



NEWSLETTER

COMMISSION INTERNATIONALE D'OPTIQUE • INTERNATIONAL COMMISSION FOR OPTICS

Arthur Guenther leaves a brilliant legacy

We remember the unique contribution of a key figure in ICO.



Arthur H Guenther (1931–2007).



Ari T Friberg, ICO president, and Arthur Guenther at the V RIAO/VIII OPTILAS meeting held in Isla Margarita, Venezuela, in October 2004.



María L Calvo, Arthur Guenther and René Dändliker at the ICO-19 General Congress and Assembly, in August 2002,

It is always a sad and difficult task to write an obituary. It is even harder when it refers to a friend and colleague who has been a key individual at ICO during the past decade.

Arthur H Guenther, Art to his friends and colleagues, died on 21 April at his home in Albuquerque, New Mexico.

Art was a research professor at the University of New Mexico (UNM) Centre for High Technology Materials (USA). He arrived at UNM after a career as chief scientist with the US Air Force, chief scientist for advanced defence technology at the Los Alamos National Laboratory, and science adviser for laboratory development and manager of alliances for Sandia National Laboratories. In 1998 he helped found the New Mexico Optics Industry Association. He promoted optics education programmes, constructing a career ladder for optical technicians and theorists at West Mesa High School, Central New Mexico Community College and UNM.

Remembering Art is to recall many aspects of his activities and his multifaceted personality. He was brilliant, very talented and very much involved in the development and expansion of optics and photonics.

A strong focus on optics

Art was constantly developing the kind of initiatives that made sense to the optics community and benefited many of us. His wide spectrum of activities was focused on developing both centres and institutions. Moreover, it represented a very general and generous offer to many colleagues from all over the world.

I had the great fortune to work with Art during his various periods as a member of ICO Bureau. He was elected ICO vice-president for the term 1996–1999 then ICO president during the period 1999–2002, and he later acted as ICO past-president for 2002–2005.

Art was very interested in expanding opportunities for the education and training of young researchers, professionals and photonics technicians and coordinated many training programmes. He was deeply involved in the Education and Training in Optics and Photonics series of meetings, an international forum in collaboration with the Optical Society of America (OSA), the International Society for



The ICO Bureau meeting held in Joensuu, Finland, in July 2003. Arthur Guenther is on the far right.

Optical Engineering (SPIE) and, very recently, the Institute of Electrical and Electronic Engineers/Laser Electro-Optics Society. He was also a strong advocate for the development of African centres and for the involvement of the African Laser, Atomic and Molecular Physics and Optics Network. He was one of the organizers of the first ICO topical meeting held in Dakar, Senegal in 2000.

It is difficult not to be impressed by the consistency of Art's opinions on the development of science as a unique instrument to improve local education programmes and technological projects. He was one of the creators of the book *Harnessing Light*, as well as many other texts, including the fifth volume of *International Trends in Applied Optics*. He also promoted the provision of free educational texts to centres in developing countries.

In June 2006 Art was appointed as a member at large of the US Advisory Committee for the International Commission for Optics (USAC-ICO), which represents the interests of the US optics community internationally.

All of this is a very short review for such an enormous task and dedication. Art was the factor of the lemma "ICO, the place where the World of Optics meets", which now appears as a welcome on the ICO website. This should be assumed by us all to maintain our common cooperation for optics and photonics.

ICO expresses here its condolences to all in the optics community, SPIE, OSA, the USAC-ICO Committee and the colleagues who are mourning this sad loss.

Finally, we would like to express our sympathies to his wife, Joan, his great companion, and all of his family.

María L Calvo, ICO secretary

Arthur Guenther: another tribute to a champion of optics

Pierre Chavel remembers a leading figure in the optics community.

Prof. Arthur H Guenther has left us, shortly after celebrating the 50th anniversary of his graduation with a PhD from Pennsylvania State University. He was not only a friend, but also a respected leader with a sense of vision, devoted to serving the field of optics at the boundary between science, technology and the economy. As the secretary of ICO during Art's presidency, from 1999 to 2002, I wish to offer a testimony of his conviction that the coordination of the optics community worldwide has its role to play in the wellbeing of our societies throughout this century – a teaching that we should not forget.

A volunteer in optics learned societies for many years, Art came to ICO through the US Advisory Committee for ICO, where he served for several years. He was nominated for vice-president in 1996 and, after his election in that capacity, he immediately joined the ICO Long Range Planning Committee – quite an appropriate choice, given his gift and taste for global perspectives – as well as the ICO Standards Committee and the ICO Fellowship Committee. During that period he also played a significant role in the organization of the ICO XVIII Congress held in San Francisco in August 1999. Through his activity in the Bureau it soon became obvious that he had the talent required to lead the Commission and he was elected president at ICO XVIII.

Supporting global exchange

During his term as president, Art stressed the new initiatives that could bring together scientists from all countries where optics activity exists in higher education, research or business. The already strong links between ICO and the Abdus Salam International Centre for Theoretical Physics were instrumental in several of these activities.

