



NEWSLETTER

COMMISSION INTERNATIONALE D'OPTIQUE • INTERNATIONAL COMMISSION FOR OPTICS

Some memories on the ICO Awards



Some of the participants at the first official meeting of ICO held in 12-17 July 1948 at the Physics Laboratory of the Technische Hogeschool, Delft, Netherlands.

or submitted for publication before he or she has reached the age of 40". The idea of a recognition for a young scientist was by Adolf Lohmann (Tito Arcchi remembers) and received immediate positive reactions that "stimulated the Bureau to begin as soon as possible with the granting of this Prize" as one reads in the Minutes of the 13-th General Meeting of the ICO, held on August 21 and 23, 1984, Sapporo, Japan, (see Towards ICO-14, June 1987, p 54). The Prize Committee was formed by Serge Lowental, chair, Adolf Lohmann and Hans J. Frakena. The Prize included a citation, a cash support and invitation to present an invited paper to the next ICO General Meeting or another Meeting, and the Erns Abbe Medal donated by Carl Zeiss. Since then the ICO Prize is a recognition well established and highly deemed. Many young scientists, who subsequently became famous, received the ICO Prize. To mention just one: Stefan Hell who got the ICO Prize in 2000 for his work on Stimulated Emission Depletion microscopy, STED, and subsequently the Nobel Prize in Chemistry for "super-resolved fluorescence microscopy", in 2014.

The Galileo Galilei Medal Award. In 1987, when I entered the ICO Bureau as Vice President, I was appointed a member of the ICO Prize Committee and was the chair of it in the subsequent term (1990-1993). In this period, we realized that all winners of the Prize were from highly developed

The ICO Prize.

In 1982 the first ICO Award, the ICO Prize, was delivered for the first time. The ICO Prize was a novelty worthy of note, because it was the first time that a recognition was established for a young person, less than forty, more precisely "who has made a noteworthy contribution to optics, published

countries and raised the problem in the Bureau Meeting in Minsk, June 28, 1992. (see Towards ICO-16, June 1993, pg.66): "The ICO prize Committee expresses the concern about the fact that with its present definition it is quite unlikely that the ICO Prize be awarded for an outstanding work done under a difficult social or financial situation". The Bureau decided "to examine the possibility to institute a new ICO Award, prize or medal to cover that case. The two Committees for the Regional Development of Optics and for the ICO Prize will work jointly under the responsibility of A. Consortini to establish a set of propositions that will be sent to the Bureau within 6 months with the view of preparing decisions for the 1993 Bureau Meeting and General Assembly". Meetings of components from these two committees, in particular Chis Velzel, Franz Lanzl, Maria Yzuel, and Anna Consortini, took place in different locations and a proposal for the new award, "Galileo Galilei Medal", was presented and approved at the ICO-16 General Meeting, Budapest, Hungary 1993. It entitles: "The Galileo Galilei Medal of ICO is awarded for outstanding contributions to the field of optics under comparatively unfavorable external circumstances". The Galileo Galilei Medal included a Silver Medal offered by the SIOF (Società Italiana di Ottica e Fotonica), assistance to participate in an ICO General Assembly or Meeting to present an invited Paper, and was awarded for the first time in 1994. No age limit was included in the rules and the Medal soon became an important recognition for the careers of "relatively old scientists".

The ICO/ICTP Award, now ICO/ICTP Gallieno Denardo Award.

The idea of having a "Joint" ICO/ICTP award started from a conversation between Gallieno Denardo and me. Denardo was taking care of the ICTP international activity with developing countries and had introduced optics in the ICTP. ICO and ICTP were collaborating on the organization of Colleges in Optics since the beginning of the 90s and I was involved on it. Gallieno was much concerned doubting that he would be able to continue supporting an award he had established and personally funded for Pakistan students, in honor of his late friend Mohammad Sarwar Khalid Razmi, professor of nuclear physics. An award for young scientists from develop-



Florence 2001: ICO Bureau Annual meeting held in Florence. Gallieno Denardo was invited (second from the left).



Adolph Lohman, at his 80th Anniversary.

ing countries, the ICTP Prize, was delivered since 1983 but it included several different disciplines as physics, mathematics and medicine.

