Meeting: 12th Conference of the International Society on Optics Within Life Sciences "OWLS 12", <i>Genoa, Italy</i>	4-6 July 2012	cosp. US \$ 2,500	cosp. US \$ 1,500	Alberto Diaspro
International Conference "Micro- to Nano-Photonics III "Romopto 2012", <i>Bucharest, Romania</i>	3-6 Sept 2012	cosp. US \$ 2,000	cosp. US \$ 1,500	Valentin Vlad
5th International Conference "Singular Optics 2012", <i>Sevastopol, Ukraine</i>	16-21 Sept 2012	end. US \$ 4,000	end. US \$ 1,000	Oleg Angelsky
			US \$ 9,300	

1 Oct 2012 - 30 Sept 2013 (Period 2)	date	requested by applicants	decision by ICO	ICO representative
4th International Symposium on Transparent Conductive Materials (TCM 2012), <i>Crete, Greece</i>	21-25 Oct 2012	cosp. US \$ 2-3,000	end. US \$ 1,000	Maria Farsari
5th International Photonics and Optoelectronics Meetings (POEM 2012), <i>Wuhan, China</i>	2-5 Nov 2012	end. US \$ 0	end. US \$ 0	Valery Tuchin
Entrepreneurship Workshop, Addis Ababa, Ethiopia	5-9 Nov 2012	cosp. US \$ 5,000	end. US \$ 500	
The Latin America Optics & Photonics Conference (LAOP) <i>Sa Paolo, Brazil</i>	11-13 Nov 2012	end. US \$ 0	end. US \$ 0	Angela Guzman
ICTP Winter College on Optics: "Trends in Laser Development and Multidisciplinary Applications to Science and Industry", Trieste, Italy	4-15 Feb 2013		different budget	
icOPEN2013 (International Conference on Optics in Precision Engineering and Nanotechnology), <i>Singapore</i>	9-13 April 2013	cosp. US \$ 5,000	cosp. US \$ 1,500	Duncan Moore
SPIE Optics + Optoelectronics 2013, <i>Prague, Czech Republic</i>	15-18 April 2013	end. US \$ 0	end. US \$ 0	Angela Guzman
Digital Holography and 3D Imaging, <i>Hawaii, USA</i>	21-25 April 2013	cosp. US \$ 2,000	cosp. US \$ 1,000	Gert von Bally
Tenth Rochester Conference on Coherence and Quantum Optics, <i>Rochester, USA</i>	17-21 June 2013	US \$ 0	end. US \$ 0	Angela Guzman
Satellite Meeting to "Tenth...", QIM-2, <i>Rochester, USA</i>	18-20 June 2013	US \$ 0	end US \$ 0	Angela Guzman
RIA/OPTILAS 2013 Porto, Portugal	22-26 July 2013	cosp. US \$ 3,000	cosp. US \$ 2,000	Maria L. Calvo
ETOP 2013 (2011), Porto, Portugal	23-26 July 2013		cosp. US \$ 2,000	Maria L. Calvo
First African Summer School on Optics and Applications to Sustainable Development, <i>Tunis, Tunisia</i>	1-13 Sept 2013	cosp. US \$ 5,000	cosp. US \$ 1,500	Zhora Lakhdar
Information Photonics, <i>Warsaw, Poland</i>	16-19 Sept 2013	cosp. US \$ 2,500	cosp. US \$ 1,500	Maria L. Calvo
Correlation Optics 2013, <i>Chernivtsi, Ukraine</i>	18-21 Sept 2013	cosp. US \$ 3,000	cosp. US \$ 1,000	Tomasz Szoplik
			US \$ 12,000	

1 Oct 2013 - 30 Sept 2014 (Period 3)	date	requested by applicants	decision by ICO	ICO representative
ICO Topical Meeting: 18th Microoptics Conference (MOC'13), Tokyo, Japan	27-30 Oct 2013	cosp. US \$ 0	cops. US \$ 0	Yasuhiko Arakawa
LAM 10 International Workshop: Lasers Optics and Photonics and Applications, Dakar, Senegal	13-18 Jan 2014	cosp. US \$ 3,000	cosp. US \$ 1,500	Paul Buah Bassuah
ICTP Winter College on Optics: "Fundamentals of Photonics - Theory, Devices and Applications", Trieste, Italy	10-21 Feb 2014		different budget	
Design and Fabrication "ODF'14", Itabashi, Tokyo, Japan	12-14 Feb 2014	cosp. US \$ 0	cosp. US \$ 0	Yosuhiko Arakawa
XXXVIII Annual Symposium of the Optical Society of India 'International Conference on Optics & Optoelectronics (ICOL 2014)', Dehradun, India	5-8 March 2014	end. US \$ 0	end. US \$ 0	Lakshminarayan Hazra
ICTP-ICO-MCTP College on Optics and Energy , Tuxtla, Mexico	30 Apr-11May 2014	cosp. US \$ 4,100	cosp. US\$ 2,500	Angela Guzman
International Conference AOP, Aveiro, Portugal	26-30 May 2014	cosp. US\$ 2,500	cosp. US\$ 2,000	Humberto Michinel
Int. Conference on Optics Within Life Sciences (OWLS 2014), Ningbo, China	10-12 June 2014	cosp. US \$ 3,000	cosp. US \$ 1,500	Gert von Bally
ICO 23rd.General Congress "Enlightening the Future", Santiago de Compostela, Spain	26-29 Aug 2014		(US \$ 7,000 ,different budget)	Humberto Michinel
2nd International Symposium on Optics and its Applications, Yerevan-Ashtarak, Armenia	1-5 Sept 2014	cosp. US \$ 1,500	cosp. US \$ 1,500	Gert von Bally Joe Niemela
			US \$ 9,000	

Budget overview:	Distribution Plan	Current Expenditures	Rest
1. Oct. 2011 - 30. Sept. 2014 total: (US \$ 32,000)			
+ 2,500 US \$ (past legislative period)			
Budget distribution plan:			
1. Oct 2011 - 30. Sept 2012:	(US \$ 11,000)	US \$ 9,300	US \$ 1,700
1. Oct 2012 - 30. Sept 2013:	(US \$ 13,500)	US \$ 12,000	US \$ 1,500
1. Oct 2013 - 30. Sept 2014:	(US \$ 10,000)	US \$ 9,000	US \$ 1,000

US \$ 4,200

Gert von Bally, ICO Associate Secretary



REPORT ON THE ICO-22 GENERAL CONGRESS



*Fernando Mendoza Santoyo,
Chair of the ICO-22 General
Congress*

Mexico was the first Latin American country to host an ICO General Congress that gathers the worldwide optics community. More than 600 participants from 44 countries located in all continents including not only the Americas but Europe, Africa, Asia and Australia presented 594 contributions that covered recent advancements in a wide variety of topics in optics and applications. The ICO-22 with the skillful organization of the hosting institutions and its large attendance turned out to be a formidable conference, whose large international constituency is the proper characteristic of the events organized by the International Commission for Optics.

During the conference the ICO held two award ceremonies. The awardee of the ICO Prize 2010, Prof. Reinhard Kienberger from the Fakultät für Physik at the Technische Universität München, Germany, delivered his Abbe Lecture in a plenary session followed by the Galileo Galilei Lecture by Prof. M.T. Tavassoli from the University of Tehran, Iran, winner of the 2010 Galileo Galilei Award. In the second award ceremony Dr. Eleftherios Goulielmakis from the Max-Planck-

Institute for Quantum Optics in Garching, Germany, first awardee (2009) of the recently created IUPAP Young Scientist in Optics gave his award plenary lecture. There were six other plenary talks by distinguished and worldwide known researchers, 49 invited key-note lectures and 2 special lectures. This account for a total of 60 invited speakers, who shared with the participants recent results of their research at the frontiers in optics and photonics. The rest of the scientific program was organized in 50 simultaneous sessions and three poster sessions. Important companies participated in the exhibit of state of the art optical equipment for industries and research, and editorial companies exhibited updated and specialized publications in optics.

The more important Mexican research institutions collaborated actively to ICO-22, not only as generous sponsors of the conference but through the enthusiastic and active participation of their distinguished researchers. Special mention is deserved in this regard to the presence of the CIO (Centro de Investigaciones en Óptica), the INAOE (Instituto Nacional de Astrofísica, Óptica y Electrónica), the Benemérita Universidad Autónoma de Puebla (BUAP), the CCADET-UNAM (Centro de Ciencias Aplicadas y Desarrollo Tecnológico de la Universidad Nacional Autónoma de México) and the CICESE (Centro de Investigación Científica y Educación Superior de Ensenada, Baja California).



Participants in the ICO-22 General Congress. ICO-22 General Conference held in the William O. Jenkins convention center in Puebla, Mexico, last August 15-19 was a great success thanks to the joint efforts of the main Mexican research institutions, local government and supporting agencies, all coordinated under the outstanding leadership of Fernando Mendoza Santoyo (CIO) and Alejandro Cornejo (INAOE), Chair and Co-Chair of the Conference respectively.

The presence of many national and international organizations and scientific societies that work for the promotion and support of science and technology contributed to make of ICO-22 the main international conference on optics in 2011, and the scientific event of the year in Mexico. Key role was played by the CONACyT (Consejo Nacional de Ciencia y Tecnología de México), the AMO (Academia Mexicana de Óptica) and the DIVO (División de Óptica de la Sociedad Mexicana de Física). All ICO member societies sent their delegates to the conference. SPIE and OSA (The Optical Society), contributed greatly to the diffusion of the event and were present with their respective Presidents and Executive directors at the Conference. Both societies organized special events during the conference to favor networking of the participants.

The President of the LAM Network was invited by the organizers, who also provided grants to several African students. Several other international organizations contributed greatly to the conference, between them, the CLAF (Centro Latinoamericano de Física), the IUPAP (International Union of Pure and Applied Physics (IUPAP) and the ICTP (Abdus Salam International Centre for Theoretical Physics).

Several social events carefully chosen by the organizers allowed the delegates and all participants to get a better



Abdelfettah Ardhadi (Morocco) on the left and Ahmadou Wagué (Sénégal).

knowledge of Mexico, its culture, folklore and tradition, and to taste the exquisite cuisine of Puebla, making of the five-day event an unforgettable experience. Mexico as the first Latin American country to host an ICO General Congress continued the tradition of scientific excellence and true internationality that have characterized ICO Congresses over more than 50 years. The major of Puebla attended the closing ceremony of the event, which included the delivery of awards to the best student presentations.



EDUCATION & TRAINING IN OPTICS & PHOTONICS: ETOP 2013

The leading international conference on education and training in optics held in Porto with record attendance.

The teaching of optics and photonics, critical fields at the core of today's scientific and technological infrastructure, must continually be upgraded and renewed in order to meet the growing demands of research, science and industry for the sake of the sustainable development of our world and humankind. The International Conference on Education and Training in Optics, known as ETOP is the principal conference that brings together the international community of optics and photonics educators, leading optics and photonics scientists, academia, and industry, from all around the world to share experiences and knowledge, to discuss, demonstrate and learn about new developments and approaches to teaching in these fields. Through presentations, panel discussions, workshops and exhibits, it is the intent of this conference to inform professors, students, teachers and professional trainers on how to promote the learning of optics and photonics for the future.



Inauguration of ETOP 013. From left to right: Vasudevan Lakshmarinayanan, Mourad Zhagal (Chair), Mitsuo Takeda, Pereira Leite, Donna Strickland

Since 1988, SPIE, the International Society for Optics and Photonics, and OSA, The Optical Society, have sponsored the ETOP conference. The first meeting, initiated by SPIE's Academic Advisory Committee, focused on undergraduate- and master's-level programs in optics and related fields, the supply and demand for graduates, and academia-industry interaction. The first ETOP was held in conjunction with SPIE's annual meeting in San Diego. It brought together scientists, technicians, and educators to discuss educational programs and the opportunities and challenges for

graduates. The second conference was held in 1991 in St. Petersburg, Russia, for which the ICO joined the founding organizations as a co-sponsor. From there, ETOP became a biennial meeting that has been held in Pecs, Hungary (1993); San Diego, California, USA (1995); Delft, Netherlands (1997); Cancun, Mexico (1999); Singapore (2001); Tucson, Arizona, USA (2003); Marseille, France (2005); Ottawa, Canada (2007); and St. Asaph, Wales (2009). The 2011 conference was scheduled to be held in Tunisia but was canceled by the ETOP Long Range Advisory Committee because of the civil unrest in the region.



Donna Strickland (OSA President) and Duncan Moore (ICO President) dancing at the conference dinner

ETOP 2013 was then held July 23-26 in the beautiful city of Porto, Portugal, sponsored by SPIE, OSA, IEEE, and ICO. It was jointly organized by the Portugal and Tunisia Territorial Committees of the ICO. Conference chairs were Prof. Manuel Filipe P.C. Martins Costa of the University of Minho in Portugal and Prof. Mourad Zghal of the University of Carthage in Tunis, Tunisia. The event was collocated with RIAO/OPTILAS 2013.

We are very proud to present to you the outcome and results of the ETOP'2013 Conference. This event attracted over 210 participants including 68 students, with 140 submitted works including 31 invited presentation, 5 workshops, 3 hands-on activities, 1 short course, a poster session and two parallel sessions with RIAO/OPTILAS (Entrepreneurship in Optics & Photonics session and Women & Optics session). 109 full papers were accepted for publication. It was the first-ever ETOP event of this scale at which we were able to actively engage with and reach out to a wider range of delegates from 38 countries. Additionally, the Conference served as a forum for representatives from academia and industry as well as students to interact and build bridges. The different sessions provided the framework of wider discussions on how to improve education, training and teaching in the field of optics and photonics. Indeed, the four days were buzzing with lively discussion and debate – not only during the interactive sessions, but also around the coffee tables!

We would finally like to express our thanks to our host, the Science Faculty of the University of Porto, for providing its premises, technical equipment and ever-helpful staff. And last, but certainly not least, we wish to thank wholeheartedly all contributors and participants of this event for making it an informative as well as enjoyable event!

*Conference chairs
Prof. Manuel Filipe P.C. Martins Costa
(University of Minho, Portugal) and
Prof. Mourad Zghal (University of Carthage, Tunisia)*

ICO TOPICAL MEETING 2013: THE 18th MICROOPTICS CONFERENCE (MOC'13)



Kenichi Iga, considered by many to be the father of microoptics

The 18th Microoptics Conference (MOC'13) was held from October 27 through 30, 2013 at Tokyo Institute of Technology, Tokyo, Japan, and sponsored by the Japan Society of Applied Physics (JSAP). Microoptics Conferences have been operated by Microoptics Group, Optical Society of Japan, JSAP, which was primarily founded by Kenichi Iga, Emeritus Professor of Tokyo Institute of Technology and several members in 1980. After the 1st MOC held in 1987, MOC has been held every two years in Japan until 2003. Since 2004, it has been held alternately overseas and in Japan every year except 2012. The 17th MOC was held in 2011 in Sendai where the Great East Japan Earthquake gave a huge damage. That conference was the first international event after the earthquake and contributed to encourage the restoration from the academic viewpoint.

The microoptics started in Japan is recognized as one of the leading technologies spread throughout the world and thereby brought innovations to the information society. Currently, it plays an important role in optoelectronics. Huge number of devices has been developed based on microoptics technologies, which includes light emitting devices such as quantum-dot semiconductor lasers, VCSELs, and LEDs, functional devices such as modulators, passive devices such as microlenses and planar lightwave circuits, and so on. These devices have created various optical systems such as optical communications, optical storages, optical information processing, displays, and sensing. In addition, novel optical systems such as environmental optics for sustainable society and biomedical optics for human healthcare are gaining much attention nowadays.

The MOC is held for the purpose of supporting the continuous and diversified growth of the microoptics field, and stimulating broad



At MOC2013 and the 2013 ICO Bureau meeting, the ICO President and three former Presidents met in Tokyo. Left to right: T Asakura, J Tsujiuchi, D Moore, and A Friberg.

discussion on its theory, design, materials, measurement, active and passive devices, integration technology, and related topics. New applications discussed were Green Photonics, Environmental and Energy optics, Bio- and Medical optics, Nano-photonics, Quantum systems, next generation and intelligent microoptics, Agricultural and Fishery optics, etc. Prof. Iga organized a micro-concert by the Machida Philharmony Baroque Ensemble for the attendants of MOC'13. There were 208 participants, 3 plenary talks, 15 invited talks including 5 in a Special Session on Green Photonics and 115 contributed papers papers. The Conference included a Technical Exhibition with 6 companies, and a tabletop exhibition. The MOC Award was awarded to Andreas Bräuer (Fraunhofer IOF), Christopher R. Doerr (Acacia Communications Inc.), and Masataka Nakazawa (Tohoku Univ.).

The ICO Bureau 2013 was held in Tokyo on occasion of the MOC'13. Members of the ICO Bureau were invited to a special reception with distinguished members of the Optics Community in Japan, two of them former ICO Presidents, Prof. T. Asakura (ICO President 1996-1999), and Prof. J. Tsujiuchi (ICO President 1981-1984).

Prof. Arakawa, ICO Vice President elected, hosted the Second ICO Strategic Committee and the ICO Bureau 2013 meetings, where novelty actions to steer the future of ICO were discussed.



Members of the ICO Bureau and Strategic planning committee with former Japanese ICO Presidents. From left to right in the back M Oron, U Gibson, A Wagué, G von Bally, J Harrington, F Höller, Y Arakawa, Y Yamaguchi, Zhou Bingkun, H Michinel; in the first row: T Asakura, J Tsujiuchi, D Moore, A Friberg and A Guzmán.

The 19th Microoptics Conference took place on June 24-27, 2014 at Université NICE Sophia Antipolis, Nice, France, and was held as joint conference with ECIO as ECIO-MOC2014. The 20th Microoptics Conference (MOC'15) is under planning to be held in the autumn of 2015 at Kyushu area of Japan.



RIAO/OPTILAS 2013

The VIII Reunión Iberoamericana de Óptica / XI Reunión Iberoamericana de Óptica, Láseres y Aplicaciones - VIII Reunião Iberoamericana de Óptica/XI Reunião Iberoamericana de Óptica, Lasers e Aplicações, RIAO/OPTILAS 2013, run very successfully in an exciting friendly and most pleasant way. 441 participants from 39 countries openly shared ideas and experiences discussing the remarkable and exciting developments on last three year in Optics in Iberoamerica presented at the conference.



Manuel Filipe Pereira da Cunha Martins Costa (Chair of the conference and President of SPOF).

The conference was organized July 22 to 26, 2013, at the University of Porto in Portugal. Twenty one years after the first Iberoamerican Optics Meeting (Reunión Iberoamericana de Óptica - Reunião Iberoamericana de Óptica, RIAO) in Barcelona, the reference meeting of the Iberoamerican Optics community returned to the Iberian Peninsula and it was the greatest of the honors for us the Portuguese Society for Optics and Photonics, SPOF, to welcome colleagues from all over Iberoamerica and the word to Portugal renewing friendships and growing many more!

The success of the conference was only possible with the active support and commitment of the Red(e) Iberoamericana de Optica, the Spanish Optical Society, SEDOPTICA, the Mexican Academy of Optics, AMO, the Colombian Optics Network, RCO, the Venezuelan Optics Committee, CVO, and many colleagues and institutions from all over Iberoamerica. The endorsement and active support of the most important international scientific Optics societies - ICO, SPIE, and OSA - represented at the highest level, and of several major institutions - Photonics'21, EOS, LAM, SECPhO, EPIC -, and national societies committees and boards - STO, OPSS, APLO, SPF, FCT -, as well as of the SPIE and OSA student chapters of the University of Porto and the University of Aveiro, INESC and the University of Porto was fundamental and much appreciated.

From the 605 works accepted, 581 were effectively presented. 13 high level plenary lectures, 61 key lectures covering all fields of Optics and Photonics, 135 oral communications and 372 posters were presented and attended by 441 participants, including over 158 students, from 39 countries from all over Iberoamerica and the world. 249 full papers were accepted for publication at the proceedings book (to be published by SPIE in November). Two very interesting special sessions and round tables on "Entrepreneurship in Optics & Photonics" and "Women&Optics" were organized with strong active participation of the audience. These sessions were jointly organized in the frames of RIAO/OPTILAS2013 and of ETOP2013. The 12th Education and Training in Optics and Photonics Conference was very successfully organized in parallel and in an articulated way with RIAO/OPTILAS'2013. The participation of students (158) and young

researchers was very positive and a very good sign of the growth potential of our Iberoamerican O&P research. SPIE and OSA student prizes were awarded. As well it was held within RIAO/OPTILAS2013 the ceremony of the IUPAP Prize 2012 awarded to Nirit Dudovich, Weizmann Institute, Israel for the work “Resolving and manipulating attosecond processes via strong-field light-matter interactions”.

The board of the Red(e) Iberoamericana de Optica meet during the conference and Prof.



Students of the SPIE Chapter largely contributed to the excellent organization and social activities of the conference. Here with the panelists of the round table on “Entrepreneurship in Optics & Photonics”, Eric Rosas, Duncan Moore, Gerd Haeusler and Eugene Arthurs.

Dr. Pedro Andrés Bou, was sworn in as new president. The recent activities of the red(e) and very positive prospects of evolution were presented during the general assembly of RIAO/OPTILAS.

RIAO/OPTILAS, the reference meeting in Optics in Iberoamerica and our main "window" to the world, will keep growing and re-enforce itself and next edition to be held in Chile the fall of 2016 will be another great success reflex of the decisive importance of Iberoamerica' contribution to the development of Optics and Photonics.

Hope to see you all there!

*Manuel Filipe Pereira da Cunha Martins Costa
Universidade do Minho, Braga, Portugal, July 29, 2013.*

THE ICO/ICTP INITIATIVE FOR CENTRAL AMERICA

FIRST ICO/ICTP/TWAS CENTRAL AMERICAN WORKSHOP IN LASERS, LASER APPLICATIONS AND LASER SAFETY REGULATIONS



From 30 April to 11 May, 2012, the Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations, organized by the International Commission for Optics (ICO), the Abdus Salam International Center for Theoretical Physics (ICTP) and the Third World Academy of Science (TWAS), took place in San José, Costa Rica. The workshop also had the support of the Ibero-American Network for Optics (RIAO) and the Latin-American and

Caribbean Consortium of Engineering Institutions (LACCEI). The hosting institution was the University of Costa Rica (UCR), School of Electrical Engineering, which provided organization and infrastructure.

The workshop was devoted to a review of fundamental concepts of laser radiation and applications to optical communications, industry and medicine, and to provide training in relevant academic and scientific areas. Its aim was to contribute, on an advanced level, to the dissemination of the relevance of optics, photonics and laser technologies in Central America as key tools for the young generation's formation in this area of the world. The workshop included a total of 11 lecturers: Maria L Calvo, Complutense University of Madrid, Spain; Jaime Cascante, School of Electrical Engineering, UCR; Humberto Cabrera, Venezuelan Institute for Scientific Research (IVIC); Jorge Castro, Caracas Oncological Hospital, Venezuela; Angela Guzmán, University of Central Florida, CREOL, USA; Luis Diego Marín (UCR), Costa Rica; Erwin Martí-Panameño, Autonomous University of Puebla, Mexico; Iván Moreno, University of Zacatecas, Mexico; Luis Ponce Cabrera, Center for Research in Applied Science and Advanced Technology (CICATA), Mexico and Cuba; Eric Rosas,



Inauguration of the workshop. Left to right: Luis Diego Marín, local organizer, Edwin Solórzano, dean of the School of Electrical Engineering, and Maria L Calvo, one of the two co-directors and

The workshop also included several special invited lecturers: José Díaz Caro, from INDRA, Spain, who gave an insight into emerging technologies in optics and photonics and professional challenges; Manuel Limonta, director of the regional office for Latin America of the International Council for Science (ICSU-ROLAC); Carmen Samayoa, former president of the Academy of Sciences of Guatemala, who talked about the activities with lasers equipment in her country; and Karla Ubieta, a professor of the Autonomous University of Nicaragua, who explained the programmes in physics and future inclusion of novel topics in lasers.



From left: Luis Ponce, CICATA, Mexico and Cuba; Angela Guzmán, ICO secretary general; and Manuel Limonta, director of the Latin-American regional office of the International Council for Science.

Two special panels were organized. In the first week the panel was dedicated to the activities of ICO, ICTP, and RIAO, and possible interesting information for young researchers on future activities. During the second week panel, devoted to ICSU Latin-American regional office activities, Dr Manuel Limonta delivered a presentation on the four ICSU scientific strategic plans, namely, Biodiversity, Natural Hazards and Disaster Risks, Sustainable Energy and Mathematics Education. Also discussed was the center ICTP-MAIS (Meso-American Institute for Science), located

in Ocozocoautla de Espinosa, in Chiapas, Mexico. The two directors of ICTP-MAIS, Arnulfo Zepeda and Ely Santos described the structure and research lines of this institute devoted to theoretical physics, mathematics and applications to energy.

A visit to the Irazú volcano provided a very special taste of a splendid geographical area that sustains no less than 5% of the Earth's biodiversity. This meeting also represented a good opportunity for networking with other regional scientific institutions for future collaboration activities.

ICO is grateful to all scientific institutions and commissions that support this initiative, and to UCR, for the wonderful hospitality and remarkable efficiency in providing infrastructure.

It is expected that the activity will continue, and the organization of a second workshop is under consideration as a natural extension of the unique ICO/ICTP/TWAS joint venture.

Last, but not least, ICO expresses its deepest gratitude to Prof. Fernando Quevedo, executive director of ICTP, for supporting globally the materialization of this initiative since its inception

Maria L Calvo, ICO Past-President

ICO/ICTP/MCTP COLLEGE ON OPTICS AND ENERGY, 2014



The 21st century is the century of photonics and of the revolution triggered by renewable energy resources. Sustainable technologies and devices for energy production involve fundamental aspects of physics such as interaction of matter with radiation, optics and optical devices for diagnostics, physical properties of materials in the optical band, the physics of semiconductors and new photo materials. The search for improvement of the efficiency of solar energy systems also involves research in new areas like silicon photonics, new structures for the harvesting of light, and the design and fabrication of

optical elements with high optical performances, such as photovoltaic concentrators.

The College on Optics and Energy was held at the MCTP in Tuxtla Gutiérrez, Chiapas, México, from 28 April to 9 May 2014, and was organized by the ICTP in collaboration with the ICO, the MCTP, and the Iberian American Network on Optics_(RIAO). The College was intended to provide researchers from developing nations, and in particular Latin America and the Caribbean, with a scientific understanding of photovoltaic systems, recent scientific achievements in nanotechnology for the enhancement of the efficiency of solar



Participants at the ICTP-ICO-MCTP College of Optics and Energy.

cells, and global tendencies towards efficient energy consumption and the implementation of smart grids.

College Directors were María L. Calvo, Universidad Complutense de Madrid, Spain; Angela M. Guzmán, CREOL, University of Central Florida, USA; Arnulfo Zepeda, Director of MCTP, Chiapas, Mexico; and Joseph Niemela, ICTP, Italy. The local organizing Committee was presided by Elder de la Rosa, director of the CIO (Centro de Investigaciones en Optica), León, Guanajuato. México, and worldwide expert on material science, who contributed with his expertise and strong academic and financial support to the event, facilitating the participation of CIO lecturers Oracio Barbosa, and Eric Rosas.

Other lecturers were Juan Carlos Miñano, Universidad Politécnica de Madrid, Spain; Elena Golinelli, RSE, Italy; Rajesh Menon, University of Utah Laboratory for Nanotechnologies, USA; Rafael Guzmán, Universidad de Guanajuato, Mexico; Arturo Fernández Madrigal, UNAM, Mexico; Arturo Morales-Acevedo, I.P.N. Mexico; Iván Moreno, Universidad Autónoma de Zacatecas, México; Omar A. Ormachea, Universidad Privada Boliviana, Bolivia; and Alberto Varela, St. Thomas University, USA. The ICO thanks all of them for their enthusiastic interaction with the select group of students (2 from Colombia, 1 from Cuba, 5 from El Salvador, 1 from Guatemala, 1 from Honduras, 18 from Mexico and 1 from Venezuela), who showed great enthusiasm and interest throughout the event.



Students had the opportunity to attend lectures ranging from the fundamentals of photovoltaics, including organic solar cells and solar energy storage, to novel photovoltaic materials and light harvesting structures. optical design and novel technologies for high performance solar concentrators, solid state lighting, power generation diagnostics with optical spectroscopic techniques and practical examples of optimization of energy portfolios and installation of insular solar energy systems.

Hands-on activities for measuring the local solar spectrum, characterization of solar cells and energy saving sources for lighting were developed especially for the event and are expected to be the seed for an ALOP module on Optics and Energy. Presentations and videos of lectures and other activities are available at the MCTP webpage www.mctp.unach.mx



THE ICTP WINTER COLLEGE (2011-2014)

ICO continued its involvement on ICTP activities collaborating with the ICO Winter College, event where ICO holds an annual Award Ceremony for the ICO-ICTP Gallieno Denardo Prize Awardee, and a reception for the participants. The Winter College is preceded by an ICTP Preparatory School whose purpose is to provide basic elements of theoretical optics relevant to the College Lectures, enabling the students to be better prepared for the College.

Prof. Joseph Niemela is responsible for the activities in Optics at ICTP and has been the local organizer of the Winter College since 2009. Dr. M. Danailov, the director of the Laser laboratory at Elettra has also acted as local organizer of several Colleges. Prof. Joseph Niemela is currently in charge of the UNESCO's Active Learning on Optics and Photonics (ALOP) Program. The Winter College is preceded by an ICTP Preparatory School whose purpose is to provide basic elements of theoretical optics relevant to the College Lectures, enabling the students to be better prepared for the College.

The last two years, on occasion of the TSOSA Meeting at ICTP, two meetings of the Optical Community have been held at ICTP to plan activities for the International Year of Light 2015.

THE ICTP WINTER COLLEGE ON OPTICS 2012: ADVANCES IN NANO-PHOTONICS AND PLAMONICS



Participants in the 2012 Winter College on Optics: Advances in Nanophotonics and Plasmonics. In the front row from left to right, J. Niemela (local organizer), M. Bertolotti and Z. Ben Lakhdar, directors of the School

The 2012 ICTP Winter College on Optics: Advances in Nano-photonics and Plasmonics was held on February 6-17, 2012. The Directors of the College, M. Bertolotti, N. Zheludev, and Z. Ben Lakhdar gathered a select group of 12 lecturers to present the new advances in nano-optics and nanophotonics with emphasis on plasmon physics and plasmonic devices.



ICTP Photo Archives

From left to right, C. Bernardoni (widow of the late Gallieno Denardo), A. Wagué, S. Akturk (Awadee), J. J. Niemela, M. L. Calvo (ICO Past-President), M. Danailov, A. Consortini.

Surface plasmon polaritons (SPPs) are electromagnetic excitations on the surface of a good metal whose electromagnetic field is confined to the vicinity of the dielectric-metal interface. This confinement leads to an enhancement of the electromagnetic field at the interface, and the resulting increase in sensitivity is extensively used in chemo- and bio-sensors. The field enhancement is also responsible for surface enhancement of optical phenomena such as Raman scattering, second harmonic generation, fluorescence, etc. Light manipulation using SPPs can be effectively reduced from three to two dimensions and SPPs also allow scaling down optical and electronic devices to nanometric dimensions as well as providing a great deal of flexibility in photonic integration in all-optical circuits. Innovative integrated components combining photonics and electronics can therefore be devised and the manipulation of optical signals on a sub-wavelength scale is made possible. They play a role in an increasing number of applications, including in the field of energy, new lasers and nonlinear devices. Plasmons are also needed to explain the behavior of nanoscale systems and devices. Applications of plasmonics to bio-sensors, energy, and communications were discussed. The Winter College was attended by 99 participants.

During the Winter College the ICO held the Award Ceremony for the ICO/ICTP Gallieno Denardo Award, and a reception for all participants. The Award is dedicated to the memory of Gallieno Denardo, who passed away on the summer of 2007 ([ICO Newsletter 73](#), October 2007), Professor at the University of Trieste and Head of the Optics Programs at the Abdus Salam International Centre for Theoretical Physics for 20 years. The first ICTP Winter College on Optics was organized by Gallieno Denardo and held in 1988. Thousands of scientists from developing countries have since benefited by participating in this activity that brings every year a distinguished group of lecturers from all over the World to instruct young minds on the most recent advances in different areas of optics and photonics.

J. Niemela, head of the Optics Program at ICTP, invited Ms. Chiara Bernardoni, widow of the late Gallieno Denardo to participate in the 2012 Award ceremony, where a tribute to his memory and work in favor of education and research in optics in developing countries was presented. The 2012 ICO/ICTP Gallieno Denardo Award was awarded by the award Committee, consisting of A. Wagué (Chair), A. Consortini, J. J. Niemela, and M. Danailov, to Selcuk Akturk, from Turkey, "for his valuable work in the field of ultrashort optical pulses and in particular for his contributions to the development of ultrashort pulse characterization techniques and their applications to ultrafast nonlinear optics."

THE ICTP WINTER COLLEGE ON OPTICS 2013: TRENDS IN LASER DEVELOPMENT AND MULTIDISCIPLINARY APPLICATIONS TO SCIENCE AND INDUSTRY



The Winter College was attended by 84 participants and consisted of two parts. The first one presented trends in the development of laser sources, including both new laser media and laser regimes. Lectures focused on solid state, fiber, semiconductor, and quantum cascade lasers, with an emphasis on the latest developments and emerging schemes and materials. Both state-of-the-art laser sources with extreme parameters (in terms of temporal and spectral characteristics, and power) as well as compact low cost systems were considered.

The second part of the college was devoted to multidisciplinary applications of lasers in science, technology and industry: The potential of the laser as a tool for high precision measurements and to investigate material properties and radiation-matter interaction; and advanced micromachining with femtosecond laser pulses for the realization of photonic and micro-optofluidic devices with unprecedented flexibility and intrinsic 3D capabilities. Finally, the impact of lasers and related technologies in different fields (ICT, life science, domotics, environment, energy saving and energy production, security and safety) was discussed with particular attention to technology transfer issues and industrial applications. Hands-on laboratory sessions were included in the program.

Directors of the College were R. Ramponi (ICO Vice President, Italy), F. Mendoza (Mexico), and F. Laurell (Sweden). The local organizers were J. Niemela (ICTP) and M. Danailov (Elettra). A large numbers of visitors representing the worldwide Optical Community and UNESCO met on occasion of the Winter College at ICTP to discuss strategies to achieve worldwide support for the International Year of Light.

THE ICTP WINTER COLLEGE ON OPTICS 2013: FUNDAMENTALS OF PHOTONICS THEORY, DEVICES AND APPLICATIONS

The Winter College was attended by 105 participants and consisted of four parts: first an introduction on the foundations of electromagnetic optics, optical waveguides and photodetectors followed by the theory of integrated optics and photonic circuits design, including computational methods for photonic devices design and characterization. Special sources for integrated optics were discussed, ending with special dedication to photonic materials, assembling and packing techniques. The third part of the course was dedicated to technological applications of waveguide platform and optoelectronic circuits. Finally, the fourth part concentrated in particular photonics devices, non-linear photonics and plasmonics and ended with applications of photonics in biomedicine and renewable energy, and discussions on technology transfer.

Directors of the College were P. Cheben (National Research Council of Canada), L. Ponce (Instituto Politécnico Nacional Unidad Altamira, Mexico), L. Pavesi, (Universita degli studi di Trento), and M. L. Calvo (Universidad Complutense de Madrid). The local organizers were J. Niemela (ICTP, Italy), and M. Danailov (Elettra, Trieste).



The ICO/ICTP Committee for the Gallieno Denardo Award integrated by A. Consortini, A. Wagué, J. Niemela and M. Danailov decided to award two Latin American Scientists: *María Florencia Pascual-Winter* working on quantum optics and John Fredy Barrera Ramírez working in optical encryption.



Florencia Pascual Winter (centre) with Ahmadou Wague, Angela Guzmán on the left and Joe Niemela and Miltcho Danailov on the right

TSOSA: TRIESTE SYSTEM IN OPTICAL SCIENCES AND APPLICATIONS ADVISORY GROUP

TERMS OF REFERENCE

Terms of reference for the establishment of a body to advise on the coordination of activities in Optics and Photonics related to the Trieste System. Working name: TSOSA Advisory Group (Trieste System Optical Sciences and Applications Advisory Group).

The TSOSA Advisory Group is established with the purpose to offer advice on the development and coordination of activities on Optics and Photonics carried out or planned by the Trieste System. It is initially established by the following Organizations: ICO, OSA, SPIE, OWLS, IAEA, UNESCO and Institutions of the Trieste System i.e. ICTP, ICS, TWAS, ICGEB, Elettra Synchrotron Light Facility and the Laser laboratory at Elettra. Participation of other Organizations and Institutions is open and welcome.

The TSOSA Advisory group is assumed to be aware of the activities and programmes of its members that promote the advancement of Optics and Photonics for the benefit of Developing Countries and that are related to the Trieste System programmes. Developing Countries are defined as per the U.N. rules.

The mandate of the TSOSA Advisory Group is as follows.

1. To stimulate the consistency of the activities of the member Organizations so as to maximize the outcome.
2. Suggest new activities and topics for the Workshops, Courses, Conferences held by the Trieste System.
3. Make sure that Optics and Photonics activities of the Trieste System are adequately publicized by the organizing bodies of the TSOSA Advisory Group including the activities held at ICTP and at the ICTP Affiliated Centres.
4. To propose new schemes that can improve the activities on Optics and Photonics of the Trieste System.
5. To stimulate nominations from Developing Countries for fellowships, grants and awards of the respective Societies and Organizations keeping their full autonomy of the final decisions or selections.
6. Issue an annual progress report to its member organization governing bodies.

Each member organization, including each member body of the Trieste System, will appoint one representative in the body, with a specified term of office, and may appoint a substitute in addition.

The TSOSA Advisory Group has a chairperson, elected annually by the members at its meeting. It meets annually in Trieste during the Winter College on Optics and otherwise operates by email. The ICTP provides the secretariat for the TSOSA Advisory Group. The

chairperson may invite individuals to attend meetings in a non-voting capacity as appropriate.

Amendment 1 (February 14th 2012): The TSOSA Committee approved the admission of the US-NAS and the LAM-Network as member organisations of TSOSA, with one representative in the body.

Note: During the period 2006-2008, the Chair of TSOSA was Pierre Chavel. During the period 2009-2012, the Chair of TSOSA has been the ICO Secretary General, Angela M. Guzmán. She will also chair the TSOSA Meeting 2013. The scribe of the meetings in 2010, 2011, and 2012 was Anne Gatti (ICTP). The minutes of the meetings are prepared by the ICO Secretariat.



MINUTES OF THE 2012 TSOSA MEETING

February 14, 2012, ICTP, Miramare, Trieste, Italy

Participants: Z. Ben Lakhdar (ICO), M. Bertolotti (EOS), M.L. Calvo (ICO), A. Consortini (SIOF), M. Danailov (Elettra Synchrotron), A. Guzmán (ICO), A. Johnson (OSA), V. Lakshminarayanan (US NAS), P. McGrath (TWAS), J. Niemela (ICTP), K. Plenkovich (SPIE), Ramponi (EOS), K. Svanberg (SPIE), A. Vacchi (INFN), G. Von Bally (OWLS), A. Wagué (LAM Network), M.J. Yzuel (SPIE).

1. Introduction of board members and welcoming remarks by Professor J. Niemela

J. Niemela welcomed everyone to the meeting. He informed that Professor Quevedo was travelling and unable to participate. He reiterated Professor Quevedo's support for TSOSA activities. He was pleased to welcome Peter McGrath, Programme Officer in the Academy of Sciences for the Developing World (TWAS), who was representing the Executive Director, Romain Murenzi. J. Niemela requested the Board members to briefly introduce themselves and in particular, Peter McGrath, to say a few words about TWAS.

P. McGrath informed that TWAS is based at ICTP. It is currently made up of 1,036 members, 85% of whom come from the developing world. Its main mission is to promote scientific excellence and capacity in the South for science-based sustainable development.

P. McGrath also informed that TWAS was supporting the First ICO-ICTP-TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations to be held in Costa Rica from 30 April-11 May 2012.

He also distributed a leaflet about the work of Jeremie Thouakessh Zoueu on the detection

of malaria through laser spectroscopy technology which has been partially funded through TWAS research grants. Jeremie Thouakessh Zoueu has now set up his own laboratory and is using his expertise and contacts to coordinate the first African network dedicated to optical spectral imaging for applications in medicine, agriculture and the environment which is a sub-network of the LAM Network. K. Svanberg mentioned that Thouakessh 's work is also supported by ISP, University of Uppsala.

A. Guzmán thanked P. McGrath for being present and for the TWAS support to optics.

J. Niemela said that in addition to TWAS, he would also like UNESCO and the IAEA to be represented on TSOSA. The problem in UNESCO was that after Minella Alarcon's retirement, there was no longer a UNESCO representative since there is no one in UNESCO working in the field of optics/lasers. In addition, Françoise Mühlhäuser, a member of the SESAME Council, and whom Niemela had approached, was now leaving the IAEA. He hoped her successor would be able to represent IAEA.

J. Niemela also said that he greatly appreciated the advice of TSOSA in ensuring the high quality of ICTP's activities in optics.

2. Approval of the agenda and the minutes of the previous TSOSA meeting which was held in February 2011

The agenda and the minutes were approved.

3. Procedures for TSOSA

A. Guzmán said that she had prepared a few slides on TSOSA procedures. She reminded that, according to the terms of reference, representatives from the following organisations sit on TSOSA: UNESCO, TWAS, ICO, OSA, SPIE, EOS, OWLS, SIOF, ICTP, INFN, ELETTRA Synchrotron Light Facility and the Trieste Laser Laboratory at Elettra, ICS, and ICGB. ICS and ICGB representatives had never participated in TSOSA meetings. J. Niemela, who is in charge of the optics programme at ICTP, also attends the meetings. The TSOSA Chair can also invite members of other organisations or individuals to attend.

A. Guzmán reminded that TSOSA is an advisory committee which makes recommendations to ICTP based on a consensus vote. The only decisions which TSOSA take concern the election of the chair and the admission of a new organisation and representative.

A. Johnson said that this was exactly in the spirit of what Gallieno Denardo wanted when TSOSA was set up. He also said it was very important to continue to reach out to developing nations.

M. Yzuel said she supported these statements. SPIE had been represented on TSOSA since 2003. TSOSA was started so that representatives could use their experience to

support optics activities at ICTP, the visibility of optics in developing countries and to increase the number of associates in optics. This was the spirit from the very beginning.

V. Lakshminarayanan informed that he had been a member of TSOSA since 2003 and recommendations were always made on a consensus vote rather than a rigid structure. He was representing the National Academy which had always given a lot of political support to optics activities.

A. Consortini said she had been involved in the organisation of ICTP optics activities since 1992. It had not been obvious at that time that ICTP should organise activities in optics but this was the spirit of Gallieno Denardo.

A Wagué said that Gallieno Denardo's wish had been that the Committee work in an informal way and reach consensus.

A Guzmán recalls that there are several organisations represented within TSOSA that were not present when the TSOSA Advisory Group was created. Since the TSOSA group should decide the admission of new organization into the group, she asks for a vote to admit the US NAS and the LAM Network.

4. Briefing on 2011 activities

The 2011 Winter College on Optics in Imaging Science had three directors: William T. Rhodes, Gianluca Valentini and Jorge Ojeda-Castañeda. W.T. Rhodes and G. Valentini also took part and lectured in the preparatory school. There were 80 participants in the college. There were still some visa problems with some countries. For example, 8 had been accepted from Pakistan but only 1 was able to get a visa. The College went very well and the topic was excellent. In addition to the regular college, a Workshop on Singular Optics and its Applications to Modern Physics was held from 30 May-3 June with prestigious speakers, including Sir Michael Berry. A Regional Workshop on Optofluidics and Optical Manipulation was held at the University of Cape Coast, Ghana from 7-11 November. J. Niemela requested A. Wagué to say a few words about this workshop. He informed that this was organised in collaboration with the Centre of Atomic Molecular Physic and Quantum Optics, Cameroon, the Laser and Fiber Optics Centre, Cape Coast and the Laboratoire "Atomes Lasers", Université Cheikh Anta Diop, Sénégal. The goals of the workshop were to introduce the principles of optical manipulation, discuss in detail some of the multidisciplinary application areas of interest to West Africa and to have participants run basic experiments under expert supervision. It was a very interesting workshop.

It was noted that no American students had attended the College this year. There was some discussion about the importance of involving students more in the colleges and the creation of more student chapters, especially in Africa and Central America. One problem is that often there were not enough students studying optics and photonics in one university to set up a student chapter. Usually, a minimum of 10 students is needed. It was further noted that

it was difficult for the students to organise themselves and it was important to have a resource person who was willing to lead and stimulate the students to promote and advance research in optics and photonics through educational and outreach activities. It was suggested that perhaps Jeremie Thouakesseh Zoueu could become involved in this for Africa.

Z. Ben Lakhdar mentioned that for the ALOP activities in Nepal and Rwanda, she had involved the students.

A. Johnson said that in the US, the threshold for forming an OSA student chapter is 5. It might be difficult to find 10 graduate students in a particular department who want to form a chapter.

A. Consortini reminded about the discussion last year to make use of space in the Multidisciplinary Laboratory to set up a small hands-on laser laboratory which could possibly be used for training activities in future preparatory schools. She wondered if there had been any developments in this regard.

J. Niemela said that this was an excellent subject for discussion by TSOSA on how to set up the laboratory and what equipment to provide to carry out simple generic experiments. It would be ideal to set up a permanent training laboratory and he could take this recommendation to the ICTP Director.

M. Danailov said that it should not be a low level.

M. Bertolotti suggested that the longer term visitors should still have the opportunity to work at the laser laboratory at the Elettra Synchrotron while a laboratory installed on ICTP premises could mainly serve those coming for the Winter College to carry out simple basic experiments.

V. Lakshminarayanan said that experiments done at the laboratory should correlate with the topics of the College.

A. Wagué suggested asking the lecturers if they can suggest some experiment to be carried out.

G. Von Bally agreed that for next year, each lecturer should be requested to bring some equipment.

A. Consortini did not agree that the experiments carried out had to be linked to the topics of the Winter College. She felt that if the facility was going to be permanent, there should be more flexibility.

J. Niemela said they would like to have suggestions from TSOSA on what basic experiments should be carried out. He also agreed that for the next College, lecturers should be requested to bring with them some basic equipment.

Z. Ben Lakhdar felt that it was important that some simple experiments could be carried out during the College in which the participants could go on to do further research. It was important to link the training to research.

R. Ramponi said that some permanent space with basic experiments could also be used for outreach activities.

M. Bertolotti said that there should be some simple material in the permanent laboratory and every winter College could produce some simple experiment. In this way a lot of knowledge would be accumulated.

It could be necessary to have an instruction manual for the equipment otherwise people might not know how to use it.

The recommendation of TSOSA to ICTP was that space should be reserved for a permanent facility to carry out experiments related to optics not only for participants in the Winter College but also for other visitors. The Laboratory could be used during the College for hands-on activities related to it.

STEP Programme

Before mentioning the STEP programme, M. Danailov informed that the ICTP laser laboratory is a collaborative experimental facility serving the needs of both ICTP and ELETTRA. It serves as a training facility for ICTP STEP students and TRIL fellows and provides research opportunities for Associates in addition to its function as a support laboratory for the new Free Electron Laser at ELETTRA.

Students and researchers in the lab investigate the physics and applications of short pulse lasers, specifically femtosecond lasers used in the seeding of the FERMI Free Electron Laser. The first seeded operation was demonstrated on December 13, 2010. The FEL includes several state-of-the-art laser systems. These laser systems are based on commercial laser units, further developed and upgraded in the Laser Laboratory.

Regarding the STEP fellows, during 2011 three fellows came to the Laboratory and another three are expected in 2012. There were two visits of ICTP associates in 2011 and three are planned for 2012.

M. Danailov informed that it would be very timely for J. Niemela to discuss the STEP programme during his forthcoming visit to IAEA. IAEA was becoming very stringent in selecting STEP students. This was mainly because IAEA was narrowing its focus and it was difficult to find students working in areas of interest to IAEA.

All the PhD students are working for their PhD at home and come to ICTP for 3-4 months to conduct experiments linked to their PhD. In a reply to a question from M. Calvo, M. Danailov said he remained in contact with the students' supervisors in their home countries during the period of their fellowship.

Regarding the TRIL programme, A. Consortini said that the TRIL office does not have an updated list of Italian Laboratories working in optics. She recommended that the Italian TSOSA members take care of promoting knowledge of TRIL and that the SIOF be asked (by the representative A. Consortini) to prepare a list of laboratories interested in hosting TRIL fellows.

ICTP-Elettra Users' Programme

J. Niemela explained that this programme offers access to the radiation facility Elettra in Trieste to scientists from developing countries that work in those countries. A minimum annual total of 1,500 hours is available within this programme for beamtime applications at any of the existing Elettra beamlines. Since the programme started in 2002, it has supported 422 visits of users from 23 different countries.

A group of scientists from Bangalore, working under D.D. Sarma, arrived in 2011. It is hoped to start a longer term collaboration with them.

QCL Project

A. Vacchi outlined the progress made in the Quantum Cascade Laser project.

J. Niemela said that he was very happy with the way the QCL laboratory was functioning, in particular on account of the conscious effort and dedication of V. Stoychev. Two STEP students and one TRIL fellow were also working with him. J. Niemela thanked SPIE for its support to this activity which was generating a lot of interaction among different groups.

A. Wagué said that he would like to recommend a student to send to the laboratory. J. Niemela replied that it would be possible but it would be necessary to find funds to provide a salary. He suggested that the student apply to another programme, like STEP or the University of Trieste which has a programme for foreigners and there are normally not enough applicants. Also within INFN there is a programme for foreigners.

R. Ramponi informed that in the university system, the position of topical fellowship exists whereby there is a fixed topic and a restricted selection. Also, in this case, money has to be found for funding it.

5. ICO/ICTP/TWAS Initiative for Central America

M. Calvo informed that the first ICO-ICTP-TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations will be held at the University of Costa Rica from 30 April-11 May. The Workshop will be directed by M. Calvo, A. Guzmán and J. Niemela, with Luis Diego Marín as local organiser. It will be devoted to a revision of the fundamental concepts of laser radiation and applications to optical communications, industry and medicine. The aim is to contribute to the dissemination of the relevance of optics, photonics and laser technologies in Central America as key tools for formation of the young generation of this area of the world, into relevant academic and scientific topics.

The Workshop will have continuity with ALOP for universities in Costa Rica and other countries in the region. It can be seen as an investment in research and development in Latin America and the Caribbean in comparison with the rest of the world. The audience will be heterogeneous with participants coming from Costa Rica, Cuba, Guatemala, El Salvador, Mexico, Nicaragua, Spain, USA and Venezuela. The activity will be run in exactly the same way as a regular ICTP activity. The participants will be given a diploma at the end. 84 applicants had been received from Latin America and some African countries but since the workshop will be held in Spanish, it was not possible to select anyone from Africa. ICTP is funding the workshop with the amount of US\$15,000, TWAS with US\$5,000, ICO US\$2,300 and LACCEI, the Latin American and Caribbean Consortium of Engineering Institutions is contributing to the advertisement of the event throughout the region.

M. Danailov informed that small lasers cost less than \$100 in Costa Rica.

6. Other initiatives of international organisations in support of ICTP programmes

SPIE

K. Svanberg briefly summarised the areas of ICTP/SPIE collaboration. A new agreement had been signed effective January 2012. SPIE participates in the TSOSA Committee. It provides funding in the amount of US\$90,000 over three years to fund an optics position in experimental research at the Quantum Cascade Laboratory. This support consists in encouraging development of new cost-saving equipment, building familiarity with the equipment and hands-on learning. SPIE also contributes US\$5,000 to the Winter College. It also collaborates in the Electronic Journal Delivery Service (e-JDS) programme. It also provides support to ALOP in the amount of US\$20,000 per year.

SPIE would like to consider other areas of collaboration with ICTP such as educator training, student programmes and promotion of women in science.

OSA

A. Johnson distributed a short document updating the work of OSA. OSA now has more than 17,000 members, 75% individual memberships and 25% student memberships. OSA has offered reduced membership dues in developing countries since 2001. Currently, about 18% of OSA members reside in developing countries.

There are currently over 250 OSA Student Chapters. More than US\$500,000 in funding is disbursed to Student Chapters and Local Sections by OSA and the OSA Foundation annually.

In partnership with SPIE, OSA hosts the OpticsEducation.org website, which provides a searchable, global listing of over 350 optics and photonics degree programmes. 75 Optics Suitcases were distributed to recipients in 31 countries. The programme was made possible through a partnership with the OSA Rochester Local Section and the University of Rochester.

OSA remains an enthusiastic supporter of ICTP and has provided financial support to the Winter College on Optics annually since 2000. Since 2009 this support amounts to US\$10,000. OSA participates in ICTP's electronic journals delivery programme (eJDS). OSA also provides free access to InfoBase to users at ICTP during the Winter College.

OWLS

G. von Bally informed that OWLS 12 will be held in Genoa, Italy, from 4-6 July 2012. The Conference Chairman is Alberto Diaspro of the Istituto Italiano di Tecnologia who is also the current President of OWLS.

G. von Bally also mentioned the research project on studying malaria and living cells by optical technologies such as Digital Holographic Microscopy (DHM). Cooperating partners are the University of Rwanda, the University of Münster, BNI, Hamburg, the University of Kaiserslautern and ICTP. Malaria infections are treated by common anti malarial drugs although drugs resistance is increasing. The aim of this interdisciplinary study is the improvement of analysis and differentiation of malaria and its forms of plasmodium parasites. DHM allows visualising these forms in 3D with high resolution in vitro and in living state including dynamic behaviour.

The idea is to eventually establish a research group at the National University of Rwanda and provide them with a DHM system. J. Niemela suggested involving TWAS in this especially on account of the fact that R. Murenzi, the new Executive Director, is from Rwanda and is a former Minister of Science.

J. Niemela also mentioned that Professor Quevedo had extended an invitation to the President of Rwanda to visit ICTP.

ICTP-ALOP

Z. Ben Lakhdar spoke about the Active Learning in Optics and Photonics (ALOP) activities which began in 2005 within the framework of a UNESCO project for developing countries. ALOP is a programme for teaching optics to high school teachers and first year undergraduates using hands-on techniques. The project is supported by a host of international optics societies: OSA, SPIE, ICO, ICTP, the Institute of Electrical and Electronic Engineers (IEEE), and, most recently, the Arab League Educational, Cultural and Scientific Organization (ALECSO). Participants learn how to teach with simple equipment and in a manner such that the concept is acquired through activity. The teachers have the role of facilitator. The students learn the concept through prediction and subsequent activities comparing observed results with their predictions.

An ALOP activity was supposed to be held in Tunisia in 2011 but was cancelled on account of the political unrest. M. Calvo said that she had recently visited Tunisia and could confirm that the situation was under control. Z. Ben Lakhdar also informed that the ETOP (Education and Training in Optics & Photonics) conference scheduled for 2012 in Tunisia had also been postponed to 2013.

Z. Ben Lakhdar invited the support of TSOSA in recommending that the ALOP and ETOP activities go ahead in Tunisia also in view of all the work that had gone into the preparation.

A. Wagué said that TSOSA is not a political body and this is a political decision.

M. Yzuel suggested that TSOSA support could be transmitted to the Steering Committee which decides on the location of the meetings. She also suggested that perhaps ICTP might consider holding the ETOP Conference.

7. Some statistics on ICTP Programme in Optics

A. Guzmán presented some statistics on the optics programme at ICTP. Associates working on lasers and atomic physics amounted to 8% of the total number of associates. Over the past five years, the number of associates had been decreasing, particularly the junior associates. She felt it was urgent for TSOSA members to encourage more people to apply for the junior associate programme perhaps through the OSA and SPIE student chapters.

She requested TSOSA for their agreement to recommend to ICTP that the number of associates working on lasers and atomic physics be maintained. The Committee agreed.

8. Discussion on topics for future Winter Colleges and suggestions of possible College Directors

There were two proposals for the 2013 Winter College: one on "New frontiers in optoelectronic devices technologies" and the other on Lasers: the Next 50 Years, *Trends in Laser Development and Applications to Multidisciplinary Science and Emerging Technologies*".

After some discussion which continued after lunch, it was agreed to choose the second topic with a different title: "Trends in laser development and multidisciplinary applications to science and industry" to be directed by R. Ramponi, Italy, F. Mendoza, Mexico and F. Laurell, Sweden.

As usual, a preparatory school will be organised the week before the College for a number of selected participants.

9. Election of TSOSA Chair

After a short discussion in which the members expressed their appreciation to A. Guzmán, she was reelected as TSOSA chair.

10. The Gallieno Denardo ICO-ICTP Prize Awardee(s) and other business

The ICO/ICTP Gallieno Denardo Prize for the year 2012 has been awarded to Dr. Selçuk Aktürk from Istanbul Technical University "for his valuable work in the field of ultrashort optical pulses and in particular for his contributions to the development of ultrashort pulse characterisation techniques and their applications to ultrafast nonlinear optics".

Meeting adjourned.

Summary of recommendations:*To ICTP:*

1. That space should be reserved for a permanent facility to carry out experiments related to optics not only for participants in the Winter College but also for other visitors. The Laboratory could be used during the College for hands-on activities related to it.
2. That the number of ICTP associates working on lasers and atomic physics be maintained.
3. To recommend the topics "Trends in laser development and multidisciplinary applications to science and industry" for the ICTP Winter College 2013, with the following directors: R. Ramponi, Italy, F. Mendoza, Mexico and F. Laurell, Sweden.

To TSOSA Members:

1. To help ICTP advising on how to set up a permanent training laboratory in optics and related topics, and help establishing what equipment would need to be provided in order to carry out simple generic experiments.
2. That the Italian TSOSA members take care of promoting knowledge of TRIL and that the SIOF be asked (by the representative A. Consortini) to prepare a list of laboratories interested in hosting TRIL fellows.

To OWLS:

To recommend to researchers from the National University of Rwanda to apply for TWAS support in order to acquire a Digital Holography Microscope for their research initiative on bioimaging.

Decisions:

1. The TSOSA Committee approved the admission of the US-NAS and the LAM-Network as member organisations of TSOSA, with one representative in the body. TSOSA Terms of reference should be modified accordingly.
2. A. Guzmán was re-elected as TSOSA Chair for 2013.

Draft Minutes prepared by Anne Gatti (ICTP), reviewed by A. Guzmán, TSOSA Chair, October 2012, Approved by TSOSA, February 12th, 2013.