On my side, I was member of the Galileo Galilei Medal Award Subcommittee (1996-1999) where many times the discussion arose on the lack of awardee young scientists from developing countries, in both ICO Prize and Galileo Galilei Medal. During the Bureau Meeting in Tianjin, China, 2-3 August 1998, the

point was discussed reaching the conclusion that "The Bureau agrees that some initiative would be desirable on this issue and that it may be appropriate to think about a new award" (see Towards ICO-18 June 1999, p.40).

Considering these premises, we (Gallieno and I) reached the conclusion that, maybe, we could try to ask ICO and ICTP, respectively, about the possibility of establishing a joint award in optics devoted to young researchers from developing countries.

In the case of ICO, the next opportunity to present the idea to the Bureau was at the two ICO Bureau Meetings, scheduled during the ICO-18 in San Francisco, USA, few months later. As usual, the first Bureau Meeting was before the elections and the other one after the elections. Year 1999 was my last term, as Past President, in the Bureau. During the first meeting, the Galileo Galilei Medal Committee launched the idea about the possibility of establishing a "joint" award and immediately the idea received unanimous agreement. The Bureau asked me to contact Denardo and do as much as possible to have a proposal ready, in agreement with ICTP, for the General Meeting. In a couple of days, by long telephone calls and strong activity, it was possible to prepare the proposal and, mostly, Denardo obtained the agreement of the ICTP. (see Toward ICO-19, pg. 9 and 16 for the first and second Bureau Meetings respectively). The proposal was presented at the ICO-18 General

Assembly, second session, August 5th, under point 14 "Other business": (see Towards ICO-19, Minutes of the 18th General Meeting, second session August 5th. p.158): "In the name of the ICO Bureau, A. Consortini presents the plans for establishing an ICO/ICTP award for young scientists from countries needing special help. The idea is to cover the travel expenses of one young scientist to the next appropriate ICTP College related to Optics. ICO could provide a cash amount and a diploma and ICTP will cover the travel and living costs to attend the College". I also presented the Bureau "intention to start the new award as soon as the agreement on the rules is reached". The General Assembly left the final decision to the next Bureau.

The next Joint Meeting of the Old and New Bureau was the subsequent day. Concerning the new award, "A. Consortini has drafted complete rules for the ICO/ICTP award and has been in contact with G. Denardo of ICTP about them. The Bureau approves these rules as appended in the minutes and decides that the first call for nominations will be issued at the earliest opportunity, so that the award winner may perhaps be decided before February 2000 ICTP/ICO Winter College." The Bureau unanimously approved. Here I would like to pay to Gallieno Denardo and the ICTP the recognition they deserve, because the award received from them the main contribution and support.

A four members Award Committee was formed, in which two members, A.A. Friesem (chair) and A. Consortini were from ICO and G. Denardo and M. Danailov from ICTP. We succeeded in delivering the first ICO/ICTP Award in February 2000. After the death of Denardo, in 2007, I proposed to the Bureau to introduce the name of Gallieno Denardo in the award name, and this was unanimously accepted.

The IUPAP Young Scientist Prize in Optics. In 2009, the International Union of Pure and Applied Physics, IUPAP, established the "IUPAP Young Scientist Prize in Optics". This award is administered by the ICO, with the same rules as the other awards. It is devoted to a scientist who has made noteworthy contributions to applied optics and photonics during a maximum of eight years of research experience after having earned a PhD degree. This award is an additional contribution to the politics in favor of young people, that ICO initiated in 1982 with the ICO Prize.

Final comment. *In my opinion, all members of the Committees, starting from the chairs, always do an important, high level and often unknown work. They all spend a lot of time in the candidate evaluations and deserve the greatest thanks.*



The first ICO meeting in Africa, Dakar, Senegal, 2000.

Anna Consortini
ICO President (1993 - 1996)

Memories of the ICO president 1990-1993



Dr. Michael Kidger (courtesy Tina Kidger).

As I look back on the period 1990 to 1993 when I was ICO President,

I recall especially the efforts by the ICO Bureau to establish a lasting relationship with The International Centre for Theoretical Physics (ICTP) and The International Centre for Science and Technology (ICS), both located in Trieste. Gallieno Denardo (photo below) had for several years organized a Winter College on Optical Physics but wanted to include more applied aspects. Anna Consortini, Hans Tiziani, and I met with Gallieno in February 1991 and the result was a Winter College on Optics jointly organized by ICTP, ICS and ICO, held in Trieste, Italy from 8 to 26 February 1993.

The School Directors were: A Consortini, J C Dainty, P Hariharan and H Tiziani, and the local organizer was Gallieno Denardo. The School consisted of lectures, seminars and optical design and practical laboratory sessions spread over a three-week period. Approximately 40 lectures were given by 18 distinguished scientists on the following topics:

- Geometrical Optics (G Molesini, Italy).
- Optical Design (M J Kidger, UK).
- Diffraction and Imaging (A Consortini, Italy and J C Dainty, UK).
- Fabrication and Testing of Optical Components (D Malacara, Mexico).
- Interferometry and Metrology (H J Tiziani, Germany).
- Visual Optical Instrumentation (W Brouwer, USA).
- Thin Film Optics (A Piegari, S Scaglioni and E Masetti, Italy).
- Light Detectors (A A D Canas, UK).
- Holography (P Hariharan, Australia).
- Fourier Optics and Photorefractive Materials (S Mallick, France).

- Medical Applications (R Pratesi, Italy).
- Modern Microscopy (P A Benedetti, Italy).
- Coherence of Light (F Gori, Italy).
- Optical Computing (B Wherrett, UK and A W Lohmann, Germany).

The emphasis of the course was on practical optics.

A special feature was the optical design exercises, provided by Dr M J Kidger (photo below) on a set of 12 fast PCs: each student had the opportunity to see how simple lenses, such as doublets and triplets were optimized in their design and how professional designers approached more complex problems. The practical laboratory included experiments on holography, Fourier optics, photon counting, thin films, metrology, the Berry phase and coherence, using equipment donated by special thanks are due to Spindler and Hoyer, and Thorn-EMI.

Approximately 12 research seminars were given by participants during the School on topics ranging from Laser Guide Stars to (Optical!) Studies of Beverages available in Zimbabwe.

The majority of 60 attendees were from non-industrialized countries and the atmosphere was truly international;

Argentina, Belarus, Brazil, Bulgaria, Burundi, Canada, China, Ethiopia, Ghana, Hungary, Italy, India, Iran, Israel, Jamaica, Kuwait, Macao, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Peru, Philippines, Romania, Russia, Senegal, Slovenia, Slovak Republic, Thailand, Ukraine, Vietnam, Zaire and Zimbabwe.

ICO has been involved in Winter Colleges ever since this first event, the latest being the Winter College on Extreme Non-linear Optics, Attosecond Science and High-field Physics held in February 2018.

Chris Dainty
(ICO President 1990-1993)

70 Anniversary of the first ICO General Conference (Delft, The Netherlands, 1948)

Looking forward: ICO as an International Organization with entrepreneurial vocation



Laser School held in Tangier, 2003, organized by the Optical Society of Morocco.

Some historian dedicated to the history of ICO, whose name I do not remember now, said once that at its foundation, in 1947, ICO could have been established as a European society of optics. However, the initial and pioneering involvement of the United States of America determined that ICO was going to become the international organization for optics, and later for photonics as well as it certainly is nowadays at a worldwide level.

ICO has always been quite involved in the expansion of stable organizations and Territorial

Committees in countries and regions where there is a strong need for becoming part of our global community. As examples, the Northern African countries have always been quite important for the expansion of optics and photonics at the African continent. In 2003 I attended a School of Lasers, organized in Tangier, by the Optical Society of Morocco (SMOP). Let me remind that there is still a condition of associate member for Morocco, with a hope that a definitive full Territorial Committee will be soon formed. In Tunisia, a member since 2006, there is a well-established annual activity



"I hope that at least a few places in the developing countries can become really important places in optics." (Gallieno Denardo, 1935-2007). Courtesy ICTP.

through schools and workshops with great success. In 2002 the LAM network (African Laser, Atomic and Molecular Physics Network) applied to become a member of ICO. LAM was a working group established as part of the External Activities Program of the Abdus Salam International Center for Theoretical Physics (ICTP, Trieste, Italy). It operated as a network to facilitate increased activity and interaction in the field of optics, lasers, atomic and molecular physics in Africa. The late professor and responsible of optics programs at the ICTP, Gallieno Denardo, organized in 2003 the so called Trieste System (TSOSA) to assure the continuation of programs and winter schools in optics, ICO being a founder member since its inception.