MINUTES OF THE TSOSA BOARD MEETING 2013

Tuesday, February 12th, 2013

Participants: F. K. A. Allotey (Institute of Mathematical Sciences, Ghana), K. Bailey Mathae (Representing NAS, USA), Z. Ben Lakhdar (ICO-VP), M. Bertolotti (Representing EOS), M.L. Calvo (ICO Past President), A. M. Cetto (UNAM, Mexico), A. Consortini (Representing SIOF), M. Danailov (Elettra Synchrotron), A. T. Friberg (ICO Past President), A. Guzmán (Representing ICO), A. Johnson (Representing OSA), V. Lakshminarayanan (Univ. of Waterloo, Canada), J. J. P. Ngome Abiaga (UNESCO), J. Niemela (ICTP), K. Plenkovich (SPIE), R. Ramponi (EOS Past President), E. A. Rogan (CEO OSA), Cristina Serra (Representing TWAS), Lyubomir Stoychev (QCL Lab, Trieste), K. Svanberg (Representing SPIE Past President), A. Vacchi (INFN), G. Von Bally (Representing OWLS), A. Wagué (Representing LAM Network), M.J. Yzuel (SPIE Past President).

Introduction of board members and welcoming remarks by Professor J. Niemela

J. Niemela welcomed everyone to the meeting. He informed that Professor Quevedo was travelling and unable to participate. He reiterated Professor Quevedo's support for TSOSA activities. He was pleased to welcome all invitees, in particular the promoters of the International Year of Light 2015, and Cristina Serra who is representing the Academy of Sciences for the Developing World (TWAS). J. Niemela requested the Board members to briefly introduce themselves.

J. Niemela leaves the floor to TSOSA Chair, A. Guzmán, who thanked all participants for their attendance.

Approval of the agenda for the TSOSA Board Meeting 2013 and the minutes of the TSOSA Board meeting 2012

The agenda and the minutes were approved unanimously.

Briefing on 2012 activities

Laser Laboratory in Trieste (J. Niemela)

New Lab facilities at Trieste

- a. Through a project funded by the ministry of foreign affairs from Africa, the ICTP bought equipment to set an ICTP Lab on optical tweezers, which will be open to all ICTP visitors. Currently the equipment is located at Prof. Kojac's Lab but will be moved to ICTP at some point. The Lab facilities will allow ICTP to expand its research program to other topics. ICTP has a lot of basic equipment for optical manipulation.
- b. A former ICTP Diploma student from Senegal, has been enrolled in the STEP Program with financial support from ICTP. She spent 3 months at ICTP working

with two advisors, one of them A. Wagué. She will start in March 2013 her work at the optical tweezers Lab with Profs. Kojac and Niemela. The AEIA is supporting her stay at ICTP and her PhD will be granted by the University in Senegal. Her focus will be on biological applications of optical tweezers.

- c. There is another optical tweezers lab in Cote de Ivore, and the ICTP is also running a program on this area in Cape Coast. In a Workshop in Ghana there were activities on biological applications.
- d. The ICTP wants to have an Optics Lab at ICTP to run experiments during the College on Optics. There is a Multidisciplinary Laboratory where the experimental facilities can be installed, In the meantime the equipment will be located in the computer room.

ICTP Winter College and Preparatory School

Winter College 2012

The Winter College 2012 was on Plasmonics. It really resonated with a lot of people around the world. There were 113 participants, from them 21 students coming from Italy. ICTP wants to encourage the participation of Italian students and has been in conversations with the SIOF to encourage more Italian participation, and European in general. The participation of these students is at no cost for ICTP. There is a lot of work in nanooptics and plasmonics in Italy and Europe.

Zhora B. Lakhdar did an ALOP module in the afternoon in the computer room. It was a huge success. The participants were PhDs and teachers. Even the most distinguished researchers found new aspects. The demonstrations were most welcome by the participants even if they might seem intended for lower academic level than that of the participants in the College. The preparatory school has been mainly oriented to provide remedial instructions and some lectures on mathematical topics related to College topics. It could be interesting to introduce some experimental activities. Since most of the participants from developing countries are docents, a possibility would be to have an ALOP Workshop every year at the Preparatory School.

R. Ramponi recommends to contact the Photonics Explorer group. They have a suitcase comprising several kits for different topics. Students can use the equipment to design experiments.

J. Niemela manifests that he will need help to establish these initiatives and he asks the Board to create a committee that will work by electronic means.

Action: the Board recommends the creation of a committee in charge of preparing experimental activities for the Winter College. The Committee members are: Zhora Ben Lakhdar, Anna Consortini and Lakshminarayanan.

M. L. Calvo asks if teaching materials can be printed at ICTP and distributed to the participants for taking back home.

Z. Ben Lakhdar would like to introduce new experiments into ALOP. There is the need of trained facilitators in developing countries. By holding ALOP regularly with the College, some participants could go through a 3 year training cycle starting as participants, then as assistants and finally as facilitators. This procedure could serve as a feedback for ALOP.

A. Consortini congratulates J. Niemela for his involvement on new activities and in the consecution of materials for experiments. She considers that feedback is needed in general, especially with regards to the Preparatory School. She considers that every year the Winter College should include an experimental activity closely related to the specific topic of the College, and the Preparatory School should give the fundamentals for the Winter College. The Preparatory School should not be on Maxwell Equations. A. Consortini and M. Danailov did this time some experiments related to the Winter College.

Winter College 2013

R. Ramponi, O Svelto and S. De Silvestri are the directors. There are 73 participants. The number is smaller than in other occasions. There are few Italians and European students. Maybe the topic is not so attractive for them or the economic crisis has limited their financial support. The academic level is quite good and the poster session was hard to judge because there were very good posters. There is a new poster award from SPIE for a student that did everything himself. It is an innovating and enterprise award that amounts €150. The student spent from his own money and built all equipment required for the work presented in the poster.

STEP and Elettra users Program

The STEP Program supports visits to the synchrotron facility, while SESAME supports visitors to ELETTRA. The IEAE tends to support STEP visitors working on topics closely related to their topics, which are becoming more restrictive. The list of topics has to match the IAEA's list of priorities. If other organizations will be willing to support students the Lab could have more students. The cost per student is € 15000 euro per year. A possibility could be to look for increased support in relation with the IYoL. During the past year expected ICTP Associates from Siria could not come, and M. Iakhenenko from Ukraine came with her own money. She plans to return

M. L. Calvo asks if there has been an assessment of the program. J. Niemela answers that the feedback is good with a high success in completion of their PhD in their own home Universities.

Z. Ben Lakhdar asks for the kind of research that they are able to do upon their return to their own countries. J. Niemela answers that through the TRIL program they can come back for another six months. Some of them are developing their own labs in collaboration with Kojac's Lab. H. F. Ali Sharaf El Din from Egypt was expected this year but it seems that

she will not be able to come. P. V. Shpak from Belarus worked on Raman and fast lasers. M. Zghal has started research on fiber optics applied to advanced FO sensors.

The ELETTRA lab has an Open Day every year. On occasion of the IYoL the Open Day could be extended. Open Days are quite exciting for the general public. The last year the Open Day was during a weekend. The guides are specially trained to explain to children. The Lab has very good instrumentation. The FEL has a very narrow line width. FERMI is the first seeded FEL. Last year the research group in the Lab achieved first double-cascade FEL operation. In October 2012 they achieved laser synchronization better than a femtosecond. The tuning range is 0-20 femtoseconds and the separation up to a picosecond. The wavelength is 32nm. The goal is to go below 10nm in the next months. The work is done in collaboration with the INFN experiment.

Cristina Serra from the Public information office of TWAS recalls that ICTP gets requests from African researchers for attending conferences or for scholarships to do their PhD in places other than ICTP. The TWAS Program supports these type of requests for scientists from developing countries.

The QCL project (A. Vacchi)

L. Stoychev has joined the QCL Project intended to measure the hyperfine structure of the muon. The laser wavelength is 6780 nm with tunability of 0.1 nm/V and line width of 40-70 MHz. The power is low therefore it has been proposed to use another QCL as seed laser and use amplification. There is an agreement between INFN and ICTP for STEP students to visit the lab. During the last year the Lab had a STEP Student, an ICTP Associate and a TRIL researcher. The student from STEP finished his PhD and will come back to the Lab through the TRIL Program. The Associate will also make another visit to the Lab. One of the students of STEP is attending the Winter College 2012. The lab has also hosted students from Togo and ICTP associates from Senegal and India. The main goal is the generation of 6.8 micrometer light by nonlinear optics in two different schemes: Difference frequency generation (DFG) and optical parametric amplification (OPA). DFG provides narrow line width and lower achievable energies. OPO/OPA/OPG gives higher energy but wider line width. The narrow band of Cr: Forsterite have less absorption. With LiInS₂ and double pass 40 micro joule were achieved. The LiInS₂ Crystal dimensions are 10x10x15/20 nm. They have had difficulties obtaining information on the coating. The Crystals they are using are supplied by Germany. The results were presented at an EOS meeting. The plans for future work are to work on the QCL's seeding, on spectroscopic applications, and to perform the measurement of the line width generated by DFG. They are also searching for new optical schemes and will submit a proposal for funding. The Lab researchers thank SPIE ICTP and ELETTRA for their support. Currently there are three researchers in the Lab. The maximum number of persons that could be admitted in the program might be six.

K. Svanberg has been discussing the sandwich program with PhD students coming from different countries and considers that the program is a real good model. Students get inspired during the time they spend at ICTP profiting from the very different situation they

have in their home labs. There are people that have grown and matured through this scheme. She has reported to SPIE and asked for a support for a complementary program offering further support to students back home. She is aware that when they are back home they are overburdened by large teaching duties. The support will be intended to relieve them from that burden so that they could do research in their own universities. SPIE could look for possibilities to implement this program through the LAM Network.

A. Wagué considers this program of great relevance. In order to increase the efficiency of the optical tweezers program, research can be performed for example in two ICTP affiliated centers in Ghana. While it is very good to have the Optical tweezers Lab in Trieste, it would be important to have similar setups in the two ICTP affiliated centers in Ghana.

J. Niemela mentions that there will be a setup in Trieste, and as part of the larger picture ICTP plans to have a setup in Senegal for the student to be able to start her own research in Senegal, and there have been discussions for a similar approach regarding Cape Coast and Côte d'Ivoire. ICTP is also supporting a research group in West Africa. The ICTP Associate scheme was established for that purpose. Associates are able to do multiple visits to ICTP. He sympathizes with the idea of supporting research activities at home Universities. People do not get paid for research but for teaching. ICTP could help them buy time for research. A possibility would be to have some part of the Associate Scheme support applied to buy time for research and perhaps hire other people to replace them in their teaching duties.

K. Svanberg says that there are seven research centers that are well equipped but underused. One motivation to come to ICTP is the availability of libraries and internet. But through the learned societies they can now have access to those facilities in their home place.

Z. Ben Lakhdar mentions that there is equipment that is not used. When scientists return to their countries they might find very difficult to solve simple technical problems that they may have with the equipment. They do not have engineers or technicians to help and might not want to acknowledge that they need technical help. ICTP could provide technical support sending an engineer or a technician for two days.

M. Danailov thinks that a suitable program that could be offered through ICTP would be to provide help for the setup of research equipment. The Trieste Lab has trained people to provide this kind of help.

M. Bertolotti suggests to train ICTP students and visitors to do very simple experiments on the foundations of physics, so that they get knowledgeable of the functioning of individual parts and the whole set up. Experiments in vortices, plasmonics and optical tweezers are simple. Optical tweezers have applications in many fields and the experiments are simple to repeat in other places.

J. Niemela asks M. Bertolotti's help on designing and organizing experiments on optical tweezers.

A. Wagué mentions that his University use to have mechanical and electrical workshops that went down because of lack of funding. A second problem is that publications coming from Africa are not published in first world journals. A third problem is that in South Saharan Africa there is no electricity everywhere and where there is the power fluctuations are very large. The experience they have with the training provided by Lundt University has been good because the students have the opportunity to know what is inside the equipment they are using and to build their own equipment. He remarks that not only Professors have a heavy teaching burden but the students do also in order to get a salary. In addition they face also a language problem.

A. Friberg comments that there are standards courses on writing papers.

J. Niemela has been teaching how to write a proposal. It also applies to papers. ICTP could give courses on writing papers and proposals. The Winter College seems to provide a good training for the students on how to make a presentation. Several of them have had their first paper presented in the Winter College Seminars. Students are also pushed to peer to peer interactions during the poster sessions.

M. Danaïlov thinks that the ICTP preprint program could provide some help editing the manuscripts.

J. Niemela will check if the program offers that possibility. In order to improve the quality of the manuscripts the ICTP has its own referee procedure. The procedure can provide feedback to help people learn how to write a good paper and how to submit it.

A. Consortini recalls that there is no guarantee for publication for anybody.

V. Lakshminarayanan recommends a presentation by IEEE TV on how to write papers.

Other activities and programs: The ICO/ICTP/TWAS initiative in Central America

M. L. Calvo reports on the ICO/ICTP/TWAS Workshop on Lasers, laser safety and applications, held in San Jose de Costa Rica in May 2012. The directors, M. L. Calvo, A. Guzmán and J. Niemela, did an effort to have lecturers from Central America. The Iberian American network on Optics (RIAO) collaborated with the organization. There were lecturers from Mexico, El Salvador, and Costa Rica. The academic level of the students was very good. There was a poster session where the students presented their work mostly on applications. The Directors of the recently created MCTP, A. Zepeda y E. Santos Rodríguez presented the MCTP programmes and M. Limonta, director of the regional office of ICSU for Latin America and the Caribbean (ICSU ROLAC) presented the programmes and goals of the regional office. There were 30 participants and three sets of hands-on activities: fiber optic communications, illumination, and laser safety.

Initiatives of international organizations in support of ICTP programs.

OSA: A. Johnson provides to the TSOSA Members a handout with recent information on OSA activities, membership, etc. Eighteen percent of the OSA student members are in

developing nations. He recalls that OSA started attending the TSOSA meeting a decade ago. This year is the 10th anniversary of the establishment of the ICTP-OSA close collaboration. *J. Niemela* expresses ICTP's gratitude to OSA for its continued support and gives special thanks to A. Johnson for his leadership in establishing and strengthening this collaboration throughout this decade. He also thanks A. Johnson for having been able to attend this TSOSA Meeting.

SPIE: K. Svanberg states that SPIE has been confronted in the past as to how to be connected to the developing world and found that ICTP is ideal organization for establishing that connection. SPIE is aware that people who represent the developing world should be listened to, and the international societies should consider what they say. Her most rewarding experiences come from working with people from the developing world. SPIE has currently around 200 student chapters including one recently created in Africa, which is a distributed chapter consisting of a mixture of students from different countries. SPIE has signed a new 3 year agreement with the ICTP Electronic Journal Delivery service for scientist in developing countries. SPIE is aware of the increased global visibility of ICTP activities. ICTP is reaching a 35% female participation in the Workshops. *J. Niemela* adds that female participation in the Winter College is above the average percentage female participation in ICTP activities.

K. Svanberg continues mentioning that SPIE has contributed to the ALOP Workshop program with \$20000. This contribution has helped organizing ALOP Workshops in Tunisia March 2012, Thailand October 2013, Armenia November 2012, Adis Abeba and Chad.

J. Niemela adds that ICTP has started some fundraising activities for ALOP with SPIE. A pamphlet for approaching the US state department, industrial partners of SPIE, and the US-AID Agency for international development has been prepared. The NAS has submitted a proposal to the NSF for support for ALOPs. The ICTP office of external activities financed two ALOPs this year. The US ambassador to the UN is very enthusiastic about ICTP and there might be a possibility of getting some US money back into the UN to support UNESCO's programs. UNESCO looks at ICTP as a very good model that works.

K. Plenkovich asks if the ICTP has been able to build enough support from UNESCO.

J. Niemela mentions that the ICTP is aware that when administrative changes occur is the crucial time to invite new visitors. Nalecz will be in charge of the UNESCO's office for science and engineering for two more years.

K. Svanberg recalls TSOSA attention to additional SPIE activities and programs: the Educators August SPIE Symposium; the Education Outreach Grants program with a budget of \$90000, education resources, student programs and promotion of women in science, and the international network for availability of scientific publications.

J. Niemela asks if Loreal would be interested on supporting the ALOP program.

Z. Ben Lakhdar answers affirmatively.

LAM Network: *A. Wagué* reports that the LAM Network is preparing the 10th LAM Workshop in Senegal for early December 2013 in collaboration with ASP in Sweden. They plan to make the launching of the African Optical and Photonics society during the Workshop. The workshop was originally going to take place in Rwanda in 2012. Local expenses are high and it is difficult to find countries that offer the required financial support. Rwanda is very expensive. LAM is planning to hold the meeting jointly with the meeting of the African Physical Society, which would be more cost effective. This year is also the tenth anniversary of the African center, and NANONET is organizing a meeting in celebration. He will send information on future activities.

OWLS: *Gert von Bally* OWLS distributes the information on the ICTP activities within its members. The OWLS Meeting 2012 took place in Genoa. In 2013 OWLS members have been recommended to attend RIAO/OPTILAS in Portugal. The OWLS 2014 conference will be held in China, in July. OWLS is currently supporting an application to the “Quality of harvest products in North Africa”, a proposal prepared by Rwanda, ICTP, LAM and OWLS and involving Uganda and Kenya. OWLS has established contacts with political authorities in the countries involved.

EOS: *R. Ramponi* A new network of European Centers for Outreach in Photonics (ECOP <http://ecopalliance.eu/>) has been founded. Its mission is to raise awareness at all levels of the European society of the importance and ubiquity of Optics and Photonics. EOS could help establish some cooperation of ECOP with ICTP and/or integrate ICTP into the network. ECOP has created a long term partnership for enhanced engagement in photonics outreach. ECOP’s pillars are the society, professionals and young minds. The initiative started from the ICFO in Barcelona and was supported by the Institute d’Optique. The network wants to support the YoL, but it is committed to start the activities of the network and wants to have associate nodes in order to be able to support more activities. ECOP pursues to attract young people and to obtain funding from the European Union. ECOP would be happy to establish training programs for students from Africa. The Network is expected to help increase the outreaching activities of all partners and the YoL is a great opportunity to increase those activities.

NAS: *K. Bailey-Mathae* the NAS has submitted a proposal to NSF for support for the Winter college and ALOP program. Results should be known within two months. If approved there will be funding for US students or lecturers involved in those activities. *J. Niemela* comments that the participation of the US students has been successful and helped to build international networks and research collaborations. *K. Bailey-Mathae* answers that the NAS support for this purpose was lost for a period but she it will be reinstated if the proposal is approved. The USAC/ICO Committee is advertising the Winter College to the US community. The problem for US students is however the timing of the College. *J. Niemela* welcomes suggestions for participation of top US students in the Winter College. *A. Johnson* considers that third year graduate students, who are going into research, would have less timing problems and would be a good target.

ICO: M. L. Calvo already reported on the ICO/ICTP/TWAS initiative in Central America. ICO will promote and help support activities on optics at the ICTP MAIS in Chiapas, Mexico. *J. Niemela* adds that the ICO/ICTP Prize has gained a lot of stature. It is now one of ICTP prizes and is advertised all around the world by the ICTP director.

TWAS: C. Serra is representing the Academy of Sciences for the developing world. She works for the public information office of the Academy, which is having its 30th anniversary. It was founded by Abdus Salam. At the time it listed 40 scientists and now gathers 1100 members. The Academy is a programme Unit within UNESCO and its headquarters are hosted at ICTP. Thanks to the permanent funding provided by the Italian Ministry for foreign affairs, they aim at promoting scientific excellence in the South facilitating South-South and South-North collaboration. Detailed and quantitative information on TWAS programs can be found at the TWAS webpage. TWAS provides fellowships to support students and has Associate schemes dedicated to professors and eminent scientists to travel to foreign countries and share their experience with young students. Its main goal is to contribute to the advance in science and technology in the developing world. TWAS administers the Trieste Science Prize which awards \$100000 once a year to an eminent scientist living and working in a developing country, who has made significant contributions to global science, and awards eight prizes of US\$15,000 each to individual scientists who have been working and living in a developing country for at least ten years. In 2012 the Trieste Science Prize was awarded to Prof. Dennis Lo, whose research group pioneered the use of fetal epigenetic markers in maternal plasma for noninvasive prenatal diagnosis. In 2010 the awardee was José Goldemberg, a world-renowned energy expert who helped to lay the foundation for Brazil's biofuels programme and subsequently became a leading advocate for the adoption of 'leapfrog' technologies to promote economic development in the developing world.

The TWAS has also launched two other interesting initiatives: TWAS collaborates with the AAAS Center for Science Diplomacy that promotes cooperation between science and policy makers to improve science impact on social development. TWAS supported the activities of the African Academy of Sciences, created 20 years ago and with headquarters in Kenya, whose Journal "Discovery and innovation" launched 20 years ago and suspended in 2010. TWAS is helping to revive the Journal and turning it into an African journal with editorial board including scientists from the North. TWAS also hosts the Developing World Organization of Women in Science (TWOWS), which has more than 4000 members and is engaged in promoting the role of women in science and enhanced social awareness of the role of women scientist all over the world. *K. Plenkovich* asks if the Discovery and innovation journal has an assessment of quality. *C. Serra* answers that until now the TWAS is looking for funding. The journal will be peer reviewed. *K. Plenkovich* asks if there are guidelines as to how to construct a paper. *C. Serra* answers that the TWAS plans to include international and multidisciplinary topics, and might provide advice on how to structure a paper. The possibility of having the journal as an open access online journal is being discussed. *A. Wagué* asks if the journal is listed in the Journal Citation Report, which is required by most Universities in order to give the author recognition for the publication. Otherwise people will not publish in the journal. There is a group that publishes everything

online if you pay \$500. People who do not want to get peer review can choose that way. In peer reviewed journals African researchers face the problem that if they are not very well known, their papers get rejected. *J. Niemela* adds that the TWAS-UNESCO Associateship Scheme is a visiting scholar program that has some constraints. Appointments have a fixed duration of three years. During this time, the associate is entitled to visit the host centre twice, for a period of 2 to 3 months each time.

SIOF: *A. Consortini* reports that the SIOF wants to get more actively involved in ICTP programs and activities. The SIOF suggests two topics for the Winter College as presented today to the TSOSA Board as an additional document.

Discussion on topics for future Winter Colleges and suggestions of possible College Directors

SIOF: *A. Consortini*

1) *Optics for Space Applications*:

Optical components for Space are in many cases the most critical elements of the flight instrumentation. They have to survive the harsh environmental conditions of space and maintain their performance. Moreover small dimensions and low weight are fundamental, thus miniaturization becomes crucial in this field.

Many applications can be devised as image spectroscopy, Earth observation, planet soil analysis, study of atmospheric phenomena and so on.

The School will be dedicated to: optical requirements for space, miniaturization of optical components, optical sensors, laser damage in vacuum, thermal analysis environmental testing...)

-Names for possible directors: Angela Piegari (ENEA and SIOF President, Proposer), Enrico Armandillo (ESA, The Netherlands) and Giampaolo Preti (Selex-Galileo and SIOF Board Member).

2) *New frontiers in Nonlinear and Quantum Optics*

Nonlinear-optics activities range from the fundamental studies of interaction between matter and radiation to the development of devices, components, and systems of tremendous commercial interest for widespread applications in optical telecommunications, medicine, and biotechnology.

One of the recent major advances of nonlinear optics is connected with investigations of quantum physics. Quantum dreams, from communications and teleportation through to computing and metrology, are shaping into reality.

The aim of the school is to elucidate the new frontiers at the intersection between nonlinear and quantum optics.

-Some names for Directors: Luigi Sirleto (CNR-IMM, SIOF Board Member, and Proposer), Paolo Mataloni (Università di Roma) or Enrico Santamato (Università di Napoli).

EOS R. Ramponi mentions that there is a lot of interest on Quantum Optics. She was planning to propose “Integrated quantum photonics” or “Quantum optical technologies” Possible directors: Paolo Mataloni (Sapienza, Roma), Ernesto Galvao – Inst. Fisica, Gragoatá, Niteroi, RJ. Maria Cekhova – Max Planck Institute for the science of Light, Single Photon Technology, Erlangen.

M. L. Calvo recalls that the proposal “Fundamentals of Photonics, Theory, devices and applications” included in the TSOSA Meeting Booklet of supporting documentation has been presented for the third time. The proposal was presented by P. Cheben (NRC, Canada), L. Pavesi (University of Trento, Italy) and L. Ponce (Mexico and Cuba). She has been working with the proposers, although she did not accept to be one of the directors. There had been an objection about proposals of topics in technologies that can only be used in very sophisticated labs, therefore she has offered advice to them on how to present the proposal. They plan to invite people from industries to give ideas for entrepreneurship to young people.

Z. Ben Lakhdar proposes “Solar energy and photovoltaics”. Although this topic was covered in 2010 is a relevant current topic.

M. Bertolotti proposes a School in “Photonic crystals”.

R. Ramponi suggests to call it “Silicon photonics” without emphasizing only in Photonics crystals. She is in favor of these topics. She expects that the topics of diffracting microoptics elements be included. She is in favor of the proposal because fundamentals of photonics are required every day. It can include topics like organic LED lighting, organic photonics for photovoltaics, medical diagnosis, laser diodes, quantum dots, and something in photonic crystals.

A. Consortini remarks that proposal lacks a woman director. She has noticed that several of the recent Colleges have been lacking a female director. She proposes to add a female director.

M. L. Calvo does not want to be a co-director, since the proponents are already a working team and the number of directors is limited to three. She has collaborated and could continue doing so without being a co-director.

M. Yzuel considers that M. L. Calvo’s statement is not proper. M. L. Calvo has been working and the proposed scheme would be three male directors and a female researcher in a hidden place, helping with the organization but not receiving the credit. She is in favor of Ana’s proposal of adding a female director.

M. L. Calvo recalls that the three directors are working the theme and proposing hands-on activities.

M. Bertolotti proposes to have a female director for the Preparatory School.

M. Danailov considers that there could be 4 directors.

M. Yzuel considers that there should be only three directors and one of them should be a woman.

Z. Ben Lakhdar considers that the college could have four directors with one centered on education.

M. Bertolotti considers that the College should be divided in two levels, one fundamental and one on applications. The fundamental is very important and can include simulations. Thereafter there should be applications and lab activities.

J. Niemela considers very useful the feedback he gets from the students after the college. Students love simulations and hands on activities. ICTP has 50 computers that can be used for simulations.

A. Johnson recommends to add a fourth director

M. Yzuel knows that female directors are very well received by the students, and insists in having only three directors, one of them a woman.

A. Consortini is aware that other schools at ICTP have four directors. She is in favor of adding another director. One of them could take care of the preparatory School.

R. Ramponi suggests to impose the conditions for future proposals.

M. Danailov suggests that M. L. Calvo be the fourth director and takes care of the preparatory school.

M. L. Calvo would be happy to participate in the school.

K. Svanberg mentions that there has been a lot of discussion over the years about the difficulty of finding appropriate female scientists for directors. There are however some fortunate cases. She proposes that TSOSA approves the following resolution:

Resolution: All proposals brought forward to the TSOSA Advisory Committee must meet the following guidelines:

- Be delivered by the deadline, and
- Include a proposal for three directors: one from a developing nation, one woman and one Italian.

A Johnson seconds K. Svanberg proposal.

A. Guzmán calls for a ballot between the official representatives because this is an issue concerning the dynamics of this Committee, the submission of more elaborated and detailed proposals prior to the meeting, and avoids having the same discussion every year. The resolution is approved by 7 votes in favor, 2 against and no abstentions.

A. Friberg recalls that the proponents only suggest the possible directors, and the TSOSA Advisory Committee takes the final decision about the topics and directors of the Winter College to be recommended to the ICTP.

A. Guzmán asks all members of TSOSA if they agree on recommending ICTP to accept the proposal for a Winter College on Fundamentals of Photonics with four directors adding M. L. Calvo to the team proposed originally. The TSOSA members agree unanimously on this recommendation to ICTP.

Election of TSOSA Chair

J. Niemela asks the members of the TSOSA Committee for nominations for the TSOSA Chair 2014. A. Wagué nominates A. Guzmán and M. Bertolotti seconds the nomination. There are no other nominations. A. Guzmán calls for the vote of the official representatives to TSOSA. The TSOSA members vote unanimously in favor of A. Guzmán to continue acting as the Chair of TSOSA in 2013-2014. *A. Guzmán* thanks the TSOSA members for their continued interest, work and support in favor of the ICTP activities on optics and photonics. She also thanks J. Niemela for hosting this meeting and for his leadership and indefatigable effort in favor of optics research and education at ICTP and in developing countries.

The Gallieno Denardo ICO-ICTP Prize Awardee

J. Niemela informs that the ICO/ICTP Prize 2013 was awarded to Mohammed Dhafer Al-Amri from Saudi Arabia. The members of the ICO/ICTP Prize Committee are A. Consortini, A. Wagué, m. Danailov and J. Niemela.

Dr. Al-Amri was awarded the ICO/ICTP Prize 2014 for “his pioneering research in the field of optical lithography and microscopy, quantum teleportation and multi-qubit systems, and the reversal of weak measurements in optical systems, as well as for his leadership role in establishing a quantum optics research program at KACST, Saudi Arabia under difficult circumstances.”

No other business. Meeting adjourned at 1:45 PM.

First version of the draft minutes prepared by the ICO Secretariat, May 2013.

Approved by the TSOSA Advisory Board on February 2014.