Gallieno Denardo, a professor of Theoretical Physics and a researcher linked at the ICTP, was a key person in the development of ICTP external programs, oriented to the training of young scientists and researchers from less favored regions of the world. As part of its optics and photonics programs, ICO has been collaborating with ICTP in organizing the Winter Colleges on Optics, the first one as early as in 1993, and with permanent and continuous activities until now. Among these activities there is the ICO/ICTP Gallieno Denardo Award, established in 1999, with awardees from many countries in various regions of the world, Africa, North and South America, Europe and Asia, as examples of the real international projection of the award.

The Latin-American regions have always been quite involved in ICO activities and in improving the presence of optics and photonics all over the world, not only restricted to Latin-American countries but as part of the international community. In particular, special efforts were dedicated to pro-

mote workshops in the region of Central America. In 2012 the FIRST ICO/ICTP/TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations was organized in San José, Costa Rica National University, Costa Rica, with a great success. There was a continuation of such a Workshop in 2014, with the College in Optics and Energy, held in Chiapas (Mexico) and hosted by the Mesoamerican Center for Theoretical Physics (MCTP), as an ICTP branch in this region of the world.

To enhance the importance of the presence of the Ibero-American community in ICO, in the 22nd ICO General Assembly, held in Puebla, Mexico, August 2011, the RIAO (Red Iberoamericana de Óptica, Ibero-American Network for Optics) was admitted as an international organization in the ICO structure. ICO has been as well supporting the activities of RIAO in all these years of development.

Nowadays, there are many geographical areas in which there are quite active programs in optics and photonics, with the support of ICO. It seems fair to say, (leaving aside any intention of exhibiting lack of humility), that ICO and the global optics and photonics community are on its way to become extensively visible in the science and technology world. This article is just a brief resume, and it tries to reflect, only partially, the enormous amount of activities and events in which ICO has been involved. Those interested in more detailed data can find them in the ICO Triennial Reports <http://e-ico.org/node/23>

Maria L. Calvo
ICO President (2008-2011)
ICO Secretary (2003-2008)
ICO Past President (20011-2014)



First ICO/ICTP/TWAS Central American Workshop in Lasers, Laser Applications and Laser Safety Regulations, University of Costa Rica, San Jose, Costa Rica, May 2012.

The relations of ICO with international learned societies

When ICO was first created seventy years ago, travel was relatively more expensive than it has become, and took definitely much longer: truly international scientific meetings were few. The ICSU, its Unions and their Commissions were probably the most organized body to hold them. While the Optical Society of America, founded in 1916, al-

ready attracted a fraction of 10-15% of international contribution in the JOSA, and its meetings were reputed and attracted some limited international participation, it can safely be said that the ICO events were the only explicitly international scientific meetings in our domain. As an example, while the International Quantum Electronics Conference (IQEC) was created under this very name as early as 1959 – at a time where the laser was still to come, but the maser existed already, its first Committee was entirely from the United States (see ICO Newsletter No 81, October 2009). Yet, after 1970, international learned societies with individual membership – notably US based OSA and SPIE – then the Society for Photographic Instrumentation Engineers – started organizing some meetings outside North America, and around 1980 made it a policy to extend their international character. After several attempts between 1978 and 1990, the



European Optical Society was founded in 1991. The simultaneous existence, on the international scene of Optics, of ICO – a structure within the ICSU family – and individual membership societies was perceived as detrimental to the scientific community involved because of insufficient coordination. For example, plans for future meetings were usually not discussed well in advance among those players. Could there be a competition between ICO and those learned societies with international activity? An organization whose members were exclusively territorial committees paying relatively moderate fees (at the scale of a country), ICO was, and in that respect still is, the most distributed organization serving the Optics and Photonics community. But an organization with several thousand scientists as members, sponsoring tens of meetings per year in association with large exhibits and maintaining a large activity of publication operates at a completely different scale. Some initiative was needed to clarify the situation.

During my tenure as the ICO Secretary (1990-2002), I was fortunate to witness several smart moves towards a good coordination. After a number of preliminary contacts during the previous years, notably during the term of Prof. J.W. Goodman as ICO President, the 1990-1993 ICO President took the initiative to invite four inter-



national players in the domain at a discussion meeting in 1991, including the newly created Asia-Pacific Optical Federation. The report of that meeting was published in this Newsletter (issue 5, February 1992) and starts as follows:

“Prof. J.C. Dainty, President of ICO, invited four professional optical societies having international activity to meet for a discussion of possible joint actions to be undertaken for the global benefit of the optical community worldwide. The four societies are:

- the Asia-Pacific Optical Federation, APOF;
- the European Optical Society, EOS;
- the Optical Society of America, OSA;
- SPIE, the International Society for Optical Engineering.

The meeting was held in Florence, Italy, on Sunday, August 25, 1991, on the occasion of the ICO 1991 topical meeting on Atmospheric, Volume and Surface Scattering and Propagation.

Each professional society had been invited to send two representatives.”

A number of joint measures were decided, including mutual information of future meetings, distribution by OSA and SPIE of the ICO Newsletter as part of their own publications, and coordination of activities for the benefit of Optics in non-industrialized countries. In addition, “APOF, EOS, OSA and SPIE representatives expressed interest in a non-voting observer status for a designated technical representative of their society at the ICO Bureau Meetings.” That initiative in fact extended the practice of inviting such observers to attend the ICO General Meeting, as provided by the ICO Statutes in their 1990 revision.

In the following years, the Abdus Salam ICTP in Trieste, which had just started its annual Winter College on Optics, initiated its TSOSA (Trieste System Optical Science and Applications Advisory Group), and invited ICO to join both initiatives. OSA and SPIE joined as well shortly thereafter.

Within a few years, the confidence had grown and the discussion between the ICO Bureau and its guests led to the proposition to create of a new membership category, “International Organization Member”, which was approved and incorporated in the ICO statutes at the ICO General Meeting in 1999 in San Francisco. Four organization initially joined ICO in that capacity: EOS, the IEEE Photonics Society (then known as the IEEE Laser and Electro-Optics Society), OSA, and SPIE. They were subsequently joined by the African Network on Lasers, Atomic and Molecular Physics, and Optics (LAM, sponsored by the Abdus Salam ICTP), OWLS (the International Society for Optics within the Life Sciences), and RIAO (Red Ibero-Americano de Optica). It was only natural, then, for ICO to be seen as kind of an “umbrella organization” where all individual membership societies with explicitly international activity could meet and coordinate at an early, informal stage of new initiatives planning.

Its participation in the ICSU family made ICO the natural body to apply for International Scientific Associate status in ICSU, with the support of all its members. The move was approved in 2005. As a conclusion, let me express the confidence that after four years of intense discussions, the transition of ICO to an ICSU Union for Optics and Photonics be approved in the near future, and that it be seized as an opportunity for ICO and all its current members to coordinate even more closely their activities for the benefit of the Optics and Photonics community worldwide. That will foster the visibility of our field throughout the world of science and learning and the recognition of its potential for the benefit of economy and society as a whole facing the challenges of the 21st century!

Pierre Chavel
ICO Secretary (1990 - 2002)

Associate Secretary in charge of meetings and schools

Since its founding in 1948 the ICO has undergone expansions, such as inclusion of society members, with the accompanying changes in its governing board known as the ICO Bureau. Another change in the Bureau took place earlier when in 1996 in Taejon, Korea a new Executive Committee position of Associate Secretary was introduced. As the first elected holder of that position these are some of my personal recollections related to the events.

Both Sweden and Finland had actively participated in the ICO and amongst the rapid expansion of optics in these countries, for instance in the form of the creation of national optical societies, Prof. Klaus Biedermann at KTH in Stockholm and Prof. Eero Byckling at TKK in Helsinki, nominated me in 1996 as a candidate for ICO Vice President. Unbeknownst to us, the ICO Bureau had in their meeting just preceding the Congress in Taejon decided to create a new position, the Associate Secretary, to help the Secretary General especially in matters related to the meetings and schools administered by the ICO. The then-Secretary, Pierre Chavel of Institut d'Optique near Paris and CNRS, was allowed (or asked) to choose a person from among the Vice President candidates for this new position, and he picked me because we had collaborated earlier. As a result, my candidacy was changed on the spot from Vice President to Associate Secretary, and being the sole nomination the General Assembly elected me as the first Associate Secretary of the ICO. The various meetings and schools, such as the ICO cosponsored and endorsed conferences and the annual ICTP winter college on optics, were (and still are) a vital part of the ICO activities that fall substantially into the hands of the Associate Secretary. Altogether I served three terms, from 1996 to 2005, as the ICO Associate Secretary.