PART II:

MEETINGS PROCEDURES

ICO CONGRESSES AND OTHER MAJOR ICO EVENTS

TOPICAL MEETINGS, REGIONAL MEETINGS, SCHOOLS

Information and Guidelines

A - General conditions:

1 - "Event" here refers to a scientific meeting or school. As opposed to other events with ICO participation, ICO Congresses and other major ICO events are generated from the very beginning by ICO or in close relation with ICO. A companion document to this one gives the information and guidelines for ICO Cosponsorship and Endorsement of Conferences and Schools, where ICO is not the primary organiser.

2 - The following rules apply in all cases to ICO General Meetings and other major ICO events

- the event should be international - typically, at least 30 % of the expected attendance and at least 50 % of the Programme Committee should be from outside the host territory;
- the ICO Bureau should perceive clearly that the meeting will be of a good scientific quality and that the timing and venue are appropriate;
- the ICO Territorial Committee of the territory where the event is to be held should approve the project;
- in agreement with the organisers, the ICO Secretariat applies for the formal sponsorship of the ICO General and Topical Meetings by IUPAP;
- the event organisers should confirm adherence to the general principle of "free movement of scientists" as defined by the International Council of Scientific Unions (ICSU) in the booklet "Advice to Organisers of International Scientific Conferences". In essence, the host territory must guarantee that a bona fide scientist or engineer of any nationality or citizenship may attend. It is not sufficient to make a guarantee only for persons from territories recognised by the host territory. Any failure to honour a guarantee is reported by ICO to ICSU through the International Union of Pure and Applied Physics (IUPAP) ; following a decision by IUPAP, the organisers are requested to publish the following sentence in any circular, announcement and in the proceedings of the conference : "To secure IUPAP sponsorship, the organisers have provided assurance that ... (Conference name) will be conducted in accordance with IUPAP principles as stated in the ICSU Document "Universality of Science" (sixth edition, 1989) regarding the free circulation of scientists for international purposes. In particular, no bona fide scientist will be excluded from participation on the grounds of national origin, nationality, or political considerations unrelated to science."
- the registration fees for meetings should follow IUPAP's policy on conference fees. In accordance with the directive of the 2002 General Assembly, the limit on conference registration fees had been raised to 425 Euros for conferences to be held in 2006. In

accordance with the directive of the 2005 General Assembly, the limit on conference registration fees had been raised to 450 Euros for conferences to be held in 2008 and 2009. Proceedings are included and "substantially lower" otherwise (the figure is increased periodically in line with inflation); in addition, the ICO Bureau recommends to have substantially discounted fees for full time students;

- ICO should approve the composition of the Programme Committee and be in a position to appoint part of it ; the ICO Associate Secretary in charge of meetings should be ex officio a member of the Organising Committee ;
- the ICO logo should be used in all documents related to the meeting that are made public;
- the event should be publicised in the ICO Newsletter; the texts are usually prepared in cooperation by the local Organisers and the ICO Secretary;
- the announcements, calls for communications and registration forms should be distributed, among others, through the channel of the ICO Territorial Committees;
- the organisers should accept to send free proceedings of the conference to countries where optics development requires special support ; a list of some addresses appropriate for that purpose selected by ICO will be provided by ICO. At present, the number of copies required is of the order of 20.

3 - ICO encourages meetings in all new areas of optics and meetings designed to fill specific needs, including regional development of optics. At the same time, ICO would like to avoid the unnecessary proliferation of conferences; section 6 of the Questionnaire should therefore be answered carefully, explaining why this particular conference should be held.

4 - Industrial participation in the Programme Committee and in the Organising Committee is usually required.

5 - There may be ICO financial participation in ICO Events, in the form of a grant, a loan, or a participation in the risks. ICO participation is an ICO Bureau decision. There is usually no ICO financial participation in ICO Endorsed Events.

Notes:

- participation in the financial risks means an immediate loan that can be converted in part or in totality into a grant if the event runs a deficit ; ICO accepts to take the first risk ; in case of a surplus, however, ICO receives a share of the surplus.
- in the 29 events held between ICO-20 and ICO-21 (both inclusive) with ICO participation, ICO was financially involved in 25 cases and assumed a risk six times. A typical amount of an ICO grant for a major ICO event is US\$ 1500-5000, and for an ICO Co-sponsored event US\$ 1000-2500. In most of the recent cases, the ICO grant was specifically awarded for the purpose of helping identified registrants from less favoured countries.

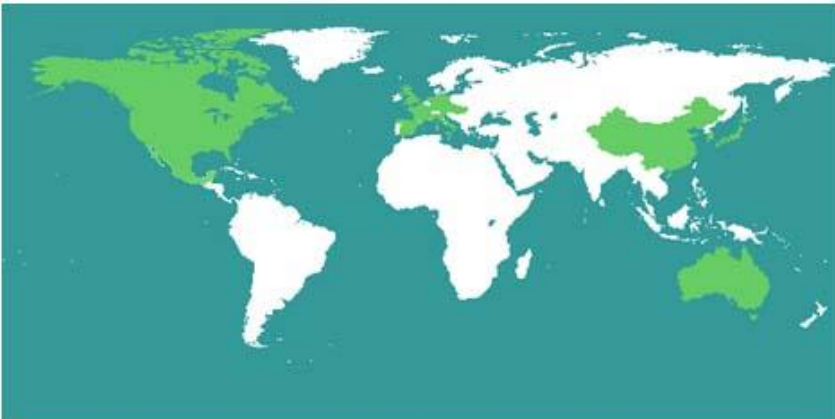
B - Special conditions for ICO Congresses

6 - ICO Congresses are held every three years; they include the General Business Meeting as requested by the statutes and a Scientific Meeting that should cover most of optics.

7 - For Congresses, calls for bids are issued by the ICO Associate Secretary with a deadline typically 4 years before the Meeting. The ICO Bureau in that year examines the bids and issues a proposition that is then submitted to the ICO Congress the following year. The ICO Congress makes the final decision. For ICO-22, to be held in 2011, the deadline was April 15, 2007 and the decision will be taken at ICO-21. For ICO-23, it is likely that similar dates, shifted by three years, will apply, with the deadline being April 15, 2010. Advance notice is always appreciated. Bids should be sent to the ICO Associate Secretary in charge of meetings and schools.

8 - The vast majority of the recent Congresses were held in August or early in September. However, according to the increase of activities meetings were also held in spring and fall seasons.

9 - The budget should provide for some financial help for invited speakers, the usual minimum being free registration. Special support is requested for invited speakers from countries where the development of optics is comparatively difficult. In recent ICO Congresses, the number of invited speakers has ranged between 30 and 40. The winners of the recent ICO Prizes and Galileo Galilei Awards are invited speakers at the next possible ICO Congress. Because there is usually one ICO Prize and one Galileo Galilei Award every year and one General Meeting every three years, this typically means that 6 invited speakers will be the winners of the recent ICO awards. 10 - The 2014 Congress, ICO-23, will be held in Santiago de Compostela, Spain, in August 2014, under the motto "Enlightening the future". Previous ICO Congresses were held in the following countries



In green, countries that have hosted ICO General Meeting and General Assembly.

ICO-22, 2012, Mexico

ICO-20, 2005, China

ICO -21, 2008, Australia

ICO-19, 2002, Italy

ICO-18, 1999, USA	ICO-8, 1969, the United Kingdom
ICO-17, 1996, Korea	ICO-7, 1966, France
ICO-16, 1993, Hungary	ICO-6, 1962, F.R. Germany
ICO-15, 1990, F.R. Germany	ICO-5, 1959, Sweden
ICO-14, 1987, Canada	ICO-4, 1956, USA
ICO-13, 1984, Japan	ICO-3, 1953, Spain
ICO-12, 1981, Austria	ICO-2, 1950, the United Kingdom
ICO-11, 1978, Spain	ICO-1, 1948, the Netherlands
ICO-10, 1975, Czechoslovakia	(Preliminary meetings had been held
ICO-9, 1972, USA	in Czechoslovakia and France).

C - Other major ICO events:

11 - ICO usually organises Schools, Topical Meetings or Regional Meetings between the Congresses. During the period 1997-2011, the list is as follows:

- August 1997, ICO 50th Anniversary, Education and Training in Optics, Delft (Netherlands)
- February 1998, ICTP/ICO Winter College on Optics, Trieste (Italy)
- August 1998, ICO Topical Meeting on Optics for Information Infrastructure, Tianjin (China)
- February 2000 ICTP/ICO/OSA Winter College on Optics and Photonics, Trieste (Italy)
- April 2000, ICO Topical Meeting on Optical Science and Applications for Sustainable Development, Dakar (Senegal)
- (August 2001, ICO Topical Meeting on Information Optics, Caesarea (Israel), postponed)
- February 2002, ICTP/ICO/OSA Winter College on Ultrafast Nonlinear Optics, Trieste (Italy)
- February 2003, ICTP/ICO/OSA/OWLS/SPIE, Winter College on Biophotonics, Trieste (Italy)
- July 2003, ICO Topical Meeting on Polarization Optics, Joensuu (Finland)
- February 2004, ICTP/ICO/OSA/OWLS/SPIE, Winter College on Interferometry and Applications in Modern Physics, Trieste (Italy)
- July 2004, ICO Topical Meeting on Optics and Photonics in Technology Frontiers, Chiba (Japan)
- February 2005, ICTP/ICO/OSA/OWLS/SPIE, Winter College on Optics and Photonics in Nanoscience and Nanotechnology, Trieste (Italy)
- January/February 2006, ICTP/ICO/OSA/OWLS/SPIE/CEI, Winter College on Quantum and Classical Aspects of Information Optics, Trieste (Italy)
- September 2006, ICO Topical Meeting on Optoinformatics 2006/Information Photonics 2006, Saint Petersburg (Russia)

- February 2007, ICTP/ICO/OSA/SPIE/EOS/OWLS/CEI, Winter College on Fibre Optics, Fibre Lasers and Sensors, Trieste (Italy)
- November 2007, ICO Topical Meeting 2007 on Optics and Laser Applications in Medicine and Environmental Monitoring for Sustainable Development, Accra (Ghana)
- February 2008, ICTP/ICO/OSA/SPIE/EOS/OWLS/CEI, Winter College on Micro and Nano Photonics for Life Sciences Trieste (Italy)
- February 2009, ICTP/ICO/OSA/SPIE/EOS/OWLS/CEI, Winter College on Optics in Environmental Science. Trieste (Italy)
- October 2009, ICO Topical meeting on “Emerging Trends and Novel Materials in Photonics”, Delphi, Greece.
- 2010 ICTP/ICO/OSA/SPIE/EOS/OWLS/CEI, Winter College on Optics and Energy. Trieste (Italy)
- October 2010, ICO Topical meeting on Optics and Energy, Paris, France.
- January/February 2011 ICTP/ICO/OSA/SPIE/EOS/OWLS/CEI, Winter College on Optics in Imaging Science.
- 2012 ICTP/ICO/OSA/SPIE/EOS/OWLS/CEI Winter College on Optics: Advances in Nano-Optics and Plasmonics. Trieste (Italy)
- FIRST ICO/ICTP/TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations, April-May 2012, (Costa Rica)
- ICO Topical Meeting: 6th International Conference on Nanophotonics (ICNP 2012), May 2012, Beijing (China).
- ICO Topical Meeting: 12th Conference of the International Society on Optics Within Life Sciences "OWLS 12", July 2012, Genoa (Italy).
- 2013 ICTP/ICO/OSA/SPIE/EOS/OWLS/CEI Winter College on Optics: Trends in Laser Development and Multidisciplinary Applications to Science and Industry. Trieste (Italy)
- ICO Topical Meeting: 18th Microoptics Conference (MOC'13). October 2013, Tokyo (Japan).
- 2014 ICTP/ICO/OSA/SPIE/EOS/OWLS/CEI Winter College on Optics: Fundamentals of Photonics - Theory, Devices and Applications. Trieste (Italy).
- ICTP-ICO-MCTP College on Optics and Energy, April-May 2014, Tuxtla Gutiérrez. Mexico.

12 - ICO Meetings should correspond to a clear need in a given subfield of optics or in a given geographical area.

13 - Although it never happened up to now, it is in principle possible to have more than one ICO major meeting in a given year or to have one in the same year as a Congress.

14 - Bids for all major ICO events to be held prior to December 31, 2012 are now welcome and should be sent to the ICO Secretariat. A deadline of April 15, 2011 applies to major ICO events to be held before December 31, 2012 and similarly for the rest of the term 2011-2014.

15 - Opportunities to organise schools are welcome; ICO Schools should normally be specialised to some area of optics and should last between one and three weeks; geographical areas with special needs for the development of optics are particularly welcome.



ICO COSPONSORSHIP AND ENDORSEMENT OF CONFERENCES AND SCHOOLS

Information and Guidelines

A - General conditions

1 - ICO provides sponsorship and endorsement to international conferences and schools - typically, those with at least 30 % of the attendees and at least 50 % of the Programme Committee from outside the host territory. "Event" in the forthcoming refers to conference or school. A companion document to this one gives the information and guidelines for events directly generated by ICO or in particularly close cooperation with ICO (i.e., ICO Congresses, ICO Topical Meetings, ICO Regional Meetings, ICO Schools).

2 - ICO participation implies in all cases

- that the ICO Bureau perceives that the meeting will be of a good scientific quality and that the timing and venue are appropriate;
- that the ICO Territorial Committee of the territory where the event is to be held approves the project;
- that the event organisers confirm adherence to the general principle of "free movement of scientists" as defined by the International Council of Scientific Unions (ICSU) in the booklet "Advice to Organisers of International Scientific Conferences". In essence, the host territory must guarantee that a bona fide scientist or engineer of any nationality or citizenship may attend. It is not sufficient to make a guarantee only for persons from territories recognised by the host territory. Any failure to honour a guarantee is reported by ICO to ICSU through the International Union of Pure and Applied Physics (IUPAP).

3 - ICO encourages meetings in all new areas of optics and meetings designed to fill specific needs, including regional development of optics. At the same time, ICO would like to avoid the unnecessary proliferation of conferences; section 6 of the Questionnaire should therefore be answered carefully, explaining why this particular conference should be held.

4 - Industrial participation in the Programme Committee and in the Organizing Committee is usually required.

B - Special conditions for ICO Cosponsored Events and for ICO Endorsed Events:

5 - The distinction between the two categories "ICO Cosponsored Event" and "ICO Endorsed Event" is outlined in the following points. The ICO Bureau makes the decision but organizers are welcome to propose a category.

6 - ICO Cosponsored Conferences must follow [*IUPAP's policy on conference fees*](#). For ICO Endorsed Events, exceptions to that rule may be made.

7 - In ICO Cosponsored Events, ICO must be associated from the beginning, and usually no later than 18 months in advance.

8 - In ICO Cosponsored events, the ICO Associate Secretary (in charge of meetings) is ex officio a member of the Organizing Committee and should be kept regularly informed of the progress of the organization.

9 - In ICO Cosponsored events, the ICO Bureau designates one member to represent it in the Programme Committee. For ICO Endorsed Events, exception to that rule may be made.

10 - For ICO Cosponsored Events, the organizers are always welcome to use the channel of the ICO Territorial Committee mailing list to distribute information.

11 - For ICO Cosponsored Events, the organizers are requested to send free proceedings of the conference to countries where optics development requires special support; a list of some addresses appropriate for that purpose selected by ICO will be provided by ICO; for ICO Endorsed Events, the same action is recommended. The number of copies requested is of the order of 20.

12 - All ICO Cosponsored and ICO Endorsed Events are listed in the column "Forthcoming events with ICO participation" in the ICO Newsletter. In addition, organizers of ICO Cosponsored Events are welcome to provide the ICO Secretariat with a 1000 to 2000 words article, if possible with an illustration, for further publicity in the ICO Newsletter. Because the responsibility for the publication rests on it, ICO has the liberty to slightly edit the text to adapt it to the general style and to the space available.

13 - The use of the ICO logo in documents concerning ICO Cosponsored Events is desired; it is permitted in ICO Endorsed Events.

14 - There may be ICO financial participation in ICO Cosponsored Events, in the form of a grant, a loan, or a participation in the risks. ICO participation is an ICO Bureau decision. There is usually no ICO financial participation in ICO Endorsed Events.

Notes:

- Participation in the financial risks means an immediate loan that can be converted in part or in totality into a grant if the event runs a deficit; ICO accepts to take the first risk; in case of a surplus, however, ICO receives a share of the surplus.

- In the 29 events held between ICO-20 and ICO-21 (both inclusive) with ICO participation, ICO was financially involved in 25 cases and assumed a risk six times. A typical amount of an ICO grant for a major ICO event is US\$ 1500-5000, and for an ICO Cosponsored event US\$ 1000-2500. In most of the recent cases, the ICO grant was specifically awarded for the purpose of helping identified registrants from less favoured countries.



STEERING COMMITTEES

ICO is involved with OSA, SPIE, and other organizations such as its International Organization Members, and EOS in two international meeting series: Education and Training in Optics and Photonics (ETOP), and Optics and Computing, later designated as Information Photonics.

Information about the ETOP series, including the Long-Range Guidance, Sponsorship, and Management of ETOP series and instructions for hosting ETOP meetings, can be found from the ICO home pages <http://e-ico.org/> under Activities (meeting series)

Information about the Optics in Computing/Information Photonics series, including the Bylaws of the Steering Committee, are available on the ICO home pages <http://e-ico.org/> under Activities (meeting series)

PART III:

THE ORGANISATION OF ICO



ICO STATUTES

New statutes have been adopted in 1999; the motivation was to obtain a good representation of the whole optical community within ICO through the addition of the new membership category "International Organisation Member". The European Optical Society, the Institute of Electrical and Electronic Engineer's Laser and Electro-Optic Society, the Optical Society of America, and SPIE – the International Society for Optical Engineering have been accepted for membership in the new category as early as 1999.

Original statutes adopted at Delft, 1948. Amended at Cambridge - 1956, Santa Monica - 1972, Sapporo - 1984, Garmisch Partenkirchen - 1990, Taejon- 1996.

New version adopted by ICO General Meeting, San Francisco, August 2, 1999. Approved by IUPAP, October 1999. Amended by the ICO-21 General Assembly, Sidney, Australia, July 2008.

Modifications to be submitted to the ICO-23 General Meeting, Santiago de Compostela, August 2014, are italicized and highlighted.

Article 1 Objective

The objective of the International Commission for Optics (ICO) is to contribute, on an international basis, to the progress of the science of *optics and photonics and their applications*. It emphasises the unity of the crossdisciplinary field of optics.

Optics and photonics are defined as the *fields* of science and engineering encompassing the physical phenomena and technologies associated with the generation, transmission, manipulation, detection, and utilisation of light. It extends on both sides of the visible part of the electromagnetic spectrum as far as the same concepts apply.

In particular, the ICO promotes international co-operation and facilitates the rapid exchange of information, by encouraging and furthering the organisation, on an international basis, of scientific meetings and summer schools. It emphasises actions for the education and training in *optics and photonics* internationally. It undertakes special actions for the development of *optics and photonics* in regions where particular support is needed. It strives to improve the recognition of *optics and photonics as fields* of science with a significant

impact on economy. It works also for the promotion of international agreements on nomenclature, units, symbols and standards.

Article 2 Affiliation

The International Commission for Optics is an Affiliated Commission of the Union for Pure and Applied Physics (IUPAP) and a Scientific Associate of the International Council for Science (ICSU).

Article 3 Membership

The Commission has three categories of Members.

3a) Territorial Committee Members, that represent identified optics communities in a set of non overlapping geographical areas. A Territorial Committee Member should be listed under a name that avoids any misunderstanding about the area represented. The word "territory" does not imply any political position on the part of the Commission, which seeks to assist scientists in optics everywhere in the world to co-operate on an international level. Each Territorial Committee should receive endorsement of the appropriate authority representing science in its territory, such as an Academy of Science. In addition, it should either (a) be a subcommittee of the body representing the Member in IUPAP, (b) be recognised by the body representing the Member in IUPAP, or (c) if no such body exists be recognised by the council of IUPAP.

3b) International Organisation members. Such members are membership organisations active in the field of Optics on an international level.

3c) The Commission may also accept organisations active in optics as Associate Members. Associate Members pay no dues and have no voting privileges.

Application for all categories of membership shall be made to the Secretary of the Commission and submitted to the next General Meeting for approval. Applications in the Territorial Committee Member and Associate Member categories may be approved by the Bureau, subject to ratification at the next General Meeting of the Commission.

Article 4 Shares and votes

Each member of ICO has a specified number of shares, which determines its financial contribution as well as its number of votes at the General Meeting.

4a) Each Territorial Committee member whose territory is also a member of IUPAP has the same number of shares, N_{s1} , in ICO as it has in IUPAP. The number of votes N_{v1} , which is also the maximum number of voting delegates of the Territorial Committee Member, is determined according to the IUPAP scale, which presently reads as follows:

Category	number of shares	number of official delegates and votes
I	1	1
II	2 or 3	2
III	4 to 6	3
IV	7 to 9	4
V	10 to 15	5
VI	Over 15	6

4b) The number of shares N_{s2} of an International Organisation Member is determined in agreement with ICO during the Membership admission procedure; it may be changed following the same procedures as for membership admission. The International Organisation Members are represented by one voting representative carrying a number of votes N_{v2} proportional to the number of shares N_{s2} of the member determined in such a way that the total number of votes of all International Organisation Members cannot exceed that of all Territorial Committee Members. The exact method for determining N_{v2} is included in the Rules and Codes of Practice.

Article 5 The Bureau

The Bureau of ICO consists of the following.

- the Executive Committee, consisting of the President, the immediate Past-President, the Secretary, the Associate Secretary and the Treasurer. All members of the Executive Committee, except for the Immediate Past-President, are elected by ICO at the General Meeting.
- The IUPAP representative appointed by the Executive Council of IUPAP under Article 7b of the statutes of the Union, and any Associate Members from IUPAP Commissions.
- The other Bureau members, who are traditionally known as Vice-Presidents. Eight Vice-Presidents (at least two of whom are from industry) are elected at the General Meeting by the Territorial Committee Members; in addition, also at the General Meeting, every International Organisation Member appoints one Vice-President up to the limit of eight; if there are more than eight International Organisation Members, eight Vice-Presidents are elected at the General Meeting by the International Organisation Members.

The Bureau is responsible for the conduct of the Commission's business between General Meetings. The term of office of the Bureau is three years from October 1st in the year of the election.

The President will be elected for a term of 3 years, normally after having served 3 years as a Bureau Member. In the event the President is unable to continue his/her duties for the elected term, the Past-President (or in case he/she is unable, the Secretary) will act as interim President, or, with the concurrence of the majority of the Bureau, will appoint one of the Bureau Members as interim President.

The Secretary, Associate Secretary and Treasurer will be elected for a term of three years and will be eligible for a second and usually final term of three more years. If either is unable to continue his/her duties for the elected term, the President will, with the concurrence of the majority of the Bureau, appoint a substitute from among the current Bureau Members.

Other Bureau Members will be elected for 3 years and will be eligible for not more than one further term of three years, except as described in the above two paragraphs.

The Bureau may fill vacancies occurring in its membership during the interval period between General Meetings, except for the position of Immediate Past President.

Article 6 Finance

In addition to money that may be granted by IUPAP, the International Commission for Optics may possess funds of its own consisting of subscriptions from the Members and special donations or grants. Each member pays a number of shares. Dues are payable on the first day of each year. Certain specific projects may be financed independently of the general resources of the Commission. The unit subscription per share is decided by the General Meeting.

Article 7 Withdrawal and Resignation

A member whose subscription is more than six years in arrears is to be regarded as having withdrawn. Any Member which has resigned is liable for the unpaid subscriptions up to the end of the year of resignation. Any Member ceasing to belong to the Commission forfeits its rights to ICO assets.

Article 8 General Meeting

The ICO is governed by its General Meeting, which consists of the Bureau (non voting) and the official delegates appointed by the Members.

The General Meeting of ICO is held every third year. The following business will be carried out at each of these General Meetings:

- (a) election of the Bureau;
- (b) examination of a Financial Statement presented by the Bureau;
- (c) agreement on a provisional budget for future years;
- (d) discussion of questions submitted by the ICO Members, the Bureau or the Executive Council of IUPAP.

Any Member, including Associate Members, as well as the ICO President can invite delegates at the General Meeting with no restriction of number. The number of voting delegates is restricted as per article 4.

The President may, with the approval of the Bureau, convene an Extraordinary General Meeting, and shall call such Meetings upon the request of one-third of all ICO Members.

The Draft Agenda for the General Meeting is circulated by the Secretary at least three months before the opening of the General Meeting. Subjects not on the Draft Agenda may be added at the Meeting with the consent of a single majority of the votes of Members represented at the Meeting.

A Member who is unable to send a delegate at a given General Meeting but wishes to vote on appropriate matters appearing on the Agenda may send its vote in writing to the President.

Alternately, it may give a proxy to another member of the same category. To be valid, votes made in writing and proxies must be received prior to the General Meeting.

Article 9 Other Meetings

The International Commission for Optics may sponsor or co-sponsor international conferences and give financial support (grants or guarantees), as a grant to organising committees or as a travelling grant directly to participants.

Article 10 Relation with the International Union of Pure and Applied Physics

(See also Articles 2 and 3)

The Commission will report concerning its work and its financial position to each General Assembly of the International Union for Pure and Applied Physics and will receive directives from that Assembly. Affiliation of the Commission to the Union can be terminated only by the Union at its General Assembly. In the event of disaffiliation, the special funds of the Commission are to remain its own property, but any unexpected balance of money received from IUPAP shall be returned to that body.

Article 11 Duration of the Commission

The life of the International Commission for Optics is not limited. The dissolution of the Commission may be decided by a majority of two-thirds of the votes of the Members voting at a General Meeting. In this event, the assets of ICO will be allocated by the General Meeting to one or more not-profit organisations of closely similar purposes serving the optical sciences.

Article 12 Alterations to the Statutes

Alterations in the Statutes may be proposed by the Bureau of the Commission, by one of the members, or by IUPAP. Such proposals must be received by the Secretary of the Commission at least three months before the date of the General Meeting.

Amendments or modifications may be adopted only at a General Meeting by a two-thirds majority of the Members taking part in the vote. Alterations of Statutes must be approved by IUPAP, which shall also constitute the final authority in regard to interpretation of Statutes.

Article 13 Rules and Codes of Practice

Rules for the conduct of business determine procedures for dealing with matters not specifically laid down in these Statutes. They are meant to give guidance in general terms to the Bureau and to the Members in matters such as, for example, the provision of grants from the funds of the International Commission for Optics for Symposia and Schools.

The rules and codes of practice may not contravene the Statutes of the ICO. They are proposed by the Bureau. The adoption, modification, or abolition of any rule or code of practice shall require either a majority of two-thirds of the members voting at a General Meeting of the Commission, or alternatively a majority of two-thirds of the total number of votes of all Members in a postal vote on a proposal unanimously approved by the Bureau.

RULES AND CODE OF PRACTICE OF THE INTERNATIONAL COMMISSION FOR OPTICS

Adopted by the ICO–16 General Meeting, Budapest, August 1993.

Modified by the ICO–17 General Meeting, Tajeon, August 1996.

Modified by the ICO–18 General Meeting, San Francisco, August 1999.

Modified by the ICO General Meeting, Florence, August 2002.

Modified by the ICO-20 General Meeting, Changchun, August 2005.

Modified by the ICO-21 General Meeting, Sidney, July 2008.

Modified by the ICO-22 General Meeting, Puebla, August 2011.

Article 13 of the statutes of the International Commission for Optics mentions the possibility of establishing rules and codes of practice for ICO. In its meeting in Garmisch Partenkirchen on August 5, 1990, the ICO Bureau decided to setup such rules. These rules replace those adopted earlier and published in previous ICO Green Books such as "Towards ICO-XII", May 1982, pp 69-70.

Article 13 of the ICO statutes: "Rules and Codes of Practice".

Rules for the conduct of business determine procedures for dealing with matters not specifically laid down in these Statutes. They are meant to give guidance in general terms to the Bureau and to the Members in matters such as, for example, the provision of grants from the funds of the International Commission for Optics for Symposia and Schools.

The rules and codes of practice may not contravene the Statutes of the ICO. They are proposed by the Bureau. The adoption, modification, or abolition of any rule or code of practice shall require either a majority of two-thirds of the members voting at a General Meeting of the Commission, or alternatively a majority of two-thirds of the total number of votes of all Members in a postal vote on a proposal unanimously approved by the Bureau."

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Changes and additions decided by the Bureau, but not yet submitted to the General Assembly for approval, are italicized.

1 - Free Circulation of Scientists:

ICO adheres to the principles established by the [International Council of Science \(ICSU\)](#) concerning the free circulation of scientists. In particular, organisers of ICO meetings and of meetings cosponsored by ICO are requested to follow the "advice to organisers of international scientific meetings" issued by the ICSU Standing Committee on the free circulation of scientists.

Note: International Council for Science (ICSU)

5 rue Auguste Vacquerie,
75116 Paris, France,
Phone: +33 1 45 25 03 29, Fax: +33 1 42 88 94 31, Email: secretariat@icsu.org,
<http://www.icsu.org>

2 - Membership:

Application

This section complements article 3 of the statutes.

The following are normally provided by a Territorial Committee applying for full membership:

- a) if the Territory is represented in IUPAP, a statement from the president of the body representing the Territory in IUPAP, that the Territorial Committee is authorised by that body to represent optical scientists and engineers of that Territory within ICO; if it is not, a motion to the same effect from a local scientific authority (Ministry, Academy, Council of Research,...);
- b) a letter of application signed by the chair person or representative of the applicant Territorial Committee, including a statement of adherence of the Territorial Committee to the ICO Statutes;
- c) a description of the organisation of the Territorial Committee, including the number of members, their designation procedure, their term of office, and the procedures that are set up to ensure a good representation of the optics community within the territory. If the Territory is not a member of IUPAP, the Territorial Committee and the ICO Secretary or Associate Secretary shall jointly take the necessary steps to request approval of the Territorial Committee by the council of IUPAP.

The application of a Territory for Associate Membership in ICO shall be made to the Secretary. It may be considered and approved by the Bureau. At the next General Meeting, the decision shall be made

* either, subject to the desire of the applicant, to transform the associate membership into regular membership,

* or to extend the associate membership until the next General Meeting,

* or to terminate the associate membership.

In the case of a Territorial Committee applying for Associate Membership, item a) is required if the Territory is represented in IUPAP; item b) is always required.

The following are normally provided by an International Organisation Member applying for membership (whether as full member or as associate member, except for the number of shares, that applies only to full members):

- a) a letter of application signed by the President or its duly appointed representative, mentioning approval by the appropriate bodies in the Organisation, expressing adherence to the ICO Statutes, and including a proposition for the number of shares;
- b) a description of the operation of the Organisation, as provided for example by its bylaws, statutes, rules and codes of practice, and showing indication of its international character. This includes the requirement that at least 20% of the members are from outside the most represented country. The advice of the Territorial Committee (if any) in the most represented country will be considered.

Organisation and duties of Territorial Committees

The Territorial Committees normally have members elected or designated by some agreed procedure, with a well defined term of office; it is usually convenient for them to have a bureau or at least a chairperson; their organisation secures in all cases:

- a fair representation of the optics community in the Territory;
- approval and support of the scientific authorities of the Territory (Ministry, Academy, council of Research).

The ICO Bureau may at any time request information from the Territorial Committees about their organisation as described above.

Territorial committees maintain mailing lists of at least an extensive representative subset of the optics community in the territory. They will include in the mailing list any bona fide scientist with an address in their Territory and requesting to be included. They distribute at no charge to ICO any document sent to them in an appropriate quantity either by the ICO bureau or on its behalf. This applies in particular to the ICO Newsletter and to the Meetings and Schools with ICO participation.

Number of votes of International Organisation Members:

The number of votes N_{v2} of an International Organisation Member is determined according to its number of shares N_{s2} according to the following formula, rounded to the nearest integer but with a minimum of 1:

$$N_{v2} = N_{s2} \frac{\sum N_{v1}}{\max(\sum N_{s1}; \sum N_{s2})}$$

[Explanation note: e.g., assume the Territorial Committee members together have 200 shares and 100 votes (as is approximately the case in 1999). If the International Organisation Members (IOMs) together have 100 shares, they will have 50 votes (apart from round off errors). If the IOM have 200 shares, they will have 100 votes. If the IOM have 250 shares, they will still have 100 votes and no more. In fact, this is unlikely to happen

in the near future, but this rule has been established in response to the concern about the Territorial Committee Members being dominated by the International Organisation Members and loosing control of the ICO.]

3 - General Meetings, votes and elections:

This section complements articles 4 and 8 of the statutes that provide for a General Meeting of ICO every three years. ICO holds a Congress every three years. The ICO Congress consists of a business part, known as the ICO General Meeting, and an International Scientific Conference part.

Sessions:

Tradition holds that General Meetings are held in two sessions with more than 24 hours between the end of the first session and the beginning of the second session.

Attendance in the General Meeting

During any session of the General Meeting, the Secretary circulates a list of attendance. Each attendant signs the attendance list, indicating

* their capacity of ICO Bureau member, official delegate an ICO Territorial Committee, representative of an associate member, member of an ICO Committee, or observer (more than one category may apply);

* their country or ICO territory.

According to article 4 of the statutes, the number of official delegates of ICO Territorial Committees is equal to their respective numbers of votes. The number of official delegates may in no case exceed the number of votes, but if the actual number of official delegates at a General Meeting is smaller than the number of votes, the Territorial Committee still keeps the same number of votes.

Voting Procedure

Except as indicated in articles 8 (agenda of the General Meeting), 11 (duration of the commission), 12 (alterations to statutes) and 13 (alterations of the Rules and Codes of Practice) of the statutes, decisions of the General Meeting, including elections, are by a majority of the votes of the members present and taking part.

Except for the ICO Bureau election, where secret ballot is the rule, the ICO President decides whether votes need to be made by secret ballot. A member having N votes is provided with N ballot forms; this applies to both the Territorial Committee members and the International Organisation members. The member may decide to cast identical ballots or not.

Nomination procedure:

Candidates for the ICO Bureau may be nominated by the ICO nominating Committee (see section 6 below) and/or by the Territorial Committees. No other nomination may be received. The Nominating Committee writes to the Territorial Committees at least one year before the election to request nominations for all positions in the ICO Bureau.

Endorsement of all candidates by their respective Territorial Committees is requested in all cases. In addition, Territorial Committees may endorse candidates from any Territory. At the time of the General Meeting, the delegation of the Territorial Committee to the General Assembly makes endorsements in its name.

Endorsement means that the person is considered by the endorsing Territorial Committee as a good person to stand for an ICO election and is to be understood as an intention, not an obligation, to support this candidate at the election, given the list of candidates at the time the endorsement is made.

The Nominating Committee establishes a first list of candidates that is sent to the territorial Committees along with the agenda of the General Meeting.

Nominations may be received until 24 hours before the election. After the closure of nominations, the Nominating Committee establishes a final list of candidates. In addition, each candidate provides the Nominating Committee with a short curriculum vitae and a statement on his/her policy if elected for distribution to the General Meeting.

Except as provided in this and in the next subsection, there is no official campaign for the ICO Bureau.

Elections for the ICO Bureau:

Bureau Elections are by secret ballot in all cases.

Tradition holds that:

- * during the first session of the General Meeting, the Nominating Committee presents its report and indicates the current list of candidates for the ICO Bureau offices;
- * elections are held during the second session of the General Meeting;
- * for the offices of President, Treasurer, Secretary and Associate Secretary, each candidate is given, immediately before the vote, a short prescribed time (typically between 5 and 10 minutes) to present himself and his/her policy to the General Meeting. If there is only one candidate, that procedure is optional.

The elections are conducted by the chairperson of the Nominating Committee. After each vote, the Nominating Committee counts the votes and during that time, the General Meeting may treat agenda items other than the elections.

In the case of a tie for any vote, the elder candidate is declared elected.

For any vote, if the number of candidates is equal to the number of seats, the Nominating Committee Chairperson may decide that there is no vote and declare the candidate(s) elected.

Concerning the Vice-Presidents, the idea is that eight Vice-Presidents represent the Territorial Committee Members and are elected only by the Territorial Committee Members, while a number of Vice-Presidents represent the International Organisation Members and are elected only by the International Organisation Members. Since it is not advisable to have too many members on the Bureau, the number of Vice-Presidents representing Territorial Committee Members has been set to eight, and the maximum number of Vice-Presidents representing International Organisation Members has also been set to eight.²

The votes are held in the following order:

Executive Committee (elected by all members):

- * one vote for the President;
- * one vote for the Treasurer;
- * one vote for the Secretary;
- * one vote for the Associate Secretary.

Vice-Presidents elected by Territorial Committee Members (only the Territorial Committee Members vote):

- in a first vote, members vote on four (4) names; all candidates are eligible, whether they come from industry or not; if, among the first four (4) candidates ranked by number of votes, no one is from industry, the first three (3) are declared elected; if at least one is from industry, the first four (4) are declared elected;
- if the first vote did not lead to the election of two (2) candidates from industry, a second vote is made, where only candidates from industry are eligible; as a result of this vote, the number of candidates from industry elected is brought to two (2); in that vote,

² The whole point of having an International Organisation Member category is to give them close contact with the ICO and therefore they are well represented in the Bureau. Nevertheless, their representation in the Bureau cannot exceed that of the Territorial Committee Members. Just like it is impossible for all Territorial Committee Members to have someone on the Bureau, it will also be impossible for all International Organization Members to have someone on the Bureau if their number exceeds eight. While this is a fair rule, it may generate difficulties and frustration if the number of International Organization Members happens to be just slightly larger than eight. If that happens, one option open to the ICO President will be to invite those International Organization Members that have no Vice-President to attend part or all of the Bureau meetings as observers.

members vote on one (1) or two (2) names, depending on how many candidates should be elected;

- in a last vote, all candidates are eligible, whether they come from industry or not, and the total number of Vice-Presidents is brought to eight; in that vote, members vote on three (3) to four (4) names, depending on how many candidates should be elected.

In every vote, the ballots forms given to the voting members should indicate the number of seats to be assigned by this vote; nevertheless, ballots with a smaller number of votes are valid. On one given ballot form, no name should be written more than once and the ballot form must be explicit about that rule. If nevertheless one name is duplicated, it is counted only once. Ballots containing a number of different names larger than the number of seats to be assigned are not valid.

Tradition holds that for ICO elections, the detail of votes are not made public but are kept by the Nominating Committee Chairperson. Consequently, it is not sensible to repeat votes in order to reach an absolute majority and the applicable majority rule is always the relative majority, i.e. the candidates that have more votes are elected, whether they have reached the absolute majority or not.

*Vice-Presidents representing International Organisation Members (IOM):

For the Vice-Presidents appointed by the International Organisation Members, prior to the General Meeting, every International Organisation Member appoints one representative. If the representative is elected on the Executive Committee or as one of the eight elected Vice-Presidents, the International Organisation Member appoints another representative at its earliest convenience *but no later than September 30th*.

- If there are less than eight International Organisation members, their representatives automatically become Vice-Presidents.
- If there are more than eight International Organisation Members, unless a consensus agreement is found among the International Organisation Members, the election of their eight Vice-Presidents takes place last and the candidates are automatically the appointed representatives of the International Organisation Members.

The Nominating Committee contacts the International Organization Members at least six months before the GA to request the appointments.

4 - Classification for the participation of ICO in Meetings and Schools:

There are four categories for ICO participation in meetings and in summer (or fall, or winter, or spring) schools:

1 - ICO General Meetings

2 -Other major ICO events "; whenever appropriate, these events may receive the designation "ICO Special Meeting", "ICO Topical Meeting", "ICO School", "ICO Regional Meeting"

3 - ICO Cosponsored Meetings and Schools

4 - ICO Endorsed Meetings and Schools.

The applicable rules are given in the table on the next page.

Keys: SR: strictly required, UR: usually required, NR: not required, PO: possible, NO: usually not.

Any meeting with ICO participation, classified in category 2, 3 or 4 may be given by the Bureau the name of ICO Satellite Meetings if it is scheduled to take place within 15 days of an ICO General Meeting or other major ICO event..

Note on registration fees:

As a rule, ICO adheres to the IUPAP upper limit on registration fees. Even though the participation of scientists from disadvantaged areas usually requires special measures independently of the cost of registration, high registration fees tends to limit participation, in particular from students and to be a form of discrimination between scientists.

Specifically, ICO conferences submitted to IUPAP sponsorship must necessarily to follow the IUPAP limit in all cases. These are the General Meetings, Topical Meetings and other major ICO events — usually one per year. For the other events with ICO participation, registration fees higher than the limit can occasionally be accepted provided that an option exists for any scientist to request, at least six weeks in advance, application of the IUPAP limit and still be fully registered, perhaps with the exception of some social events. That option must be known to registrants.

Decision procedure:

The ICO Bureau approves all forms of ICO participation in international conferences, and authorizes the related grants:

- * the meeting and school applications are processed twice annually, with the deadlines of applications on April 15 and October 15 of each year
- * the applications must be received by ICO Secretariat by a deadline that is at least 12 months prior to the event and before the first announcement
- * when the applications are received, the ICO President, Treasurer, and Secretary or Associate Secretary get in touch by some fast procedure and issue a memo including the background information relevant to the meeting. The memo may include a proposition concerning the category of ICO meeting applicable, the opportunity to grant the sponsorship requested, and the opportunity to grant financial support

- * reply form is sent to the Bureau members; it includes the proposition
- * in any event, if the approval by the relevant Territorial Committee is not clear from the application form, the Territorial Committee is contacted at the same time as the Bureau members and it has a right of veto for 45 days after the letter has been sent; the default is that there is no veto
- * no later than one month after application deadline, the decisions are made on the basis of the replies obtained so far from the Bureau members. Only the votes received are counted, the votes not received are not considered as approvals of the proposition of the subcommittee.

<u>ICO CATEGORY</u>	<u>1-ICO General</u>	<u>3-ICO Cosponsored</u>	<u>4-ICO Endorsed</u>
	<u>2-Other major ICO events</u>		
REQUIREMENTS			
a) ICSU rules on free movement of scientists	SR	SR	SR
b) good scientific quality as perceived by the ICO Bureau	SR	SR	SR
c) international character (typically > 30% participants and > 50% program Committee members from outside territory)	SR	SR	SR
d) industrial participation in Committees	UR	UR	UR
e) registration fee to follow IUPAP rules	SR	UR (see text)	UR (see text)
f) timeliness very clear, novelty	SR	UR	UR
g) participation in the ICO Proceedings Donation Programme	UR	UR	NR
h) approval by Territorial Committee (if there is one)	SR	SR	SR
ICO PARTICIPATION			
h) ICO Secretary or Associate Secretary in Organising Committee	SR	UR	NR
i) ICO designates one member of Programme Committee	SR	SR	UR

j) ICO associated from the beginning (usually at least 18 months in advance)	SR	SR	NR
k) use of ICO logo	SR	UR	PO
l) grant	PO	PO	NO
m) loan (reimbursable whether deficit or benefit)	PO	PO	NO
n) participation in budget, risk and benefits	PO	PO	NO
o) support for participation of scientists from regions of the world requiring special support	PO	PO	PO
p) announcements in Newsletter	SR	SR	PO
q) distribution of documents through ICO channels	SR	PO	NO

Financial participation of ICO:

According to the table above, ICO may give a grant or a loan to meetings and schools of categories 1, 2 and 3. A special form of a grant, that can apply to all categories, is the financial support for the participation of scientists from regions of the world requiring special support. In that case, the amount is usually sent to the organisers with the instruction that they should spend it on financial support to identified scientists from such regions, inform the recipients of the support from ICO and send the list of recipients to ICO; whenever possible, the organisers should be requested to complement the ICO grant, for example by waiving the registration fees for the recipients.

Alternatively, ICO may also wish to take part where practicable in the risks or benefits of meetings and schools of categories 1, 2 and 3. That is possible, if the local law permits, in the following conditions:

- * ICO accepts a financial responsibility up to an amount of X;
 - * the amount X is paid by ICO to the meeting organisers in the form of a treasury advance; it is made available to the organisers by the ICO Treasurer as soon as they request it;
 - * at the closing of the account and in no case later than one year after the meeting is finished,
- if there is a deficit:
- if the deficit is smaller than X, ICO will cover it in its entirety, i.e. the organisers will only have
 - to reimburse ICO the difference;
 - if the deficit is larger than X, then ICO will cover it for an amount X, i.e. no money will be

- reimbursed to ICO;
- if there is a surplus:
- if the surplus is smaller than 4X, ICO will receive 25 % of the surplus, i.e. the organisers will
- reimburse ICO the amount X plus a quarter of the surplus;
- if the surplus is larger than 4X, the organisers will reimburse ICO two times X.
-

Depending on circumstances, slight modifications to this scheme may be made by the Bureau.

Any given Bureau may approve meeting support up to the triennial Meeting Support budget for the triennium of its term, augmented with any return from previously granted participation in risk. Loans are not counted and are limited only by the approval of the Treasurer based on the account balance. There is continuity in the ICO Bureau, therefore the Bureau may approve meetings to be held after the next Bureau elections.

5 - Relations with IUPAP:

IUPAP, at each of its General Meetings designates one Representative to ICO. The IUPAP Representative takes part in the ICO General Meeting.

ICO will normally request sponsorship by IUPAP of its General and Topical Meetings.

ICO will normally request to have associate members in some IUPAP Commissions, as appropriate to maintain close relations.

6 - ICO Committees:

List of ICO Committees:

In order to assist the General Meeting and the Bureau in their activities, ICO has established the following committees:

- * Nominating Committee
- * Long Range Planning Committee
- * Committee for the Regional Development of Optics
- * Education Committee
- * Travelling Lecturer Committee
- * ICO Prize Committee
- * ICO Galileo Galilei Award Committee
- * ICO/ICTP Gallieno Denardo Award Committee

* IUPAP Young Scientist Prize in Optics Committee

Duties of the committees:

The specific purpose of each committee is indicated below. Committees report on their activity at each General Meeting and, as appropriate, at each meeting of the Bureau.

- * The purpose of the Nominating Committee is to coordinate the elections of the Bureau.
- * The purpose of the Long Range Planning Committee is to propose suitable new actions for ICO, with suitable attention for the inclusion of industrial optics in ICO's activities.
- * The purpose of the Committee for the Regional Development of Optics is to find and implement actions whereby ICO can promote the transfer of optical knowledge and provide practical help to optical scientists and engineers in Developing Nations and in general, geographical areas where optics is not well developed.
- * The purpose of the Education Committee is to promote education in Optics worldwide.
- * The purpose of the Travelling Lecturer Programme Committee is indicated in section 7 below.
- * The purpose of the Standards Committee is to serve as a channel of communication for work on standards in optics, in relation with ISO.
- * The purpose of the ICO Prize Committee is indicated in section 9 below.
- * The purpose of the ICO Galileo Galilei Award Committee is indicated in section 10 below.
- * The purpose of the ICO/ICTP Gallieno Denardo Award Committee is indicated in section 11 below.
- * The purpose of the IUPAP Young Scientist Prize in Optics Committee is indicated in section 12 below.

Membership of the Committees:

Each committee has a chairperson and members. The following rules apply:

- a) The chairperson of all ICO committees is always a member of the ICO Bureau.
- b) The ICO past-President is ex officio the chairperson of the Nominating Committee and the members are appointed by the chairperson.
- c) The ICO President is ex officio the chairperson of the long range planning Committee and the members are appointed by the chairperson.
- d) The ICO Treasurer is ex officio the chairperson of the Travelling Lecturer Committee.
- e) The ICO Secretary or Associate Secretary is ex officio member of all Committees except the Nominating Committee, the Long Range Planning Committee and the ICO Prize Committee.

f) Except for the cases of rules b, c, and e above, the members are proposed by the chairperson and appointed by the Bureau. To avoid delays in the operation of Committees, the appointment of members by the Bureau can be made by mail.

7 - ICO Travelling Lecturer Programme:

ICO has established in 1988 a Travelling Lecturer Programme to promote lectures on modern aspects of optics in interested territories by scientists of international reputation with good lecturing skills. The program is aimed specially at developing nations, but is not necessarily restricted to them. As a rule, it is expected that the lecturer's local expenses will be met by the host institution and that ICO's contribution will be towards the travel costs. Scientists or host groups interested in participating in this program should write to the Treasurer of ICO with details of the proposed lecture program and ICO support requested.

Within the financial limits of the budget, an ICO Committee, with the ICO Treasurer as chairperson, decides for the ICO Travelling Lecturer grants. This Committee in principle does not meet, but works by mail and telecommunication facilities so as to secure the fastest response compatible with good operation.

8 - ICO Book:

ICO has established in 1990 a series of books: the title "International Trends in Optics" has been chosen for the series. There is one volume every three years. The ICO President, the ICO past-President, or one of the ICO former Presidents, acts as the editor.

The books are intended to provide an authoritative overview of research that is underway in the field of optics throughout the world. The articles should be suitable for the specialist and non-specialist alike and should provide general, readable overviews of many different aspects of optical science and engineering. They should tend to be less formal than the standard technical reviews found in journals. In addition to examining their designated topics, the authors should also discuss unsolved research problems and speculate on future directions in their fields.

The royalties typically paid to the editor and the authors are instead paid to ICO.

9 - ICO Prize:

ICO has established in 1982 the ICO Prize, to be given each year to an individual who has made a noteworthy contribution to optics, published or submitted for publication before he or she has reached the age of 40. (Specifically, the Prize winner must not have reached the age of 40 before December 31 of the year for which the Prize is awarded). The character of the work of successive Prize recipients should preferably alternate between predominantly experimental or technological and predominantly theoretical. The "noteworthy" contribution in optics is measured chiefly by its impact (past or possibly future) on the field of optics generally, opening a new subfield or significantly expanding an established subfield in research or technology.

The ICO Prize involves:

- a citation,
- a cash award of an amount established in the triennial budget of the ICO and indicated every year in the call for nominations
- travel support to attend said meeting to an amount to be determined by the Bureau³,
- waiver of registration fees at said meeting
- and the invitation to present an invited paper and receive the award at the next ICO Congress or another ICO meeting mutually agreed to by the Bureau and the award winner.⁴

Every year, the ICO Prize Committee issues a call for nominations that is published in the ICO Newsletter, receives the nominations and selects the recipients for approval by the Bureau at its next meeting. The award needs not be made each year if the Prize Committee so chooses. The Prize is preferably given to an individual, but it can be shared by two persons. Eligibility for the Prize is not excluded by previous prizes awarded to the individual. The selected Prize winner is then announced in the ICO Newsletter and, if possible, in one or more optics journals. The prizes are presented at each ICO General Meeting.

10 - ICO Galileo Galilei Medal:

- 10.1 - The Galileo Galilei medal of ICO is awarded for outstanding contributions to the field of optics which are achieved under comparatively unfavourable circumstances.
- 10.2.1 - The outstanding contributions in the field of optics should refer to:
- fundamental scientific questions or problems, or
 - research or development of optical methods or devices, or
 - scientific or technical leadership in the establishment of regional optical centres.
- 10.2.2 - "Comparatively unfavourable circumstances" refers to difficult economic or social conditions or lack of access to scientific or technical facilities or sources of information.

³ For 2008-2014, these amounts are a cash award of US\$2000 and up to US\$1000 towards travel expenses.

⁴ The Carl Zeiss Foundation generously agreed to donate an Ernst Abbe medal up until 2010 and thereafter a laser engraved glass trophy.

- 10.2.3 - The outstanding contributions must be documented, if applicable, by internationally acknowledged publications. Exceptionally, reports can be considered, provided that they are made available to the Award Committee.
- 10.3 - The award is normally given to one person. Exceptionally, however, if a collective contribution is judged to be worthy of the award a team of several persons may be selected.
- 10.4 - Every year, the ICO Galileo Galilei Award Committee issues a call for nominations that is published in the ICO Newsletter, receives the nominations and selects the winner for approval by the Bureau at its next meeting. The award need not be given every year if the Bureau so chooses.
- 1.5 - The award consists of:
- a) the Galileo Galilei Medal offered by the Italian Society for Optics and Photonics
 - b) a cash award of an amount determined by the Bureau
 - c) assistance in travel as determine by the Bureau⁵ to present an invited paper and receive the award at the next ICO Congress or another ICO meeting mutually agreed to by the Bureau and the award winner⁶,
 - d) waiver of registration fees at said meeting.
 - e) Special attention and appropriate measures of ICO to support the future activities of the award winner.

11 – ICO/ICTP Gallieno Denardo Award for Young Researchers from Developing Countries:

Approved by ICTP, August 1999. New agreement approved by ICO and ICTP, November 2007.

ICO, the International Commission for Optics, and ICTP, the Abdus Salam International Centre for Theoretical Physics, Trieste, have agreed to establish a joint prize, called the

⁵ For 20011-2014, these amounts were: a cash award of US\$1000 and up to US\$1000 towards travel expenses.

⁶ The Società Italiana di Ottica y Fotonica (SIOF) has generously agreed to donate the Medal for a number of years.

ICO/ICTP Award. It is reserved for young researchers from developing countries⁷, who conduct their research in a developing country.

The award will be given to scientists less than 40 years old⁸ who are active in research in Optics and have contributed to the promotion of research activities in Optics in their own or another developing country.

The award consists of the following:

- 1) the ICO gives a cash amount⁹ and a diploma.
- 2) The ICTP invites the winner to attend a three weeks College¹⁰ at Trieste at the next appropriate opportunity, and to give a seminar on his/her work when appropriate. ICTP will pay for travel and living expenses.

The award will be delivered to the winner at Trieste in the presence of representatives of ICO and ICTP.

The award is given to one person every year. The winner is selected on the basis of nominations received by the Award Committee in response to a call published by both ICO and ICTP. The Award Committee consists of four members, of which two are appointed by ICO and two by ICTP for a period of three years. Among the four members, ICO appoints the Committee Chair.

The nominations must be documented by a complete curriculum vitae including a list of publications and selected reprints (no more than three) as well as a complete employment history and a description of the nominee's achievements for the promotion of research activity in developing countries.

Since February 2008 the award has the new definitions as ICO/ICTP Gallieno Denardo Award honouring the memory of the late Prof. Gallieno Denardo.

⁷ Developing Countries are defined by the list of Developing Countries of the United Nations Organisation.

⁸ Specifically, the winner must not have reached the age of 40 on December 31st of the year for which the award is given.

⁹ For 2008-2014, the amount is US\$1000.

¹⁰ The ICTP in Trieste organises a Winter College on Optics, or Laser Physics, or Photonics, or Quantum Optics once a year, normally three weeks in February. The Winter Colleges are currently organised in cooperation with the ICO, OSA (Optical Society of America), SPIE and OWLS.

12 – IUPAP Young Scientist Prize in Optics:

The IUPAP Young Scientist Prize in Optics is an achievement prize established in 2009. It is an IUPAP prize administered by the ICO in a similar manner as the ICO's own prizes and awards.

General rules

The IUPAP Young Scientist Prize in Optics will be awarded annually to a scientist who has made an outstanding contribution to the field of applied optics and photonics and who by the end of the year in which the prize is given has a maximum of eight years of research experience (excluding any career interruptions) after obtaining the doctoral degree. The contribution, which is measured by its scientific impact, must be clearly documented. The IUPAP Prize is strictly an achievement award for an individual in early career. The Prize will be awarded at an ICO conference that is endorsed by the IUPAP.

The IUPAP Prize involves

- a) An IUPAP Young Scientist Medal, with the name and discipline (Optics) of the recipient engraved on the back. The medal is prepared by the IUPAP and its front side is the same for all Commissions and Affiliated Commissions
- b) A certificate containing the citation (with a maximum of 100 words).
- c) A cash award determined by the IUPAP.¹¹

The recipient is expected to deliver an invited presentation at a major ICO conference and it is recommended that the registration fee for the awardee be waived. Additional travel support can be obtained from other sources but it cannot be used to increase the amount of the cash award.

Nomination and selection procedure

For each triennial period the ICO appoints an IUPAP Prize Committee. Every year the ICO issues and distributes a call for nominations with a nomination deadline. The nominations are to be made in accordance with the general instructions as published on the ICO website. The Prize Committee evaluates the nominations and recommends a winner for the approval of the ICO Bureau. The Prize need not be given every year if the Prize Committee or the Bureau so decide.

Eligibility for the IUPAP Prize is not excluded by previous prizes that may have been awarded to the individual. Provided the time limitations are satisfied, unsuccessful

¹¹ During the period 2009-2014, the amount was € 1,000.

nominations are considered for two subsequent years after the initial nomination, but the Nomination Committee may ask for updates of the nomination documents. After three years, a re-nomination can be made if the eight-year time limit is met. The nomination and selection procedure must overall be fair and open.

13 – FISCAL SPONSORSHIP GRANT AGREEMENT BETWEEN THE OSA FOUNDATION AND THE ICO

On 27 October, 2010, the OSA Foundation (Grantor) decided that financial support of the project described in the grant proposal application accompanying this Agreement will further Grantor's tax-exempt purposes. Therefore, Grantor has created a restricted fund designated for such project, and has decided to grant all amounts that it may deposit to that fund, less any administrative charge as set forth below, to the International Commission for Optics (Grantee), subject to the following terms and conditions:

WHEREAS,

Grantee is an exempt organization under Section 501(c)(4) of the Internal Revenue Code, and may apply for exemption from federal income tax under Section 501(c)(3) of the Internal Revenue Code at some point in the future

The purpose of Grantee is the following: to contribute, on an international basis, to the progress and diffusion of knowledge in the field of optics.

Grantor is exempt under Section 501(c)(3) of the Internal Revenue Code and is not a private foundation under Section 509(a)(1) of the Internal Revenue Code. Grantor would like to support certain activities of Grantee and is willing to act as a fiscal sponsor for Grantee. Grantor will accept contributions for the benefit of ICO by those contributors who wish to support Grantee prior to Grantee's obtaining federal tax exempt status (the "Fiscal Sponsorship").

Grantor anticipates terminating the Fiscal Sponsorship should the Grantor receive an advance ruling that it is exempt under Section 501(c)(3) of the Internal Revenue Code.

Grantor and Grantee have a shared mission, and Grantor has determined that the purposes and activities of ICO are charitable under Internal Revenue Code Section 501(c)(3). The success of ICO will benefit the mission of the Fiscal Sponsor.

NOW, THEREFORE, in consideration of the foregoing recitals and the promises contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties, intending to be legally bound, agree as follows:

Term. This Agreement shall be effective starting [INSERT DATE] and shall remain in force until Grantee receives its designation from the Internal Revenue Service as a 501(c)(3) tax-exempt organization, or it is terminated in accordance with the terms of this Agreement, whichever is sooner.