The ICO typically organized every year a topical meeting at which also the yearly Bureau meeting was held. Conventionally these topical and Bureau meetings were arranged in major cities that offered interesting attractions for the attend-

ees. In 2003, when no obvious venue appeared in sight, we decided to follow an alternate route and take the topical meeting to a wooded cottage village in Polvijärvi, Finland, one of the remotest parts of the European Union. Among the participants in the meeting was Professor Emil Wolf, who with his wife Marlies was eager to experience the Finnish tango. My recollection is that also Prof. Adolf Lohmann attended the meeting and gave interviews to the media. The Bureau meeting itself was held in nearby downtown Joensuu. Up to that point, applications to organize meetings or schools with ICO participation could be submitted at any time throughout the year and consequently the main task to the Associate Secretary was to ensure high scientific quality and smooth operation of the events. In the Joensuu meeting the Bureau decided, however, that such applications would have two deadlines per year and thereby the focus of the Associate Secretary handling the proposals shifted more towards maintaining the annual budgets allocated by the ICO for meetings and schools. The subsequent Associate Secretaries, most notably Prof. Gerd von Bally of the University of Münster, have continued the tight financial control.

In its 70 years of existence the ICO has evolved into a major international actor within optics and photonics, collaborating with IUPAP and ICSU and incorporating organizational and regional society members. The ICO continues the most valuable work not just related to meetings and schools but also in education and training of future professionals, placing an emphasis on the regions of the world that require special assistance in optical science and technology. I am confident that with its broad and diverse membership the ICO today is well positioned to carry out its global charter.

Ari T. Friberg

University of Eastern Finland, Joensuu, Finland
ICO Associate Secretary 1996-2005
ICO President 2005-2008
ICO Past President 2008-2011

Fish Eye: The old physics building, Delft University, as photographed by a panoramic camera designed by professor van Heel.



My reflections on the ICO (Joseph W. Goodman)

The first ICO meeting I attended was in Redding, UK, in 1969. The first landing on the moon happened during the meeting, as I recall. I was attracted to the organization because of the very wide international attendance at its meetings, much wider than the meetings of either the OSA or the SPIE at that time. The role of the ICO in optics was perhaps unique in that regard in this time period.

I don't remember the exact year I became President of the ICO, but I do remember that during that year a few members of the Bureau, including myself, came up with the idea of creating an edited book on trends in optics, with contributions drawn from a very international set of authors. The book would be edited, with authors chosen to write on the most important topics in optics at that particular time. The book would be affiliated with the ICO but published by a commercial publisher, with royalties going to the ICO. I edited the first volume, which was published by Academic Press in 1991. It appears that 6 such volumes have been published, the most recent in 2008.

Today, the international optics landscape is quite different than in the 1970s when I first was attracted to the ICO. Both the SPIE and the OSA have large international presences, and draw speakers and authors from all over the

world. So some ask "is there still a role for the ICO?". I believe the ICO is still a unique and valuable organization, for several reasons. First, both the SPIE and the OSA are headquartered in the USA, which makes them less than perfectly international. Second, at the meetings of the ICO, the invited speakers are intentionally drawn from an extremely wide set of countries, so that an attendee has the chance too hear a truly international perspective on work going on in optics worldwide. Thirdly, I believe that, because of the very wide set of countries ("territories" in ICO language) that take part in ICO meetings, they offer a wonderful mixing pot, where countries that may have political differences can nonetheless interact peacefully and constructively on scientific topics, learning from each other. I believe this attribute is a stronger part off the ICO than it is of the other organizations that have an international presence.

So now, as we celebrate the 70th anniversary of the first ICO Congress, I express my gratitude to the ICO for enabling me to make so many friends from other countries, and for informing me about worldwide activities in optics. I wish the ICO many more years of success, as optics becomes a more and more important part of our daily lives.

Joseph W. Goodman
ICO President (1988 - 1990)



2012 ICO Prize winner Romain Quidant receives one of three ICO awards at SPIE Optics and Optoelectronics (2012) from Frank Höller and Angela Guzmán.

In Memoriam: Jim Harrington, ICO Treasurer, 2008 - 2017

Professor James Harrington of Rutgers University died on June 20th after a long and courageous battle with cancer. He was 76.