Grantee shall provide Grantor with its governing documents, a completed and filed IRS Form SS-4 or other documentation satisfactory to Grantor, showing Grantee's separate existence as an organization.

Use of Funds. Grantee shall use the grant solely for the project described in the accompanying grant proposal application, and Grantee shall repay to Grantor any portion of the amount granted which is not used for that project. Any changes in the purposes for which grant funds are spent must be approved in writing by Grantor before implementation. Grantor retains the right, if Grantee breaches this Agreement, or if Grantee's conduct of the project jeopardizes Grantor's legal or tax status, to withhold, withdraw, or demand immediate return of grant funds, and to spend such funds so as to accomplish the purposes of the project as nearly as possible within Grantor's sole judgment. Any tangible or intangible property, including copyrights, obtained or created by Grantee as part of this project shall remain the property of Grantee.

Fundraising. Grantee may solicit gifts, contributions and grants to Grantor, earmarked for Grantor's restricted fund for this project. Grantee's choice of funding sources to be approached and the text of Grantee's fundraising materials are subject to Grantor's prior written approval. All grant agreements, pledges, or other commitments with funding sources to support this project via Grantor's restricted fund shall be executed by Grantor.

Nothing in this Agreement shall constitute the naming of Grantee as an agent or legal representative of Grantor for any purpose whatsoever except as specifically and to the extent set forth herein. This Agreement shall not be deemed to create any relationship of agency, partnership, or joint venture between the parties hereto, and Grantee shall make no such representation to anyone.

Reporting Requirement. Grantee shall submit a full and complete report to Grantor sixty (60) days after the completion of the grant program. Periodic program updates may be requested for programs lasting more than three months. The report shall describe the charitable programs conducted by the Grantee with the aid of this grant and the expenditures made with grant funds, and shall report on the Grantee's compliance with the terms of this grant.

Termination. Either party may terminate this Agreement by giving sixty (60) days' written notice to the other party.

This grant is not to be used in any attempt to influence legislation within the meaning of Internal Revenue Code (IRC) Section 501(c)(3).

Grantee shall not use any portion of the funds granted herein to participate or intervene in any political campaign on behalf of or in opposition to any candidate for public office, to induce or encourage violations of law or public policy, to cause any private inurement or improper private benefit to occur, nor to take any other action inconsistent with IRC Section 501(c)(3).

Grantee shall notify Grantor immediately of any change in:

- (a) Grantee's legal or tax status, and
- (b) Grantee's executive or key staff responsible for achieving the grant purposes.

Grantee hereby irrevocably and unconditionally agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless Grantor, its officers, directors, trustees, employees and agents, from and against any and all claims, liabilities, losses and expenses (including reasonable attorneys' fees) directly, indirectly, wholly or partially arising from or in connection with any act or omission of Grantee, its employees or agents, in applying for or accepting the grant, in expending or applying the funds furnished pursuant to the grant or in carrying out the program or project to be funded or financed by the grant, except to the extent that such claims, liabilities, losses or expenses arise from or in connection with any act or omission of Grantor, its officers, directors, trustees, employees or agents.

General.

Notices. All notices, demands, amendments, waivers, consents, approvals, and other communications required or permitted under this Agreement must be in writing and expressly reference this Agreement.

Amendments; Waivers. All parties must approve any amendment to this Agreement, however, any waiver of any right or remedy requires only the consent of the party waiving it. Every amendment or waiver must be in writing and designated as an amendment or waiver, as appropriate. No failure by any party to insist on the strict performance of any provision of this Agreement, or to exercise any right or remedy, will be deemed a waiver of such performance, right or remedy, or of any other provision of this Agreement.

Severability. If any provision of this Agreement, or the application thereof, becomes or is declared by a court of competent jurisdiction to be illegal, void or unenforceable, the remainder of this Agreement will continue in full force and effect and the application of such provision to other persons or circumstances will be interpreted so as reasonably to effect the intent of the parties hereto. The parties further agree to replace such void or unenforceable provision of this Agreement with a valid and enforceable provision that will achieve, to the extent possible, the economic, business and other purposes of such void or unenforceable provision.

Entire Agreement. This Agreement shall supersede any prior oral or written understandings or communications between the parties and constitutes the entire agreement of the parties

with respect to the subject matter hereof. This Agreement may not be amended or modified, except in a writing signed by both parties hereto.

Counterparts. This Agreement may be executed in one or more counterparts, all of which are considered one and the same agreement and will become effective when one or more counterparts have been signed by each of the parties and delivered to the other parties, it being understood that all parties need not sign the same counterpart. A facsimile signature page will be deemed an original.

Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York applicable to agreements made and to be performed entirely within such State.

IN WITNESS WHEREOF, the parties have executed this Grant Agreement effective on the 1st day of December, 2010.

OSA FOUNDATION

By: E. Rogan (in original)

Print Name: Elizabeth Rogan

Date: 15 Nov. 2010

Title: OSA Foundation Executive Director

INTERNATIONAL COMMISSION FOR OPTICS

By: María L. Calvo (in original)

Print Name: María L. Calvo

Date: 11 Nov. 2010

Title: ICO President

14 - ICO Proceedings Donation Programme:

Territorial Committees and scientists from countries that are preparing for ICO membership may request to receive copies of the Proceedings volumes issued on the occasion of meetings participating in the ICO Proceedings Donation Programme. At least all ICO General, Topical, Regional and Cosponsored Meetings participate in the Programme. These proceedings will be kept in a scientific library open to all researchers and engineers working in optics. The cost of printing and shipping will be born by the organisers of the meetings. The ICO Secretariat will keep the mailing list and send the appropriate mailing labels in due time to the meeting organisers. In view of the expenses involved, there will be a limit of one address per ICO Member Territory and one address per country preparing for ICO membership. In addition, it is expected that Member Territories and countries where the access to scientific literature is relatively satisfactory will refrain from requesting to benefit from the Programme.

15 - ICO Bureau Meetings:

The ICO Bureau meets typically one time per year in the years without a General Meeting, and in addition once immediately before and once immediately after every General Meeting

THE ICO TERRITORIAL COMMITTEES

ICO Membership List, July 1, 2014

Argentina

Units: 2, votes: 2, member since 1981

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John.Holdsworth@newcastle.edu.au

[The Australian Optical Society](#)

Belgium

Units: 4, votes: 3, member since 1948

Associate Member since 2013

Dr. Yvon Renotte

CBO/BCO, President
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[The Belgian Committee for Optics](#)

Armenia

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Belorussia

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Associate member since 2013

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Australia

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 ICO is nominated directly by the [Italian
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Japan

Units: 15, votes: 5, member since 1953

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Korea (Republic of)

Units: 3, votes: 2, member since 1975

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Latvia

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Lithuania

Unit: 1, votes: 1, member since 2003

Associate member since 2013

Prof. Juozas Vidmantis Vaitkus

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Moldova

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Associate member since 2013

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Professeur Mustapha Haddad

Président de la Société Marocaine
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Netherlands

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Associate member since 2013

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Units: 1, votes: 1, member since 1974

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Norway

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Units: 1, votes: 1, member since 1984

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1950-1953

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1956-1959

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1959-1962

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1969-1972

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K. M. Baird	Canada	Vice President
B. Billings	U.S.A.	Vice President
A. Fiorentini	Italy	Vice President
B. Havelka	Czechoslovakia	Vice-President
K. Kinoshita	Japan	Vice-President
H. Koehler	Germany	Vice-President

1975-1978

K. M. Baird	Canada	President
W. H. Steel	Australia	Past President
J.-Ch. Viénot	France	Secretary General
F. D. Smith	U.S.A.	Vice President & Treasurer
B. Karczewski	Poland	Vice President
A. W. Lohmann	Germany	Vice President
L. Plaza	Spain	Vice President
J. Tsujiuchi	Japan	Vice President
W. T. Welford	Great Britain	Vice President

1978-1981

A. W. Lohmann	Federal Republic Germany	President
K. M. Baird	Canada	Past-President
H. J. Frankena	The Netherlands	Secretary-General

F. D. Smith	USA	Treasurer & Vice-President
E. Marom	Israel	Vice-President
K. Schindl	Austria	Vice-President
T. Skalinski	Poland	Vice-President
J. Tsujiuchi	Japan	Vice-President
W. T. Welford	Great Britain	Vice-President

1981-1984

J. Tsujiuchi	Japan	President
A. W. Lohmann	FRG	Past-President
H. J. Frankena	The Netherlands	Secretary-General
J. N. Howard	USA	Vice President & Treasurer
F. T. Arcchi	Italy	Vice President
K. Biedermann	Sweden	Vice President
S. Lowenthal	France	Vice President
T. Skalinski	Poland	Vice President
P. Varga	Hungary	Vice President

1984-1987

S. Lowenthal	France	President
J. Tsujiuchi	Japan	Past-President
H. J. Frankena	The Netherlands	Secretary-General
J. N. Howard	USA	Treasurer
H. H. Arsenaault	Canada	Vice-President
K. Biedermann	Sweden	Vice-President
E. Byckling	Finland	Vice-President
J. W. Goodman	USA	Vice-President
P. Hariharan	Australia	Vice-President
M. P. Petrov	USSR	Vice-President

1987-1990

J. W. Goodman	USA	President
S. Lowenthal	France	Past-President
J. C. Dainty	Great Britain	Secretary-General
P. Hariharan	Australia	Treasurer
H. H. Arsenaault	Canada	Vice-President
M-W Chang	O.E. Soc. Taipei	Vice President
A. Consortini	Italy	Vice-President
F. Lanzl	FRG	Vice-President
D. Malacara	Mexico	Vice-President
J. Perina	Czechoslovakia	Vice-President

1990-1993

J. C. Dainty	Great Britain	President
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J. W. Goodman	USA	Past-President
P. Chavel	France	Secretary-General
P. Hariharan	Australia	Treasurer
T. Asakura	Japan	Vice-President
A. Consortini	Italy	Vice-President
F. Lanzl	FRG	Vice-President
G. Lupkovics	Hungary	Vice-President
K. Rebane	former USSR	Vice-President
G. Sincerbox	USA	Vice-President
C.H.F. Velzel	The Netherlands	Vice-President
M.J. Yzuel	Spain	Vice-President

1993-1996

A. Consortini	Italy	President
J.C. Dainty	Great Britain	Past-President
P. Chavel	France	Secretary-General
R.R. Shannon	USA	Treasurer
T. Asakura	Japan	Vice-President
K. Chalasinska-Macukov	Poland	Vice-President
S.S. Lee	Korea (Republic of)	Vice-President
F. Merkle	FRG	Vice-President
G.G. Mu	Chinese Opt. Soc.	Vice-President
G. Sincerbox	USA	Vice-President
C.H.F. Velzel	The Netherlands	Vice-President
M.J. Yzuel	Spain	Vice-President

1996-1999

T. Asakura	Japan	President
A. Consortini	Italy	Past-President
P. Chavel	France	Secretary-General
A.T. Friberg	Finland	Associate Secretary
R.R. Shannon	U.S.A	Treasurer
K. Chalasinska-Macukov	Poland	Vice-President
R. Dändikler	Switzerland	Vice-President
A.H. Guenther	U.S.A	Vice-President
M.C. Hutley	U.K.	Vice-President
S.S. Lee	Korea (Republic of)	Vice-President
F. Merkle	Germany	Vice-President
G.G. Mu	Chinese Opt. Soc.	Vice-President
J. Ojeda-Castañeda	Mexico	Vice-President

1999-2002

A.H. Guenther	USA	President
T. Asakura	Japan	Past-President

P. Chavel	France	Secretary-General
A.T. Friberg	Sweden	Associate Secretary
G.T. Sincerbox	USA	Treasurer
H.H. Arsenaault	Canada	Vice-President appointed
R. Dändliker	Switzerland	Vice-President
U. Kim	Korea (Republic of)	Vice-President
J. Ojeda-Castañeda	México	Vice-President
G. C. Righini	Italy	Vice-President
C- Sheppard	Australia	Vice-President
L.L. Wang	Netherlands	Vice-President
M.L. Calvo	Spain	Vice-President
A.A.Friesem	Israel	Vice-President
D.A.B.Miller	USA	Vice-President appointed
Y. Petroff	France	Vice-President appointed
B.E.A. Saleh	USA	Vice-President appointed
T. Tschudi	Germany	Vice-President appointed

2002-2005

R. Dändliker	Switzerland	President
A. H. Guenther	USA	Past-President
M. L. Calvo	Spain	Secretary-General
A.T. Friberg	Sweden	Associate Secretary
G.T. Sincerbox	USA	Treasurer
H.H. Arsenaault	Canada	Vice-President appointed
A. A. Friesem	Israel	Vice-President
N. G. Gaggioli	Argentina	Vice-President
G. Jin	China	Vice-President
B. Y. Kim	Korea	Vice-President
M. Kujawinska	Poland	Vice-President
G. C. Righini	Italy	Vice-President
A. A. Sawchuk	USA	Vice-President appointed
T. Tschudi	Germany	Vice-President appointed
G. von Bally	Germany	Vice-President appointed
A. Wagué	Senegal	Vice-President appointed
L. Wang	The Netherlands	Vice-President
A. M. Weiner	USA	Vice-President appointed
I. Yamaguchi	Japan	Vice-President
P. Chavel	France	Senior Adviser (ad personam)
Y. Petroff	France	IUPAP Executive Council Delegate

2005-2008

A. T. Friberg	Finland	President
R. Dändliker	Switzerland	Past-President
M. L. Calvo	Spain	Secretary General

G. von Bally	Germany	Associate Secretary
A. A. Sawchuk	USA	Treasurer
A. N. Bagayev	Russia	Vice-President
M. Gu	Australia	Vice-President Appointed
J. Braat	The Netherlands	Vice-President Appointed
A. M. Guzmán	Colombia & USA	Vice-President
G. Jin	China	Vice-President
I.C. Khoo	USA	Vice-President Appointed
B. Y. Kim	Korea	Vice-President
M. Kujawinska	Poland	Vice-President
H. Lefevre	France	Vice-President
J. Love	Australia	Vice-President
G. Sincerbox	USA	Vice-President Appointed
H.P. Stahl	USA	Vice-President Appointed
A. Wagué	Senegal	Vice-President Appointed
I. Yamaguchi	Japan	Vice-President
P. Chavel	France	Senior Adviser (ad personam)
Y. Petroff	France	IUPAP Executive Council Delegate

2008-2011

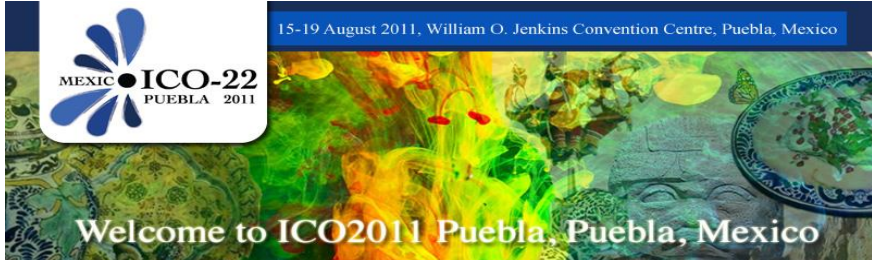
M. L. Calvo	Spain	President
A. T. Friberg	Finland	Past-President
A. M. Guzmán	Colombia & USA	Secretary General
G. von Bally	Germany	Associate Secretary
J. A. Harrington	USA	Treasurer
Y. Arakawa	Japan	Vice-President
Z. B Lakhdar	Tunisia	Vice-President
Z. Bingkun	China	Vice-President
F. Höller	Germany	Vice-President
H. Michinel	Spain	Vice-President
M. Oron	Israel	Vice-President
R. Ramponi	Italy	Vice-President
T. Szoplik	Poland	Vice-President
A. Diaspro	Italy	Vice-President Appointed
Y. J. Ding	USA	Vice-President Appointed
U. Gibson	Norway	Vice-President Appointed
H.P. Herzig	Switzerland	Vice-President Appointed
A. Wagué	Senegal	Vice-President Appointed
M. J. Yzuel	Spain	Vice-President Appointed
C. Cisneros	Mexico	IUPAP Executive Council Delegate

PART IV:

THE 2014 GENERAL MEETING

MINUTES OF THE 22nd GENERAL ASSEMBLY OF THE ICO

Held on August 15th and 17th, in Puebla, Mexico



The President of the Commission, Prof. M. L. Calvo, chaired the General Assembly. The following members of the Bureau were present:

ICO Bureau:

Past-President	A. T. Friberg
President	M. L. Calvo
Secretary	A. M. Guzmán
Associate Secretary	G. Von Bally
Treasurer	J. Harrington
Vice-Presidents	Y. Arakawa, Z. Ben Lakhdar, Z. Bingkun, C. Cisneros, M. Gu, H. Lefèvre, F. Mendoza, D.T. Moore, M. Oron, R. Ramponi, P. Stahl, D. Strickland, T. Szoplik, A. Wagué
Apologies presented by	I. C. Khoo

Delegates and Observers:

Argentina	M. Trivi
Australia	Min Gu, John Holdsworth
Belgium	<i>No delegate attended</i>
Belorussia	<i>No delegate attended</i>
Brazil	<i>No delegate attended</i>
Canada	<i>No delegate attended</i>
Chinese Optical Society	Zhou Bingkun, Jin Guofan, Qinming Luo, Qihuang Gong
Colombia	J. I. García-Sucerquia
Cuba	M. A. Arronte García
Czech Republic	M. Hrabovsky

Denmark	<i>No delegate attended</i>
Ecuador (a)	<i>No delegate attended</i>
Estonia	P. Saari
Finland	A.T. Friberg,
France	C. Montes (o)
Germany	G. Von Bally, W. Osten, T. Kreis, F. Höller
Ghana / West Africa	K. Sidiki Diomande
Greece	<i>No delegate attended</i>
Hungary	<i>No delegate attended</i>
India	<i>No delegate attended</i>
Indonesia	<i>No delegate attended</i>
Ireland	C. Dainty (2)
Islamic Republic of Iran	M. T. Tavassoli
Israel	M. Oron, Z. Zalevski (1)
Italy	M. Santarsiero, A. Consortini, R. Ramponi, G. Righini
Japan	I. Yamaguchi, Y. Arakawa
Korea	<i>No delegate attended</i>
Latvia	Represented by S. Svanberg
Lithuania	<i>No delegate attended</i>
Mexico	R. Rodríguez Vera, R. Rangel Rojo
Moldova	<i>Not delegate attended</i>
Morocco (a)	<i>No observer attended</i>
Netherlands	<i>No delegate attended</i>
New Zealand	J. Harvey
Norway	<i>No delegate attended</i>
OES, Taipei, China	<i>No delegate attended</i>
Poland	M. Kujawinska, T. Szoplik, L. R. Jaroszewicz
Romania	<i>No delegate attended</i>
Russia	N. D. Kundikova, A. V. Pavlov
Singapore	C. R. J. Sheppard (o)
Slovak Republic	<i>No delegate attended</i>
Spain	H. Michinel, M. S. Millán, M.L. Calvo
Sudan	<i>No delegate attended</i>
Sweden	S. Svanberg, K. Svanberg
Switzerland	<i>No delegate attended</i>
Tunisia	Z. Ben Lakhdar
Turkey	<i>No delegate attended</i>
Ukraine	<i>No delegate attended</i>
United Kingdom	<i>No delegate attended</i>
United States of America	D. T. Moore, J. Harrington, C. Londoño
Venezuela	Represented by J.I. García- Sucerquia, TC of Colombia
EOS	R. Ramponi
IEEE PHOTONICS SOCIETY	<i>No delegate attended</i>

LAM Network	A. Wagué
OSA	D. Strickland, L. Rogan (o), K. Apter (o)
OWLS	M. Gu
SPIE	P. Stahl, E. Arthurs (o), K. Plenkovich (o)

- (1) First session only
- (2) Second session only
- (o) Observer
- (a) Associate Member

The agenda items were covered between the first and second sessions as follows:

First Session, Monday, August 15th, 6:00 PM – 8:00 PM

1. Minutes of the 21th General Meeting
2. Matters arising
3. Report of the President for 2008-2011, and report of the Long Range Planning Committee.
4. Report of the Nominating Committee.
5. Report of the Secretary-General for 2008-2011
6. Finance
 - a) Treasurer's Report
 - b) Proposed budget 2011-2014
7. Changes in the ICO Rules and Code of Practice
8. Admittance of new members

Second Session, Wednesday, August 17th, 6:00 PM- 9:00 PM

9. Updated report of the Nominating Committee on nominations for the ICO Bureau Elections
10. ICO Bureau Elections for the term 2011-2014: Election of the ICO President
11. Date and venue of the General Meeting ICO XXIII
10. ICO Bureau Elections for the term 2011-2014, continued:
 - Results of the Election of the ICO President
 - First vote for ICO Vice Presidents
12. Finance continued
 - a) Treasurer's proposal for a balanced budget
 - b) Proposed budget 2011-2014
 - c) Unit subscription in 2011-2014
10. ICO Bureau Elections for the term 2011-2014, continued:
 - Results of the First Vote for ICO Vice Presidents
 - Second vote for ICO Vice Presidents
13. Reports of ICO Committees, continued
 - b) Committee for the Regional Development of Optics
 - c) Traveling Lecturers Committee

10. ICO Bureau Elections for the term 2011-2014, continued:
Results of the Second Vote for ICO Vice Presidents
14. Reports of ICO Committees, continued
 - d) ICO Prize Committee
 - e) ICO/ICTP Award Committee
 - f) ICO Galileo Galilei Award Committee
 - g) ICO Education Committee
10. ICO Bureau Elections for the term 2011-2014, continued:
Results of the Second Vote for ICO Vice Presidents
Third vote for ICO Vice Presidents
15. Conferences with ICO participation
10. ICO Bureau Elections for the term 2011-2014, continued:
Results of the Third Vote for ICO Vice Presidents
16. Other business

OPENING SESSION

Monday August 15th, opening session at 6PM.

M. L. Calvo welcomes all delegates and observers and declares the General Assembly opened.

FIRST SESSION

1. Minutes of the ICO-21 General Assembly

Motion 1: It is moved that the minutes of the ICO-21 General Assembly be approved by the General Assembly. Moved by M. Gu, seconded by Z. Bingkun. Approved unanimously.

2. Matters arising from the ICO-22 General Assembly

To change the order in the Provisional Agenda to allow the report of the Nomination Committee to take place as item 3.

3. Report of the President for 2008-2011 and report of the Long Range Planning Committee

M. L. Calvo, President, reminds the participants that the first ICO General Assembly was held in 1948 in Delft, Netherlands. She is very pleased to remark that this is the first time that the ICO General Assembly and the ICO General Meeting, ICO-22 in 2011, are held in a Latin American country. She thanks Professor Fernando Mendoza Santoyo, Professor Alejandro Cornejo and all Mexican colleagues that have contributed to the organization of ICO-22. We can expect that ICO-22 will be a very successful meeting. She wants to offer a memorial tribute to Professor Wang Daheng, from the University of Changchung, who

hosted ICO-20 and passed away recently. She asks for a minute of silence in honour of his memory. The audience stands up and a minute of silence is held.

M. L. Calvo makes a presentation on what ICO is, its mission, the Territorial Committees members, the international society members, and the composition of the Bureau with its eight elected Vice presidents. ICO IS an Affiliate Commission (AC1) of IUPAP. Since October 2005 ICO is a Scientific Associate to the International Council of Science (ICSU) and as such to UNESCO and UN.

ICO Publications

ICO has edited six volumes of the “ICO Book”. The sixth volume on Advances in Information Optics and Photonics was edited by Ari T. Friberg and published by SPIE in 2008. Maria L. Calvo has decided to publish a CD instead of a Book containing a revision of fundamental experiments developed in the 20th C. that lead to the understanding the Optical Coherence of Light. The CD will be distributed free of charge to all students participating in ICO-22. The CD was financed by the Spanish Ministry of Innovation and Science. 300 copies will be distributed to students at the ICO-22 conference.

Developing Countries

ICO has continued its close cooperation with the ICTP (The Abdus Salam International Center for Theoretical Physics) optics programs in Trieste through active participation in the TSOSA (Trieste System on Optical sciences and Applications) Advisory Committee, which takes place annually during the ICTP Winter College. ICO also contributes to the Galieno Denardo ICO/ICTP Award and is currently launching the ICO-ICTP-TWAS Central America initiative with the organization of a First ICO/ICTP/TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations in San Jose, Costa Rica in 2012.

Global promotion of Optics:

The ICO has improved its global coverage by increasing its member basis up to 48 Territorial Committees, 2 Associate members and 6 International Societies. ICO appreciates the participation of International Society Member, and this has proved a fruitful initiative initiated in 1999.

ICO Awards

The ICO has also applied its traditional policy of recognizing optics related achievements on an international basis through several awards including the ICO Prize, the Galileo Galilei Award and the Gallieno Denardo ICO/ICTP Award. During this period ICO acting as the Affiliate Commission AC1 of IUPAP is administrating the IUPAP Young Scientist Prize in Optics. The Prize was awarded for the first time by an ICO Committee created for that purpose to Dr. Eleftherios Goulielmakis, from the Max Planck Institute for Quantum Optics. Garching, Germany, in 2009. Part of the Agenda includes the approval by the

General Assembly of the description of the Prize and the procedures to be followed to award it.

ICO supported conferences and schools:

For the term 1st October 2008 to 2011 (update to the actual date April 2011), ICO has been involved in a total of 29 conferences, many of them in developing countries (a complete list is in the ICO Green Book, Part I). As a resume: 7 endorsed meetings without financial support (held as 3 in Europe, 3 in Asia and 1 in North-America); 9 endorsed meetings with financial support (2 in Europe, 3 in Asia, 1 in North-America, 2 in Latin-America and 1 in Australia; and 13 co-sponsored meetings (held as 7 in Europe, 1 in Africa, 2 in North-America and 3 in Latin-America). In all cases, the meetings were accomplishing the highest international standards.

ICO is also actively involved in two topical conference series. One on them is the Information Photonics (IP; formerly Optics in Computing, OiC) series. A meeting of this series was held in 2008 in Hyogo, Japan, organized by the Information Photonics Group of the Optical Society of Japan (OSJ). The 2011 meeting, defined as an ICO Conference was held in Ottawa, Canada in May 2011. The other conference series is Education and Training in Optics and Photonics (ETOP), the only truly bi-annual international conference series focusing entirely on optics and photonics education and training at all levels. ETOP is the international forum for leading educators in optics and photonics all over the world. Since IEEE-LEOS joined in as a new permanent sponsor (the original ones are ICO, SPIE, and OSA), a revised Memorandum of Understanding for the ETOP series was signed late in 2010. The 11th ETOP conference was organized in Saint Asaph, North Wales, United Kingdom, in July 2009. One of the remarkable agreements among ETOP partners is the feature that all ETOP conferences papers (of all meetings since its inception in 1988) are freely available online to everyone. ETOP was going to be held in Tunisia in 2011 and has been postponed to April 2012.

ICO has held two topical meetings:

- The ICO Topical Meeting on “Emerging Trends & Novel Materials in Photonics”, October 7-9, 2009, Delphi, Greece.
- The ICO/EOS Topical Meeting TOM 7 on Optics & Energy, October 26-29, 2010 in collaboration as one of the Topical Meetings of the annual conference of the European Optical Society (EOS) in Paris, France.

4. Report of ICO Nominating Committee

Ari T. Friberg, Chair of the Committee, presents the report. Members of the Committee are Ari T. Friberg (Finland) – Chair, Anna Consortini (Italy), René Dändliker (Switzerland), Chris Dainty (Ireland), John Love (Australia), Bahaa Saleh (USA). He explains that the ICO Bureau & Election Process is governed by the Statutes (Article 5 – The Bureau) and the Rules and Codes of Practice (Paragraph 3 – General meetings, votes, and elections).

He presents the list of Vice-Presidents appointed by the International Member Societies and the list of candidates nominated, and reminds the General Assembly that nominations and endorsements are accepted until 24 hours before the elections. Nominations and endorsements will be closed at 6:00 pm on Tuesday August 16th, twenty four hours before the beginning of the second session of the General Assembly.

5. Report of the Secretary-General for 2008-2011

ICO Secretariat is responsible for the ICO image, for supporting the Bureau activities, advertising ICO awards not only to Territorial Committees but to Research Institutions. But the most important role of the Secretariat is to contribute to ICO's mission, the progress and spread of knowledge of optics, by maintaining a fluid communication with the Territorial Committee representatives and keeping the optics community informed of ICO activities worldwide. To fulfill its role, the ICO Secretariat performs a series of regular activities:

- a) The ICO Secretary is the editor in chief of the ICO Newsletter, a quaternary publication which informs the international community on ICO activities and news from Territorial Committees. It contains news on ICO sponsoring of meetings and schools, the traveling Lecturer Program, the ICO Prize, the ICO Galileo Galilei Award, the Gallieno Denardo ICO/ICTP Award, the IUPAP Young Scientist Prize in Optics and other relevant events. During 2009-2010, the ICO Secretariat prepared a special series of articles on the history of lasers in commemoration of the 50th anniversary of the laser. The first article of the series was written in the October issue of 2009 by Anthony Siegman. His article included a wonderful photo of A. Schwalow with his wife, and the photo of the disassembled Ruby laser that appears in the front page of the Green Book "Towards ICO-22". The series continued with an article by M. Bertolotti, internationally recognized expert on the history of lasers, who has published a book on the topics. Then there were contributions by Russian colleagues, who brought their remembrances on the state of the art in the Soviet Union, at the time of the laser discovery. The series included also articles by W. Silfvast, and D. Strickland. The newsletter is sent to the ICO TCs and posted in the ICO webpage.
- b) The ICO Secretariat is responsible for the ICO website, and for the information about ICO in the IUPAP and ICSU websites. The site is updated regularly with the latest newsletters, new events, and other pertinent information. The ICO website has been hosted and altruistically maintained by SPIE since 1996. However security issues inhibit SPIE to grant direct access to the ICO webpage by the ICO Secretariat, which turns the process of updating the website in a multi-step process. ICO is extremely thankful with SPIE for having hosted the ICO website and provided technical support for the same for a long time. During 2008-2011 the ICO Secretary started conversations with EOS, whose website has been recently renewed, in order to have the ICO website hosted in EOS server but with direct access by the ICO Secretariat. EOS facilitated space in their server to host the new ICO webpage while under development. This year, given the increasing offer of low cost hosting space, the ICO

Secretariat decided to buy own space in a hosting service and take direct control of the ICO website. Therefore the newly designed webpage is in the process of being migrated to the new hosting service. The ICO thanks both, SPIE and EOS for their generous support to ICO in this regard. The website will continue being hosted by SPIE until the migration is finished and until the new webpage had been reviewed and approved by the ICO Bureau.

- c) The ICO Secretariat is responsible for the preparation of posters and the dissemination of information of the ICO awards: ICO Prize, ICO Galileo Galilei Award, Gallieno Denardo ICO/ICTP Prize, and the recently created IUPAP Young Scientist Prize in Optics. The ICO Prize and the IUPAP Young Scientist Prize in Optics are specially aimed at recognizing outstanding research achievements by young researchers. The Galileo Galilei Award recognizes noteworthy contributions to optics and its development under comparatively difficult circumstances. The Gallieno Denardo ICO/ICTP Prize is awarded to young researchers in parts of the world where the development of optics and photonics requires special support. Posters with information of these four awards are prepared and sent to Territorial Committees and the main research institutions around the world, and can also be downloaded from the ICO web site.
- d) The ICO Secretariat is responsible for coordinating the Bureau meetings and ICO Award ceremonies. The ICO Secretariat serves for this purpose as the channel of communication between the Bureau and the organizers of the ICO Topical meetings and the ICO General Meeting. The ICO Secretariat is also responsible for the printing of the ICO Prize and Galileo Galilei Award Diplomas, and for the contacts with the Carl Zeiss Foundation, the SIOF, the IUPAP, and the ICTP, organizations that donate the medals and/or issue other diplomas. The ICO Secretariat also prepares a special booklet with supporting documents for each Bureau meeting.
- e) The ICO Secretariat is involved on the procedure for establishing Memorandum of Understanding (MoU) with organizations member of ICO. During this period a MoU with OSA, SPIE, and IEEE/LEOS was signed for the administration of the Meeting Education and Training in Optics and Photonics (ETOP), and more recently the MoU with the OSA Foundation, whose text is included in the ICO Green Book "Towards ICO-22". The ICO Secretariat has also been involved on supporting the initiative from the Quantum Electronics and Optics Division of the European Physical Society for the official declaration of UNESCO of a Year of Light in 2014 or 2015. The initiative will be presented to IUPAP next November 2011.
- f) The ICO Secretariat prepares letters acknowledging reception of nominations and supporting documentation for the ICO Prize and the IUPAP Young Scientist Prize in Optics, when requested by the Chairs of the Committees.
- g) The ICO Secretariat maintains the information database on members, and accompanies prospective members in the application procedure. There are currently

47 Territorial Committees (TC) and 2 Associate Members. Two applications have been received (Portugal and Armenia) for membership during this period.

- h) The ICO Secretariat has provided the Bureau members and the Territorial Committee representatives with a database in digital form. Minutes of Bureau and General Assembly Meetings, documentation for the ICO Committees and e-mail lists are available electronically.
- i) The so-called “Green Book” is the ICO publication of reference, edited and distributed by ICO Secretariat every three years prior to the General Assembly, including the reports on ICO activities developed in the corresponding three-year period. Copies are mailed by July of the year of issue to all Territorial Committees and ICO Bureau members. The book: “Towards ICO-22” was published in 2011 by the International Commission for Optics in hard copy and CD form, both with appropriate ISBN. Copies of the book and CD are available for ICO delegates at the General Assembly.

Beyond all regular activities, the ICO Secretary focuses many of its activities on two priority areas: a) developing countries, and b) education and training in optics. Three activities of the ICO Secretary are the most relevant in this regard:

- a) The long-standing collaboration with the ICTP, the Abdus Salam International Centre for Theoretical Physics in Trieste results in common activities, including the annual “Winter College on Optics” in Trieste. The ICO Secretary has served for the last three years as the Chair of the TSOSA advisory Committee. The ICO Secretariat also elaborates the final version of the minutes form drafts prepared by the Secretary of the ICTP’s Director. Right now we are launching the ICO-ICTP-TWAS initiative in Central America with the **First ICO/ICTP/TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations**, a project presented by M. L. Calvo and A. M. Guzmán to the ICTP Office of External Activities.
- b) The ICO Secretary has been also in close contact with the Council of the Red Iberoamericana de Optica (RIO), which was officially presented in the RIO/OPTILAS Meeting in Lima, Peru, in 2010. The RIO provides reports on their activities to the ICO secretariat, and participates in regional events. It has also welcomed the recently created Portuguese Society for Research and Development of Optics and Photonics as one of its members, and will hold the next RIO/OPTILAS in 2013 in Portugal. Support of this Network is expected to launch the ICO-ICTP-TWAS initiative for Central America
- c) The ICO Secretary General was asked by Minella Alarcon, former officer of UNESCO, to serve as the coordinator in Latin America of the UNESCO’s Workshop on Active Learning in Optics and Photonics (ALOP). ICO offered the support of its own Territorial Committees when available to help on the organization and dissemination of the Workshop and the new learning method throughout Latin America. The ICO Secretary General has been the director of ALOP Chile (January 2010), ALOP Peru (April 2010), ALOP-SPN in Bogota, Colombia (the first follow-

up workshop in Latin America) (December 2010), ALOP Medellin, Colombia (July 2011). The National University in Colombia has undertaken a decisive role to disseminate the method in the country and we expect other countries to follow their model.

The ICO Secretary acknowledges ICO Administrative Secretary (M. Troshinski) and the Department of Physics of Florida Atlantic University for the support accorded. The ICO Secretary will move to the College of Optics and Photonics (CREOL) at the University of Central Florida.

6. Finance

a) Treasurer's Report

J. Harrington, Treasurer, reports on the financial situation with a balance sheet as of July 22, 2011 (page 110 Green Book Towards ICO 22). Assets: 161,963 US\$. Total liabilities and equity: 161,963 US\$. Only 27 out of 51 Territorial Committees (TCs) have paid 2011 dues, which amount for the 53%, but the amount collected corresponds to the 74% of total 2011 dues. This is about the same percentage as in the past. Back dues owed are very high. ICO is owed US\$41,675 for dues in arrears. Some TCs have not paid in over 10 years. He asks the General Assembly how to proceed in this regard. The ICO Bureau approved in 2010 that those TCs in arrears over 5 years were demoted to Associate status. Associate status means: No shares, no votes, no officers, and no financial support. He suggests as possible solutions: (a) to restructure dues schedule, (b) to identify responsible optical organization and in general (c) to emphasize the value of the ICO. He suggests writing off US\$27,325 as uncollectable dues.

On the issue of donations to ICO through the OSA Foundation (OSAF) he informs that in the United States, ICO is a 501(c)4 organization, which means that US donors are subject to US income tax. OSAF is a 501(c)3 organization, whose donors are exempt from US tax. The ICO-OSAF Memorandum of Understanding now in place allows for donations from US citizens for the ICO passing through OSAF to the ICO for approved activities.

Another issue under discussion is the re-evaluation of units for each TC. Current units vary from 1 to 18, and the dues are based on US \$175 per unit. The units were established years ago based on World Bank statistics. ICO needs to redo units for each TC, which can make substantial difference in dues.

He presents the performance forecast for the period Oct 1st 2010 to Sep. 30th 2011. The total income would be US\$29,000, and the total expenses after the writing off of uncollectable dues would be \$US 84,585, leading to a deficit of US\$ 55,585. The triennium budget (2011-2014) consists of expenses for \$US 119,600, distributed as shown in the Figure 1 below, with an income of US\$80,200, for a net deficit of US\$39,400. Figure 2 below shows the distribution of dues.

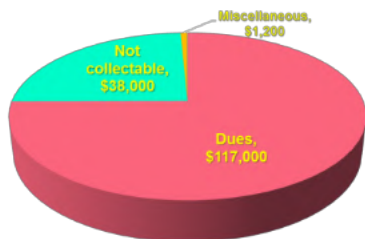


Figure 1



Figure 2

With the current dues the proposed budget for the period 2011-2014 amounts for a total income of US\$85,200 and total expenses of US\$119,600, for a deficit of US\$34,400. Currently there is US\$138,000 in banks. For reference he mentions that in February 2005, there were US\$160,000 and in August 2006 US\$ 137,000.

In order to reduce costs he recommends to consider ways of reducing the high cost of mailing the ICO Newsletter through BTB Mailflight. He suggests to write-off of the bad debt (US\$27,325), solicit donations and press TCs to pay dues.

b) Proposed budget 2011-2014

The Treasurer proposes a budget for the triennium 2011-2014 (see appendix Green Book). The proposed budget, if maintaining the same fee per unit will lead to a similar loss in the next three-year period. He also presents a proposal for reassigning units to the TC members based on the *h*-index of scientific productivity in atomic and molecular physics, and optics. (printed in page 259 of the Green Book Towards ICO-22).

Motion 2: To approve the Budget as presented. Moved by Anna Consortini (Italy), seconded by Giancarlo Righini (Italy).

Discussion: M.Kujawinska (Poland) proposes to balance the budget by increasing the unit fee to US\$300-400. She remarks that individual memberships to most of the professional societies are over \$US100, while the unit fees under discussion are to be paid by a whole Territory. She suggests looking for donations to help Territories in economic distress.

D. Moore (USA) proposes to do a poll

J. Holdsworth (Australia): there are two issues (a) having a balanced budget presented to the Assembly, (b) what vote of the Assembly is needed for rebalance the budget.

M. L. Calvo proposes that the ICO Bureau prepares a proposal for reallocation of units for the second 2011 General Assembly session on Wednesday.

E. Arthurs (SPIE) requests that the ICO treasurer presents to the General Assembly a plan for reallocation of units and the cost of the unit fee required to balance the budget.

J. Harrington commits to do so.

The Motion to approve the budget is not voted because after a discussion there is a consensus that the Bureau should present a proposal for a balanced budget to the next session of the General Assembly, based on a new fee or a reassignment of the unit fee or both.

7. Changes in the ICO Rules and Code of Practice

Modifications to be approved by the General Assembly were italicized and highlighted in the ICO Green Book Towards ICO 22, pages 218-222:

a) **Fiscal Sponsorship grant agreement between the OSA Foundation and the International Commission for Optics**

Maria L. Calvo invites Elizabeth Rogan, Executive Director of OSA, to present to the General Assembly the antecedents of the agreement, its purpose and perspectives.

Elizabeth Rogan: OSA has been member of ICO since 1999. OSA's current President, Chris Dainty, is attending the ICO 22 meeting and will present the OSA Awards to the best two papers during the closing ceremony. In 2008 Liz Rogan was asked as to how to create a legal possibility for ICO taking donations. She went to the OSA Foundation asking how to support ICO activities as an organization that has done excellent outreach and great programs. The OSA Foundation (OSAF) did an agreement with the ICO that allows OSAF to accept donations and help support ICO activities. Initial donations and pledges have already been received. OSA offers online access for donations. Just before this event, Alexander Sawchuk donated US\$20000 for ICO.

Motion 3: To approve the Fiscal Sponsorship grant agreement between the OSA Foundation and the International Commission for Optics. Moved by T. Szoplik (Poland), seconded by R. Ramponi (Italy). Vote: None opposing, no abstention, approved unanimously. IUPAP Young Scientist Prize in Optics

Ari Friberg explains to the General Assembly the antecedents and character of the Prize: The IUPAP approved that all IUPAP Commissions are able to confer their own Prize. The ICO Bureau established the terms of the IUPAP Young Scientist Prize in Optics, which is administered by ICO in a similar way than the other ICO awards, and is awarded. The IUPAP prize in optics is awarded annually through ICO to a scientist who has made noteworthy contributions to applied optics and photonics during a maximum of 8 years of research experience after having earned a PhD degree. Career interruptions will not be counted as time of research experience. The IUPAP Prize Committee was chaired initially by Ari Friberg.

Motion 4: To approve that the ICO administers the IUPAP Young Scientist Prize in Optics according with the terms established in page 218 of the ICO Green Book Towards

ICO 22. Moved by Min Gu (Australia), seconded by Z. Bingkun (China). Vote: None opposing, no abstention, approved unanimously.

8. Admittance of new members.

During the period 2008-2011 the ICO Secretariat received and presented to the Bureau applications and appropriate supporting documents to become an ICO Territorial Committee from:

- a) **Portugal:** The ICO Bureau studied the application documents and concluded that Portugal fulfills all requirements to become and ICO Territory.

Motion 5: To accept Portugal's membership to the ICO as an ICO Territory with 1 unit and 1 vote. Moved by Anna Consortini (Italy), seconded by J. Holdsworth (Australia).

Armenia: The application from Armenia was presented by the Armenian Academy of Sciences. ICO Bureau studied the application and supporting documents and concluded that Armenia fulfills all requirements to become and ICO Territory.

Motion 6: To accept Armenia's membership to the ICO as an ICO Territory with 1 unit and 1 vote. Moved by Anna Consortini (Italy), seconded by R. Ramponi (Italy). Vote: None opposing, no abstention, approved unanimously.

Action 1: The ICO Secretariat should inform them of the decision of the General Assembly.

Session Adjourned, August 15th, 2011, 8PM.

SECOND SESSION

Wednesday August 17th, 2011. Session opened at 6PM.

9. Updated report of the Nominating Committee on nominations for the ICO Bureau Elections

No late nomination was received. A. Friberg reviews late endorsements that have been received.

10. ICO Bureau Elections for the term 2011-2014: Election of the ICO President

- a) **Duncan Moore addresses the General Assembly as Candidate to the ICO Presidency:**

Thanks to Fernando Mendoza for an absolute great meeting. I attended for the first time an ICO Meeting in Quebec. Twenty five years later my daughter in law is giving a paper in this meeting. Since the last meeting of the ICO in Sydney in 2008, the world has seen a

major recession and the collapse of several economies. This has created problems and opportunities (my personal motto is making “Lemonade out of lemons”).

There are four issues on which I will focus if I am elected as president of ICO.

1. Determine the future of ICO in the world which is very different that when ICO was formed in 1946.
2. Ensure the financial stability of ICO by increasing the endowment for ICO.
3. Increase the membership in ICO.
4. Introduce more students and faculty to the concepts of Technical Entrepreneurship for Scientists and Engineers.

To address the first goal, ICO needs to decide where it wishes to be in the next 20 years. I propose that the Bureau and other key stakeholders meet for a two day retreat at the next Bureau meeting in 2012, a follow up meeting at the 2013 Bureau meeting and a report to the General Assembly in 2014.

To address goal number 2, the ICO has established an endowment to assure that high quality scientific meetings like the one here in Puebla can be sustained into the future. The ICO an endowment is an account from which only the earnings from the account are used. It lasts forever and typically about 5% is drawn each year. So if the endowment is \$500,000, then \$25,000 would be available each year for ICO sponsored activities. There are several potential donors who would like to increase the endowment. My first goal will be to obtain a commitment from these donors to complete their gift to ICO. I have a background in fund raising as Dean of Engineering at The University of Rochester and the Vice Provost for Entrepreneurship.

Membership in ICO is important for two reasons. Intellectually, it is important to have the most diverse number of territories at the ICO meetings so that scientists and engineers from all over the world can exchange ideas. At this meeting over 45 countries are presented. Second it is important to increase the revenue to ICO.

Finally, at the Sydney ICO meeting in 2008, I talked about the importance of technical entrepreneurship and how our students need to be able to evaluate their research not only by the quality of the research as represented by publication in peer reviewed journals but to determine if there is a market opportunity. In order to grow the economy of any region, we need to have people who can evaluate technologies and determine if there is a business opportunity. I have taught weeklong classes on this topic for the Institute of Physics (London) and alone in South Africa, Argentina, Peru, Ireland, Jordan and Japan.

It is an honor to be nominated for president by the ICO nominating committee.

b) Fernando Mendoza Santoyo addresses the General Assembly as candidate to the ICO Presidency

I would like to begin by gratefully acknowledge the nomination made on my behalf by Mexico’s Territorial Committee for the position of ICO President during the period 2011

to 2014. I am deeply honored with this distinction that the Mexican Academy for Optics (Academia Mexicana de Optica) has bestowed on me. I thank all the support and words of encouragement and motivation given by many colleagues in Mexico and other countries. If chosen, it would be a privilege and a great honor to serve as President of the ICO.

I thank Duncan Moore for his impressive presentation and to all of you for being here today. D. Moore and I share some ideas about the future of ICO. The ICO gathers territories while the societies gather individuals. The ICO is the best opportunity that we have to share all ideas and meet individuals worldwide. My involvement with the ICO started back in 1993 when I attended the 16th General Congress in Budapest, Hungary. The meeting helped me to make a large number of friends in different optics disciplines, friends that I often get involved with and that have helped me in developing my career. Since then I have attended ICO sponsored/cosponsored meetings in most parts of the world, because I truly believe that their high quality technical contents keep me and most of the people practicing optics, on the state of the art of research and technology.

The International Commission for Optics has very clear mandates, objectives and goals. To me, in a globalized world one of the most important ICO duties rests on its outreach programs. This is where ICO should center its attention in the years to come. Outreach programs have to come mainly from developed to emerging economies down to under developed countries. ICO has to work shoulder to shoulder with its member international organizations (OSA, OWLS, LAM, SPIE, EOS and IEEE/LEOS) to continue the successful achievement of the dissemination of Optics and Photonics worldwide, to contribute in the growth of an international community aware of the scientific and technological needs of others.

I propose to continue with the excellent work done by previous ICO Bureau's, but with special attention to enhance/strengthen/create:

- 1) Increase the number of territorial memberships, update/activate the current ones and establish a strategy to recover unpaid dues.
- 2) Collaboration among scientists through the creation of specific subject areas' networks.
- 3) Exchange visiting programs.
- 4) Education and Training in Optics in developing countries, with hands-on-experience workshops, specially aimed at young children, and for the updating on the state of the art in Optics and Photonics of secondary and high school teachers.
- 5) Programs that give support for the enhancement and development of SMEs', or like the ones that build strong and long lasting bridges between R&D with industry, all key issues that will make ICO a noteworthy society with plenty of social impact. I am very pleased to have participating in this conference my son, whose company is a spin-off of the CIO.
- 6) Search for ICO programs increased funding within international organizations, including specific donor foundations.

It is my intention to continue promoting this route of excellence and to pursue new areas of opportunity that are needed to enhance the presence of ICO around the world. I will also continue to seek for improved strategies to grow the number of students interested in optics by creating a regional/worldwide network among students. We have around 350 students registered in this conference, which is a great number, but we have to increase it. Looking at the list of ICO prize winners one immediately notices that the awardees did their core research work while they were students! Finally, as a President of ICO I look forward to serve its international Optics and Photonics community with the main objective of bringing everybody into a network of collaboration and friendship, fulfilling ICO's mandates, objectives and goals.

The General Assembly proceeded to vote for the ICO President.

11. Date and venue of the General Meeting ICO XXIII

A bid for ICO-23 has been received from the Spanish Territorial Committee. Humberto Michinel on behalf of the same presents the application to the General Meeting. The Congress would be held in Santiago de Compostela, at the Convention Center of the city, with tentative dates August 29 – September 2, 2014. The proposed lemma: "Light for the Development of the World". The Bureau recommends approving the application. The president proposes to vote on this recommendation.

Motion 6: To accept the proposal of the Spanish Territorial Committee to host the next ICO General Conference ICO 23 at Santiago de Compostela, Spain. Moved by T. Szoplik (Poland), seconded by R. Ramponi (Italy). Vote: None opposing, no abstention, approved unanimously.

Results of the Election of the ICO President: Ari Friberg reminds the delegates that the actual number of votes is not disclosed by the nomination committee but he can say that the vote was close and the winner is Duncan Moore. By the power invested to him by the ICO, he declares Duncan Moore Elected President of ICO.

First vote for ICO Vice Presidents follows.

12. Finance continued

a) Treasurer's proposal for a balanced budget

By request of Maria L. Calvo, Jim Harrington reads his proposal for a balanced budget. In order to balance the budget, the unit has to be raised to US\$235. Jim Harrington also presents the proposal for reallocation of units that has been discussed in the ICO Bureau (pages 89-91 of the Green Book Towards ICO 22), and the discussion is opened.

E. Arthurs (SPIE): Reallocating units will be a huge step for the organization.

M. L. Calvo: The real decision belongs to the General Assembly, who is the maximum authority. The next General Assembly will be in three years.

P. Stahl (SPIE): Please separate the issue of the cost of the unit from the reassignment of units.

P. Saari (Estonia): Countries in arrears have enjoyed the rights of membership or they have lost contact with ICO? He suggests charging a financial penalty of 10% for the first year, 20% for the second, etc.

M.L.Calvo: We have studied each case individually. Sometimes they ask what ICO is offering them. I think that they do not understand what ICO is. They should be asking themselves, what can I do for ICO? ICO has multiple activities, ideas and programs. We have an enormous task on education at all levels including high school, and we need all members to work.

G. Righini (Italy): we should first approve the budget and then eventually see how much we have to charge to get the appropriate income.

M. A. Arronte (Cuba): we can say yes to reallocate but not following the table proposed by the Bureau.

P. Stahl (SPIE): we need a motion.

Motion 7: I move that the cost of the unit be raised to \$US235. Moved by J. Holdsworth (Australia), seconded by Min Gu (Australia). Approved unanimously, no votes against, any abstentions.

Motion 8: I move that we change the allocations of the units according to the table. Moved by M. Kujawska (Poland), seconded by D. Moore.

Discussion:

Jim Harrington: Since we just passed a motion that balances the budget, we do not need to do this now. We can table the motion and study it more.

C. Londoño (USA): The table proposed is complicated and has implications. We have to make a subcommittee and come back with a proposal that avoids impact in small territories. She proposes an amendment to the motion: To table this motion and ask the President to set up a committee to study the proposal.

M. Kujawska does not accept the amendment.

Z. Ben Lakhdar: The table proposed is based on the number of publications and not on the population. It perhaps does not reflect the population in a Territory.

Motion 9: I moved that the motion 8 be tabled. This motion does not need a second and has to be voted immediately. Votes in favor: 21. Votes against: 26. Abstentions: 7.

The discussion on Motion 8 continues.

E. Arthurs (SPIE) : The table is not fair to China, which has a large number of publications.

M. Kujawinska: I wanted to vote against my motion to open the way to work for another proposal, since I do not want the proposed table.

P. Stahl: you can remove your motion.

The GA proceeds to vote Motion 8: Votes in favor: 26. Votes against: 28. The motion is not approved.

b) Proposed budget 2011-2014

Jim Harrington presents the proposal for a balance budget with an increased fee of US\$235 per unit. Total income will amount for US\$ and total expenses for \$US 119,600, leaving an approximat surplus of \$US 9000.

Motion 10: To accept the budget 2011-2014. Moved by J. Holdsworth (Australia), seconded by Tomasz Szoplik (Poland). Motion approved unanimously, no votes against, any abstentions.

Results of the Election for ICO Vice President (1st vote): Zhora Ben Lakhdar (Tunisia), Tomasz Szoplik (Poland), Roberta Ramponi (Italy).

The GA proceeds to the second vote for ICO Vice-Presidents (from Industry).

1. Reports of ICO Committees, continued

a) Committee for the Regional Development of Optics

D. Moore reports: In Australia he found that IOP was running entrepreneurship meetings. His first contact was with Morocco. They did a workshop on entrepreneurship of one day in Cape Town. In Jordan they also held an activity. Entrepreneurship needs join actions from the intellectual and productive sectors and financial capital.

b) Traveling Lecturers Committee

Jim Harrington, Chair of the Committee explains the purpose of the program. It provides small grants for scientists and engineers to lecture in the optical sciences, generally in developing countries. The typical grants are approximately of US\$1,000. He expects to award grants for a total of US \$5,000 in the next triennium. Grants not to support travel to conferences. He would like to receive more applications. During the period 2008-2011 two grants were awarded: (1) Prof. Imrana Ashraf Zahid from the Dept. of Physics, Quaid-i-Azam University, Islamabad, Pakistan was a guest of Prof. Kalid Berrada, Dept. of Physics, Cadi Ayyad University, Marrakech, Morocco, where she lectured on quantum optics. (2) Prof. Maxim Tomilin from St. Petersburg State University, Information Technology, Mechanics, & Optics visited Argentina for imparting lectures on the optics of liquid

crystals. His host was Dr. Hector Rabal, Centro de Investigaciones Ópticas de la Plata (CIOp), La Plata, and he visited also the Facultad de Ciencias Exactas Universidad Nacional de Salta and the Facultad de Ingeniería Universidad de Buenos Aires.

c) **ICO Prize Committee**

Prof. Min Gu, Chair of the Committee explains the terms of the Prize. The ICO Prize is given each year to an individual who has made a noteworthy contribution to optics. The Prize winner must not have reached the age of 40 before December 31 of the year for which the Prize is awarded. The ICO Prize was established in 1982. Previous winners are listed on p. 115 of the ICO Green book. The Committee Members for the period 2008-2011 have been Professor Min Gu (Chair, Australia, ICO VP), Professor Paul Buah-Bassuah (Ghana, not ICO bureau member), Professor Iam Choon Khoo (USA, ICO VP), Professor Fernando Santoyo (Mexico, ICO VP), Dr. Phil Stahl (USA, ICO VP), Professor Bingkun Zhou (China, ICO VP). The ICO Secretariat has prepared and distributed the advertisement posters for the Prize. The 2009 awardee was Dr. Rajesh Menon, Assistant professor at the University of Utah and affiliate of the Research Laboratory of Electronics at MIT “for the breakthrough achievement in nano-lithography. Dr. Menon has invented an approach to breaking the optical-diffraction barrier. He gave his Ernst Abbe lecture on the 2010 ICO topical meeting in Paris, France. The 2010 awardee was Dr. Reinhard Kienberger, Professor of experimental physics at the Technische Universität Munich, “for his breakthrough work in attosecond science and its applications in metrology and spectroscopy.” He gave his Ernst Abbe lecture during this ICO-22 Congress, Puebla, Mexico. The 2011 awardee is Dr. Xuanlai (Nick) Fang, Associate Professor, Department of Mechanical Engineering, MIT for “his pioneering work in optical metamaterials, optical superlenses and nanofocusing.” His award presentation is to be programmed.

Results of the Election for ICO Vice President (from Industry): Moshe Oron (Israel), Frank Höller (Germany)

The GA proceeds to the third vote for ICO Vice-Presidents.

d) **ICO/ICTP Gallieno Denardo Award**

A. Wagué reports on the ICO/ICTP Award Winners, as Chair of the Committee (see page 131 of the Green Book Towards ICO 22). Members of the Committee are Ahmadou Wagué (chair), Joe Niemela, Anna Consortini and Mitcho Danailov. The awardees in the period 2009-2011 have been for 2009, Saifollah Rasouli (Iran), for 2010 Cleber Mendonça (Brazil). The 2011 Award was shared by Ivan Moreno (Mexico) and Ryan Balili (Philippines).

e) **ICO Galileo Galilei Award Committee**

T. Szoplik, Chair of the Committee, reports. The members of the Committee during the period 2008-2011 have been Cid B. de Araújo (Brazil), Gert von Bally (Germany), Paul K. Buah-Bassuah (Ghana), Bishnu P. Pal (India), Mohammed Shabat (Gaza, Palestine), Tomasz Szoplik (Poland), Valentin I. Vlad (Romania), Ichirou Yamaguchi (Japan). The

Galileo Galilei Award was shared in 2009 by Marat Soskin of Ukraine and Dumitru Mihalache of Romania. In 2010 the award was granted to Mohammad Taghi Tavassoly of Iran, and he announces that in 2011 the award was granted to Jan Perina, Sr. of Czech Republic.

f) ICO Education Committee

Z. Ben Lakhdar, Chair of the Committee reports. The members of the Committee for the period 2008-2011 have been H. Philip Stahl (SPIE) ; Ahmadou Wagué (LAM Network); Roberta Ramponi (EOS) Fernando Mendoza Santoyo(Mexico); Zhou Bingkun (China); Angela M. Guzman(ICO); Brian Wilson (OWLS); Krisinda Plenkovich (SPIE) ; Elizabeth H. Simmons (US) ; Anna Consortini(ICTP-ICO); Ajoy Ghatak (India) ; Lakshminarayanan Vasudevan (Vengu) (OSA); Joe Niemela (ICTP). The members were chosen to be from different Optics societies, different continents & different countries. The Committee has met annually during the ICTP Winter College on occasion of the TSOSA (Trieste System on Optical Sciences and Applications which includes ICTP) advisory committee meeting since most members of that committee are ICO education committee members. The meetings are intended to discuss activities for development of education in optics.