Jim graduated from Grinnell College in Grinnell, IA, and Northwestern University, Evanston, IL, U.S.A where he received his PhD in Physics in 1970. After three years as a post-doc, the first two at the University of Stuttgart, Germany, and the last at the U.S. Naval Research Lab in Washington, D.C. Jim taught for three years at the University of Alabama, Huntsville, U.S.A. In 1976 he turned to industry, spending seven years as Senior Staff Physicist at Hughes Research Laboratories in Malibu, CA. While at Hughes, Jim was manager of the infrared fiber optics program and responsible for developing the use of infrared fibers in CO₂ laser surgery. From 1985-1989, Jim was Director of Infrared

Fiber Operations for Heraeus LaserSonics in Westlake Village, CA, where he continued developing fiber optics for surgical applications.

In 1989 Jim resumed his teaching career at Rutgers University, N.J., U.S.A, and taught there for 20 years, becoming a Distinguished University Professor. He continued research and supervision at Rutgers until his death. He was a rigorous and diligent mentor and took delight and pride in the accomplishment of his students.

Jim had over 40 years of research experience in the area of optical properties of solids. Since 1977 he worked on all aspects of infrared fibers and their



Professor James Harrington of Rutgers University.

many applications. Jim was recognized as one of the world's leading experts in this still evolving field. His scientific achievements include the invention of the hollow glass waveguides, created at Rutgers by Jim and his students and one of the university's most actively licensed technologies. During his career he published more than 190 articles, authored the popular book, "Infrared Fibers and Their Applications" (SPIE Press), and was awarded 10 patents on specialty fiber optics and medical devices.

Jim was a strong believer in the value of scientific organizations and was a long time active member of SPIE and the Optical Society (OSA). He served as SPIE president in 2002, and continued in conference leadership and governance positions with SPIE for the rest of his life. His long service in the committee that annually selected the SPIE/OSA Arthur Guenther Congressional Fellow, and his chairing of the SPIE Engineering, Science and Technology Policy Committee showed his belief in the importance of the science community being active and visible in political decision making.

As SPIE president, Jim attended the 19th ICO Congress in Florence, Italy, in August 2002. He became a strong believer in ICO's ideals and subsequently was active in the U.S. National

Academy's Advisory Committee for the ICO (USAC-ICO). Jim chaired the USAC-ICO in 2006-2007, and served as either a member, chair, or ex-officio member (due to his role on the ICO Bureau) from 2006-2018. In 2008 Jim became ICO Treasurer. He spent many hours in oversight and efforts on ICO finances, but always with patience and kindness. Jim was an articulate and passionate supporter of the ICO and its many contributions to global optics.

In 2005 Jim was selected as a Jefferson Science Fellow at the U.S. Department of State. He applied because he was concerned about the lack of understanding of science in U.S. government circles. He took a one-year leave of absence from Rutgers and moved to Washington D.C. At the U.S. State Department, Jim served as science advisor within the Bureau of Security and Nonproliferation and helped to establish updated international protocols for lasers and detectors. After he completed his fellowship, Jim returned to Rutgers but continued to serve the State Department for an additional five years in an advisory capacity.

Optics and photonics has lost productive innovator, an activist and advocate, and a true gentleman.

Eugene G. Arthurs
CEO of SPIE (1999 - 2018)

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IUPAP Council representative C Cisneros

Editor in chief H Michinel

Editorial committee W T Rhodes, Florida Atlantic University; K Baldwin, Australian National University, Australia; J Dudley, Université Franche-Comté, France

Forthcoming events with ICO participation

Below is a list of 2018 events with ICO participation. For further information, visit the ICO webpage at <http://e-ico.org>.

1-2 August 2018

3rd International Seminar on Photonics, Optics, and its Applications (ISPhOA 2018)

Surabaya - Indonesia

tel: +62 31 5947188

isphoa2018@ep.its.ac.id

<http://www.isphoa2018.org>

8-12 October 2018

European Optical Society Biennial Meeting (EOSAM)

Delft, Netherlands

Contact: Elna Koistinen

tel: +358 50 592 4693

eosam@myeos.org

<http://myeos.org/events/eosam2018>

25-28 November 2018

15th Conference on Optics Within Life Sciences

Rottneest Island, Perth, Western Australia

Contact: Julie Jerbic

[e. julie@conferenceonline.com.au](mailto:julie@conferenceonline.com.au)

<http://www.owls2018.org/index/welcome>

28-30 November 2018

11th International Conference on Optics-photonics Design&Fabrication

Tokyo, Japan

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