ICO's mission is to promote optics and photonics all over the world. Development of optics is particularly needed in developing countries. This development needs a training of trainers in optics & photonics for students as well as for children, and needs *involvement of institutions of education, students, society, international institutions*. ICO education committee has focused its activities on these points. Specific activities are the ALOP Workshops, the "ALOP-ETOP- PSDM " meeting, and efforts for involvement of students in optics and involvement of International institutions for optics education development and for women in optics education. The Committee has also involved on preparing documents for optics development. The ALOP –Active Learning in Optics & Photonics – is a project from UNESCO for training of trainers from developing countries. It consists of 5 modules (Geometrical and physical optics, environment, vision atmospheric optics and optical communications). The workshop usually lasts 5 days, is organized for 30-35 participants and can be done for now in English, French or Spanish, languages in which the manual is available. ALOP is supported by SPIE, OSA, and ICTP. Usually 1-2 workshops/year have been held since 2004. In 2009 took place the first ALOP workshop in Colombia, which involved teachers, researchers, engineers and opticians, and another in Nepal. In 2010 there was the first workshop in Constantine, Algeria and a programmed workshop in Senegal was cancelled. In 2011 a workshop was supposed to take place in July in Tunisia, but because of revolution it has been postponed to 2012; a 2nd workshop will take place in Nov. in Nepal, and a first ALOP will take place in Dec. in Rwanda.

The ICO Education Committee tries to involve researchers and teachers from all countries in international conferences on *education as well as on research in optics & photonics* - For that reason 2 conferences: **ETOP** (Education & Training in Optics & photonics) and **PSDM** (Photonics for Sustainable Development-Focus on the Mediterranean) have been planned for the same period to give the possibility to **maximum interaction and interest**

between participants from different continents. An ALOP workshop is decided at the same period. This **will enhance the participation from Africa** and will lead to more interaction and **to a maximum participants from Africa to be interested in optics**. All of these events will take place in Tunisia in 2012.

How to use these meetings to extend ICO outreach to a larger community? To involve students in optics it is important to interest students at 16-18 years old; to facilitate participation of these students and their teachers in projects, exhibitions, Olympiads; to help student's Interaction at international level. It would be interesting to arrange meetings where students have contact with researchers and engineers working on optics. They could be encouraged to organise exhibitions, perhaps together with their supervisors. ETOP 2009 in North Wales (UK) gave an example of such development. *Can we have some SPIE-OSA students who get scholarships to present their projects at ETOP 2012?*

All of the proposed educational activities required trainers. We need to offer training of trainers at all levels, including technicians.

The Tunisian Society of Optics (*STO*) *as a member of ICO has encouraged development of student chapters in OSA and SPIE*. In 2009, a group of PhD, MSc and Engineering students, from (Sup'Com), which is the leading engineering school dedicated to ICT in Tunisia, involves a very active research group, O&PTSC (Optics & Photonics Tunisia student chapter) in the fields of optical fibre communications established the first Optical Society of America **OSA student chapter in Tunisia** and the second in Africa. In 2010, they started the **Tunisia student chapter of the international society for optical engineering (SPIE)**. OSA and SPIE Tunisia student chapter is organizing educational, outreach activities as well as seminars and conferences in optics.

9. Conferences with ICO participation

G. von Bally, Associate Secretary reports. Co-sponsorship of meetings, schools and conferences amount US\$11,500 for the period 1st of Oct. 2008 - 30th of September 2009, US\$10,000 for the period 1st of Oct. 2009 - 30th of September 2010, and US\$11,000 for the period 1st of Oct. 2010 - 30th of September 2011, for a total amount of US\$32,500 for the three year period. The total budget allocated for this purpose was US\$32,000. ETOP and PSDM were granted US\$2,000 and \$US 1,000 respectively, but since both conferences have been postponed, there is a remaining of US\$2,500 that has been awarded but not transferred. As can be seen on pp. 137-140 of the ICO Green Book "Towards ICO-22", between the 1st of October and the 30th of September 2011, ICO participated in 29 meetings and schools, in addition to ICO-22: 2 Topical Meetings, 3 ICO Schools and 24 endorsed sponsored or co-sponsored meetings. The number of ICO meetings and schools had remained relative stable from the precedent three year term.

Finally, it was pointed out that the bids for ICO-24 in 2017 are now open and that the deadline for proposals is April 15th, 2013.

12. ICO Bureau Elections for the term 2005-2008:

The elections were held following the Rules and Codes of Practice. There was a vote for President. For all other positions in the Executive Committee, no vote was necessary as there was only one candidate for each position. Three votes were necessary for the Vice-Presidents. In the first vote, three Vice-Presidents were elected; in the second vote the two Vice presidents from industry were elected. In the third vote, the remaining three Vice-Presidents were elected. In addition, the appointment of the Vice-Presidents of the International Organization Members was announced. The results were:

President:	Duncan T. Moore (USA)
Past President:	María L. Calvo (Spain)
Secretary:	Angela M. Guzmán (Colombia)
Associate Secretary:	Gert Von Bally (Germany)
Treasurer:	James Harrington (USA)
Vice Presidents:	Yahusiko Arakawa (Japan)
	Z. Ben Lakhdar (Tunisia)
	Zhou Bingkun (China COS)
	Frank Höller (Germany, from industry)
	Humberto Michinel (Spain)
	Moshe Oron (Israel, from industry)
	Roberta Ramponi (Italy)
	Tomasz Szoplík (Poland)
	Alberto Diaspro (Italy, appointed by OWLS)
	Yujie J. Ding (USA, appointed by IEEE Photonics Society)
	Ursula Gibson (Norway, appointed by OSA)
	Hans Peter Herzig (Switzerland, appointed by EOS)
	María J. Yzuel (Spain, appointed by SPIE)
	A. Wagué (Sénégal, appointed by the LAM Network)
	Pending: IUPAP representative

IUPAP will be asked to confirm Carmen Cisneros as the delegate to ICO from its Executive Committee. The new Bureau formally assumes responsibility on October 1st, 2011.

13 Other business

No further business to be reported. President M. L. Calvo invites all new elected ICO Bureau Members to the stage. She wishes a fruitful period of work.

General Assembly, second part ends at 9:00 PM.

Minutes prepared by the ICO Secretariat, to be approved by the ICO 23 General Assembly.

*First draft by the ICO Secretariat, May 2012
Reviewed by María L. Calvo, June 2012*



XXIII GENERAL ASSEMBLY OF THE ICO

Santiago de Compostela, August 26 and 28, 2014

PROVISIONAL AGENDA

Two sessions are planned for the 23rd General Assembly of ICO in conjunction with the ICO 23 General Scientific Conference, "Enlightening the future":

Session 1: Tuesday, August 26th, 5:00 PM – 9:00 PM

Session 2: Thursday, August 28th, 4:30 PM – 9:00 PM

Information on the room will be posted in the ICO 23 registration area.

The provisional agenda is as follows. Proposed changes should be preferably requested to the ICO Secretariat (angela.guzman@creol.ucf.edu), by August 1st, 2014, in written form. Otherwise they should be requested by writing to the President before the beginning of the first session.

- 1) Minutes of the ICO XXII General Assembly.
- 2) Approval of the Agenda.
- 3) Report of the President for 2011-2014 and report of the Strategic Planning Committee.
- 4) Report of the Secretary for 2011-2014
- 5) ICO and the International Year of Light 2015
- 6) ICO application to become an ICSU Union
- 7) Finances:
 - a) Treasurer's report
 - b) Proposed budget for 2014-2017

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- c) Proposal for a new distribution of Units and annual fees for 2014-2017
 - 8) Changes in the ICO Bylaws as indicated in the ICO Rules and Codes of Practice (booklet)
 - 9) Admittance of new member society.
 - Iberian American Network of Optics (RIAO)
 - 10) Reports of the ICO Committees:
 - a) Nominating Committee
 - b) Committee for Regional Development of Optics
 - c) ICO Prize Committee
 - d) IUPAP Young Scientist Prize in Optics Committee
 - e) ICO Galileo Galilei Award Committee
 - f) ICO/ICTP Award Committee
 - g) ICO Travelling Lecturer Committee
 - h) ICO Education Committee
 - 11) Conferences with ICO participation
 - 12) Date and venue of the General Meeting ICO-XXIV
 - 13) Late nominations for the ICO Bureau Elections.
 - 14) ICO Bureau Elections for the term 2014-2017
 - 15) Other business.

PROPOSED BUDGET 2011-2014 TRIENIUM

Revenue	Proposed 2014-2017
Dues	\$144,525
Less not collected	\$14,000
Net dues	\$130,525
Royalties	\$300
Total Revenue	\$130,825
Expenses	
Secretariat	\$22,000
Newsletter - copyediting	\$4,000
Newsletter - printing & distribution	\$12,000
Printing & distribution - Green Book*	\$4,000
Bureau expenses	\$4,000
ICO prizes + travel	\$20,000
Conference support	\$32,000
ICTP school support	\$15,000
ICO Congress	\$8,000
Traveling lecture awards	\$5,000
Reserves or new projects	\$2,000
ICSU dues	\$2,100
Total Expenses	\$130,100
Surplus/(Deficit) for 3 year period	\$725

*As of 1 July 2104

James Harrington, ICO Treasurer

APPLICATION OF THE RIAO TO BECOME AN ICO INTERNATIONAL SOCIETY MEMBER

RED IBEROAMERICANA DE ÓPTICA PRESIDENCIA

www.riao.org.mx

Santiago de Querétaro, Mexico, June 25, 2012.

Reference: RIAO-P-002/2012.

Subject: RIAO Application as ICO International Society Member.

ICO Bureau,
c. o. A. M. Guzman, ICO Secretary,
Present

Dear ICO Bureau members:

Following your kind communication dated on November 18, 2010, regarding the ICO Bureau decision and recommendations about the application of the *Red Iberoamericana de Óptica*, RIAO, to join the International Commission for Optics as International Society Member; I hereby present updated Information supporting our last October 12, 2010 application, for the consideration of the ICO Bureau members.

RIAO was established in August 2008 with the signature of its Constitution and Bylaws by the officers of the *Red Colombiana de Óptica*, the *Sección de Óptica y Espectroscopia* of the *Sociedad Cubana de Óptica*, the *Academia Mexicana de Óptica*, the *Sociedad Española de Óptica* and the *Comité Venezolano de Óptica*; as well as the ICO Territorial Committees for Optics of Cuba, Colombia, Mexico, Spain and Venezuela.

Currently the *Sociedade Portuguesa para a Investigação e Desenvolvimento em Óptica e Fotónica* has also joined RIAO; the optics and photonics communities of Argentina, Chile and Peru already participate in the RIAO Council as observer members; and the *Asociación Física de Argentina*, the ICO Territorial Committee for Optics of Argentina, the *Sociedade Brasileira de Física* and the ICO Territorial Committee for Optics of Brazil have received official invitations to formally become part of RIAO and designate their representatives to the RIAO Council.

We believe that the Iberian-American optical community could play an active role in the ICO efforts devoted to the development of optics and related disciplines all around the world; and that this participation will certainly strength the collaboration of this a rapidly growing part of the International optical community with our colleagues in all other regions.

Please find enclosed with this application letter:

- The signed Spanish and Portuguese versions of the RIAO Constitution and Bylaws, accompanied with its English translation.
- The RIAO governance and leadership structure with the corresponding 2010-2013 officers names, as to the date of this application.
- A brief summary of the recently taken actions and the forthcoming activities programmed for the RIAO.

Sincerely yours,

Dr. Eric Rosas
ad hoc President,
Red Iberoamericana de Óptica

C. o. Prof. Angélica M. Guzman, ICO Secretary,
Dr. Ethelin Salaseta-Rodríguez, RIAO *ad hoc* Secretary,
RIAO Council,
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RED IBEROAMERICANA DE ÓPTICA

PRESIDENCIA

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Current RIAO Council Officers* for 2010-2013 Term

Dr. Eric ROSAS
ad hoc RIAO President
Mexico

2008-2010 President of the Academia Mexicana de Óptica
and the Mexico Territorial Committee for Optics of ICO
erosas@ceenam.mx

Dr. Efraín SOLARTE
Ad hoc RIAO Secretary
Colombia

2009-2011 President of the Red Colombiana de Óptica
efrain.solarte@correounivalle.edu.co

Dr. Juan G. DARÍAS
RIAO Council member
Cuba

darias@ccaden.edu.cu

Dr. Pedro ANDRÉS
RIAO Council member
Spain

Representative
Spain Territorial Committee for Optics of ICO
pedro.andres@uv.es

Dr. Manuel Filipe COSTA
RIAO Council member
Portugal

President of the Sociedade Portuguesa para a Investigação e Desenvolvimento em Óptica e Fotónica
mfcosta@fisica.unlhnho.pt

Dr. José Luis PAZ
RIAO Council member
Venezuela
jlpaz@usb.ve

* As specified in the RIAO Constitution and By-Laws, the designation of the RIAO officers is done according to the internal procedures of the recognized associations already integrated to RIAO. The terms they will represent their respective communities may vary among different communities.

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RED IBEROAMERICANA DE ÓPTICA

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Recently Addressed Activities

1. Formal establishment of the Red Iberoamericana de Óptica, RIAO.
2. Signature of the RIAO Constitution and By-Laws.
3. Invitation to the RIAO Constitution and By-Laws signatories' associations, to designate their representative to the RIAO Council.
4. Establishment of the RIAO Council.
5. Designation of the *ad hoc* RIAO President and the *ad hoc* RIAO Secretary, by the established RIAO Council members.
6. Presentation of the RIAO Council to the Iberian-American optics community; <http://www.amo-sc.org.mx/>
7. Acquisition of the www.riao.org.mx domain, in order to host the RIAO Web page.
8. Participation in the VII Symposium "Optics in Industry" organized by the Academia Mexicana de Óptica and the División de Óptica de la Sociedad Mexicana de Física; held in Guadalajara, Mexico, in 2009; http://soi7.cucel.udg.mx/index.php?option=com_content&task=view&Itemid=24.
9. Invitation to the rest of the optics associations listed on Appendix A of RIAO Constitution and By-Laws, to become members of the RIAO.
10. Integration of the Portuguese optics community to the RIAO, by means of the Sociedade Portuguesa para a Investigação e Desenvolvimento em Óptica e Fotónica.
11. Participation in the organization of the 2010 RIAO/OPTILAS Triennial Conference held in Lima, Peru, 2010: <http://www.pucp.edu.pe/conferencia/riao-optilas/comites.html>.
12. Evaluation of the bids presented by Portugal, Chile and Mexico to host the 2013 RIAO/OPTILAS Triennial Conference.
13. Recommendation of selecting the Portuguese bid, to the 2010 RIAO/OPTILAS Assembly.
14. Application to become an International Society member of the International Commission for Optics.
15. Wide diffusion of RIAO Constitution and By-Laws with the Iberian-American optics community.
16. Participation in the "International Conference on Applications of Optics and Photonics" organized by the Sociedade Portuguesa para a Investigação e Desenvolvimento em Óptica e Fotónica; held in Braga, Portugal, 2011; <http://www.spiof.org/ico2011/>.
17. Participation in the "Pan-American Advanced Studies Institute on Frontiers Imaging Science"; held in Bogotá, Colombia, 2011; <http://iapsi.fau.edu>.
18. Participation in the VIII Symposium "Optics in Industry" organized by the Academia Mexicana de Óptica and the División de Óptica de la Sociedad Mexicana de Física; held in Toluca de Lerdo, Mexico, in 2011; http://soi8.cucel.udg.mx/index.php?option=com_content&task=view&Itemid=24.
19. Participation in the "Encuentro Nacional de Óptica" and the "Conferencia Andina y del Caribe en Óptica y sus Aplicaciones", organized in parallel by the Red Colombiana de Óptica; held in Bogotá, Colombia, in 2011.
20. Participation in the "First Central American Workshop in Lasers: Laser Applications and Laser Safety Regulations", jointly organized by the International Centre for Theoretical Physics, the International Commission for Optics, and the Third-World Academy for Sciences; held in San José, Costa Rica, in 2012; <http://ie-ico.org/calas>.

Forthcoming Planned Activities

1. Follow-up to the invitations addressed to the remaining Iberian-American associations to become part of RIAO.
2. Construction and launching of the RIAO root Web page and the mirror local Web pages.
3. Establishment of the Iberian-American optics community directory.
4. Establishment of the Nominations Committee and organization of the elections of the RIAO President for the 2013-2016 term.
5. Identification of the planned schools and workshops in optics and related disciplines, to be held in Iberian-America, in order to provide the organizers with help.
6. Collaboration with other already well established international optics societies.
7. Promote the accomplishment of goals and objectives of RIAO.
8. Participation in the "X Reunión Nacional de Óptica", organized by the Sociedad Española de Óptica, to be held in Zaragoza, Spain, in 2012; <http://www.xreunionoptica.com/>.

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9. Participation in the "Mexican Optics and Photonics Meeting" organized by the Academia Mexicana de Óptica; to be held in San Luis Potosí, Mexico, in 2012: <http://congresos.cio.mx/icom/index.htm>
10. Participation in the "1st International Summer School on Advances in Ophthalmic Optics and Optometry" organized by the Sociedade Portuguesa para a Investigação e Desenvolvimento em Óptica e Fotónica; to be held in Aveiro, Portugal, 2012: <http://www.optica.pt/sch2012ofo/>
11. Participation in the "Summer School on Recent Advances in Optics and Photonics" organized by the Sociedade Portuguesa para a Investigação e Desenvolvimento em Óptica e Fotónica; to be held in Porto, Portugal, 2012: <http://summeroap2012.inescporto.pt/>
12. Organization of the 2013 RIAC-OPTILAS Triennial Conference, in Oporto, Portugal in July 2013: <http://riaooptilas2013.inescporto.pt/>

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EXCERPT FROM THE MINUTES OF THE ICO BUREAU MEETING 2002 HELD IN FLORENCE, ITALY.

4 - Membership and membership rules

4a) Contacts with potential Territorial Committee members

M.L. Calvo reports on attempt to restart Portugal membership (action 01/4). It appears that healthy Optics activity in Portugal is mainly conducted by the Portuguese Physical Society and no interest for ICO's activities appears to exist at this time. M.L. Calvo is thus planning to make further contacts (Action 02/2).

After its membership had been terminated for over six years arrear dues, Romania paid two years dues. The Bureau discusses how to proceed to address the case positively but try to avoid setting a precedent. Motion: (G.T. Sincerbox, R. Dändliker): "ICO reinstates Romania and cancels past dues, considering that Romania is current on its dues as of 2002. Contrary to the general rule (ICO Statutes, article 7), no more than two years arrear dues will be accepted in the future." The motion is accepted unanimously.

Action 01/6: Saleh made two contacts in Egypt (NILES and a university) and plans to travel to Egypt to explore possible membership (Action 02/3). Friberg was unable to identify appropriate contacts in Pakistan.

The membership of South Africa has been terminated because of more than six years arrearage in dues. A new application with full description of the new Territorial Committee rules and membership will be required for membership to be reinstated. P. Chavel will follow the case (Action 02/4).

C. Sheppard will contact C. Saloma in the Philippines (Action 02/5).

4b) Membership rules regarding International Organization Members

M.L. Calvo reported for the ad hoc committee on suggested criteria regarding International Organization Members. After considering the arrangements within IUPAP and ICSU in similar circumstances and the situation of current ICO International Organization Members, the Committee suggests that a minimum of 20% of the membership should be from outside the most represented country for an application to be considered. The current International Organization Members comply with this criterion. This does not mean that 20% of international membership gives automatic right to International Organization Membership in ICO, because such parameters as international participation in governing bodies, international participation in meetings, organization in meetings outside the most represented country, international authorship in publications, the advice of the Territorial Committee in the most represented country (if there is one) should also play a major role in the judgement for acceptance as an ICO International Organization Member or associate member. Nevertheless, it is agreed that a simple criterion as a prerequisite for considering an application in this category of membership would be helpful in the future. The possibility

of revisiting membership should the international character of the Member significantly decrease is mentioned but no rule is adopted in that respect.

Motion: H.H. Arsenault; P. Chavel, “The Bureau will recommend to the ICO General Meeting to change Rules and Codes of practice regarding International Organization Members. The applicant Society must include at least 20% members from outside it most represented country”. The motion is unanimously accepted.

4c) Applications from new members

International Society for Optics within the Life Sciences (OWLS). The application from OWLS was already approved in 2001. It will be proposed to ICO General meeting.

African Laser, Atomic, Molecular and Optical Physics Network (LAM). For LAM Network application, the bureau will ask approval from Ghana/West Africa according to decision just made about membership rules. The representatives from the current International Organization Members are asked to give their opinion on this case. H.H. Arsenault (SPIE) thinks that anything that can be done to help improve African activities in optics is good, LAM network membership appears to be one way to help. P. Shumate (IEEE/LEOS) has similar concerns. B.E.A. Saleh (OSA) is also supportive that improving contacts in Africa is worthwhile. Motion P. Chavel, G.C. Righini: “the ICO Bureau will recommend to the ICO General Meeting to accept the LAM Network as International Organization Member”. Motion carried unanimously.

Optical Society of Japan (OSJ). The Science Council of Japan, a government organization, has a Committee on Optics, which appoints the ICO Territorial Committee for Japan. This Territorial Committee has no close links with Optics related Societies, in particular the OSJ. T. Asakura reports that OSJ is very eager to increase its international role, in particular through tighter contacts with ICO, its international relations have progressed in relation with ICO and could progress further. The geographical balance in ICO has been modified by the creation of International Organization Members. OSA and IEEE/LEOS both have OSJ and the Japanese Society of Applied Physics (JSAP) as “sister societies”. A truly international society in Asia is needed. The Bureau agrees to address positively the request from OSJ. The chair of the Nominating Committee should issue a reminder to the voting members assessing the necessity of a good geographical balance. Motion (H.H. Arsenault, G.T. Sincerbox): “The Bureau recommends that the OSJ be offered some direct contact with ICO on a regular basis.” Motion carried unanimously.

Estonia, Latvia and Lithuania are recent IUPAP member. For Estonia and Latvia, applications are completed but Lithuania will appoint its Territorial Committee members in the coming weeks. Motion (P. Chavel, B.E.A. Saleh): “The ICO Bureau will recommend to ICO General Meeting Estonia, Latvia and Lithuania to membership. Lithuania membership is approved and will become effective after the appointment of the Territorial Committee governing body.”

An application from *Greece* has been received also. It is very good but approval from a science authority in the country is missing. Motion (H.H. Arsenault, P. Chavel): propose

associate membership to Greece until the Territorial Committee is ready for full membership. The motion is unanimously approved.

For *Morocco*, two organizations (Société Marocaine d'Optique et de Spectroscopie and Société Marocaine d'Optique et de Photonique) joined their effort for an ICO associate membership application. A temporary Territorial Committee has been created with the mission of completing a full application by December 2003. Motion (H.H. Arsenault, M.L. Calvo): Propose this associate membership to ICO Meeting. Adopted unanimously.

For *Tunisia* (associate membership, already approved), news about their Physical Society and measures to be representative of community are missing. Physical Society endorsement of a Territorial Committee is not a general requirement for ICO membership but in this case, while endorsement from the Tunisian Astronomical Society has been obtained, the applicant community appears to be close to Physics and therefore a link is desirable.

4d) Current members

In some ICO Territories, information about the Committee's operating rules and about the current composition of Territorial Committees are missing. Of course, the Bureau has at least one identified contact in each Territorial Committee, and they pay dues, but in many cases the Bureau does not know how they work and who the current members are; probably, in many cases, membership is not explicit. Clarification should be requested.

MOTION APPROVED BY THE ICO BUREAU 2012:

Motion 7: (Moved by M. Oron, seconded by H. Michinel, approved by 11 votes in favor, 1 against, and 1 abstention).

That the ICO Bureau will recommend to the 2014 ICO General Assembly to accept the organization currently named Iberian American Network on Optics as an International society member of ICO with the following recommendations:

1. That the RIAO considers the possibility of a change of name in order to avoid coincidence with the name of the RIAO/OPTILAS conference.
2. That RIAO considers a system by which their representative to the ICO Bureau be from Latin America.

RIAO REPORT ADDRESSED TO THE ICO

30 June, 2014

The *Red Iberoamericana de Óptica* (Ibero-American Network on Optics), RIAO, is a relatively young, not-for-profit supranational optical network that has as its primary focus the strengthening of research and collaboration among researchers, teachers, students, and technicians working on optics, photonics, and related areas in the Ibero-American region. We certainly believe that the RIAO plays a very active role on promoting optics education and research in the Ibero-American area, thereby contributing also to the final mission of the ICO.



Some attendees at RIAO/Optilas 2013 in Porto, Portugal.

The network is then organized as a set of Ibero-American, territorial organizations on Optics. According to the RIAO Constitution and Bylaws, the RIAO is governed by its Council, which is composed by the President, the Secretary, and a representative from every country of the region. The designation of each national RIAO officer is responsibility of the national optical associations already integrated to the RIAO and is done according to the internal procedures stated by their respective communities. The current RIAO Council officers are Dr. Pedro Andrés, RIAO President, Dr. Efraín Solarte, RIAO Secretary, Dr. Luciano Ángel for Colombia, Dr. Juan G. Darias for Cuba, Dr. Andrés Márquez for Spain, Dr. Raúl Rangel for Mexico, Dr. Manuel F. Costa for Portugal, and Dr. José L. Paz for Venezuela.

In relation with this organization, two major events happened in 2013. First, last July 25, 2013 there was a change in the presidency of RIAO. Dr. Eric Rosas, *ad hoc* President of the RIAO since its inception in 2008, handed the responsibility to Dr. Pedro Andrés, which was elected in advance for the period 2013-2016 according to the RIAO by-laws. Dr. Andrés is full professor of Optics since 1994 at the University of Valencia, Spain. In his inaugural address at the RIAO General Assembly, Prof. Andrés emphasized that there are many potential benefits from a solid Ibero-American network, as the organization of supranational Workshops, Conferences and Summer schools, the exchange of teaching and research experiences, the broadening of Ibero-American networking, the promotion of friendly and effective collaboration among our whole community, and, maybe the most importantly, to have a single voice towards the rest of the worldwide optics.



From left to right, Prof. Pedro ANDRES, RIAO President, Prof. Manuel Filipe COSTA, SPOF President and General Chair of RIAO/Optilas 2013, and Prof. Eric ROSAS, RIAO Past-President, during the Conference Dinner at RIAO/Optilas 2013.

On the other hand, the *VIII Reunión Iberoamericana de Óptica / XI Encuentro Latinoamericano de Óptica, Láseres y Aplicaciones*, RIAO/Optilas 2013, was organized July 22 to 26, 2013, at the University of Porto in Portugal and chaired by Prof. Manuel F. Costa, at the time President of the *Sociedade Portuguesa para a Investigação e Desenvolvimento em Óptica e Fotónica*, SPOF. RIAO/Optilas is the classical and reference meeting of the Ibero-American Optics community and, by extension, of the RIAO. 441 participants from 39 countries from all over Ibero-America and the rest of the World attended the Conference. The success of the conference was only possible with the active support, endorsement, and commitment of several Ibero-American national societies and major optical institutions, together with the most important international scientific societies of Optics, including the ICO. The participation of many students and young researchers was very positive and a good sign of the potential growth of the Ibero-American Optics and Photonics research in the near future. It is also noteworthy that the 12th Education and Training in Optics and Photonics Conference, ETOP 2013, was successfully organized in parallel and in an articulated way with RIAO/Optilas 2013.

RIAO activities have increased significantly in recent years. Specifically, only in the past two years RIAO has endorsed and promoted several national meetings and conferences in the region, the 2012 and 2013 Mexican Optics and Photonics Meeting, MOPM 2012 and

MOPM 2103, respectively, the XXV and XXVI *Reunión Anual de Óptica* (the *Academia Mexicana de Óptica* and the *División de Óptica* of the *Sociedad Mexicana de Física* joint meeting), RAO 2012 and RAO 2013, respectively, the *XIII Encuentro Nacional de Óptica / IV Conferencia Andina y del Caribe en Óptica y sus Aplicaciones* (Colombian National Meeting in Optics / Andean and Caribbean Conference in Optics and its Applications), ENO-CANCOA 2013, the *X Reunión Nacional de Óptica* (Spanish National Meeting in Optics), X RNO 2012, the II International Conference on Applications of Optics and Photonics, AOP 2014, in Aveiro, Portugal, inter alia, together with other international events held in the region as the 2012 First ICO/ICTP/TWAS Central American Workshop on Lasers, Laser Applications and Laser Safety Regulations, and the 2014 ICTP/ICO/MCTP College on Optics and Energy. RIAO will maintain this kind of actions in the next future expanding it to other Ibero-American territories. In addition, it is becoming more and more common that the benefits that have the members of a national society integrated in the RIAO (e.g., fee reduction, participation in regional prizes and awards, etc.) are extended to the individuals of the rest of affiliated societies.

We have placed special emphasis on the engagement of the whole Ibero-American region with RIAO. This action requires a constructive exchange of ideas and dialog with the existing regional optical societies or even the promotion of new ones in those countries without a specific scientific association. In this sense, we point out that positive advances have recently been made with Argentina and Chile and some exploratory or preliminary discussions have been held with representatives of Panama, Peru, Ecuador, and Brazil. The RIAO/Optilas 2016 in Chile is a step in this direction. By the way, the first meeting of the Organizing Committee of RIAO/Optilas 2016 was carried out in June 2014 at the University of Concepcion, Chile, with the participation of the RIAO President.