Art thus chaired the advisory committee for the first ICO major event in Africa: the Topical Meeting on Optical Sciences and Applications for Sustainable Development held at Université Cheick Anta Diop, Senegal, in April 2000, under the auspices of the African Laser, Atomic and Molecular Physics and Optics Network (LAM). He also contributed to the African Laser Network initiative, which was being discussed at that time, and he took part in the LAM meeting organized by the University of Tunis El Manar in Tunis in December 2002.

He was supportive of optics initiatives worldwide and expended time and energy to help them to grow, striving to unify the efforts of all bodies that in one way or another contribute towards a common goal of the global development of optics. In 2002 he wrote: "The ICO is looking towards Latin America, both Central and South America, as fertile areas for assist-



The Bureau meeting in San Francisco in 1999 as Prof. A H Guenther takes over the presidency from Prof. T Asakura.

ance, which can take the form of travelling lecturers and fellowships, or to further participate, for example, in the ICTP optics programmes in Trieste. The Latin American Initiative is being done in collaboration with the US Advisory Committee to the ICO as an initiative in their role as the US voice for ICO."

He had a global vision for the development of optics and thought of ICO as a useful instrument to carry it further, in the long term, acting as a neutral platform where members of the optics community and learned societies in all countries could meet on an equal basis. He gave ICO its vision statement: "ICO, the place where the World of Optics meets".

His vision of the 21st century as the "age of light" and the role of optics in international co-operation underlie many of his commitments outside ICO. As part of his professional activity as a chief scientist in a laboratory on Kirtland Air Force Base in New Mexico, and as a professor at the University of New Mexico in Albuquerque, he played a prominent role in the Laser-Induced Damage symposium, also known as the Boulder Damage symposium, for more than 35 years. Through this he became acquainted with scientists in that domain from all over the world including, at the time, the USSR where he had close friends.

Between 1996 and 1998, as a member of the Committee on Optical Science and Engineering, he participated in the US National Research Council study *Harnessing Light* and later publicized its findings as a guest speaker at many events, starting in China in 1998. As a follow-up measure to that study, he participated in the Coalition for Optics and Photonics and supported the development of optics clusters in every suitable geographical area worldwide.

Of particular importance to him was the development of an optics workforce consisting of the technicians, engineers and scientists of the future who would carry optics research and the development of products and services into the "age of light". He was concerned that more

should be done to provide employment with a sufficient number of professionals at all levels so that the potential of optics for society could be realized. He strove to have optics recognized by accreditation bodies in the US, supported the Education and Training in Optics and Photonics initiative, and participated in local and national measures for developing training programmes and education materials. He was likewise concerned with the issue of bringing optics literacy to the general public and, in particular, to all schools.

These objectives for a lifetime commitment to optics were only possible through hard work and dedication, and through a combination of scientific and technical skills with managerial and

leadership qualities, plus the ability to discourse in political circles. He served as chief scientific adviser to two governors of New Mexico.

As was aptly said by Prof. María L Calvo, secretary of ICO, Art always had a positive attitude even when dealing with difficulties or conflicting situations. That, also, is a distinctive quality of a genuine leader. We owe Art more than a few lines can convey. We shall remember him with gratitude and respect, and our attachment to him will remain.

Keeping in mind Art's counsels, let me conclude as he would most often conclude his letters, "for optics".

Pierre Chavel, former ICO Secretary General (1990–2002)

Roger Lessard proved a tireless ambassador for optics

We pay tribute the president of the ICO Canadian Territorial Committee.



Roger A Lessard (1944–2007).

Roger A Lessard died on 26 February, in Quebec City, Canada, after a battle with cancer.

Dr Lessard obtained a bachelor's degree in science from the Université de Moncton, Nouveau-Brunswick (Canada) and in physics from Université Laval. In 1973 he graduated with a DSc in physics and optics from Université Laval where he went on to spend most of his career as a researcher and professor.

He was director of the Department of Physics, Engineering Physics and Optics at Université Laval. A tireless builder, he founded the Centre for Optics, Photonics and Lasers there in 1989. He was also co-founder of HoloSpectra (which became Lasiris and is now StockerYale) and Laser InSpeck (which is now InSpeck). He sat on the board of directors of Gentec Electro-Optics and the Société du Centre des Congrès de Québec. He was a member of the scientific committee of Molex, a company located in Chicago, and acted as a consultant to numerous start-up and established businesses in the province of Quebec and in the rest of Canada.

Dedicated to science

Dr Lessard was an active member of a number of scientific organizations. He was a fellow of the International Society for Optical Engineering (SPIE), the Optical Society of India, the Optical Society of America and the International Commission for Optics (ICO), of which he was president of the Canadian Territorial Committee for the last five years. He was also a senior member of the Institute of Electrical and Electronic Engineers.

He was involved in many international initiatives and activities aimed at the enhancement of programmes in optics and photonics, in particular in developing countries. In 2000 he was a participating lecturer at the inaugural ICO Topical Meeting on Optical Science and Applications for Sustainable Development, held in Dakar, Senegal.

He was named Ambassador of the Year for Quebec City in 1996 as a result of his organization of several international scientific conferences. In 1998 the Quebec Tourism Board also named him Ambassador of the Year. He received an honorary doctoral degree from the Université Blaise-Pascal in France for his contributions to holography and to the development of optical materials. The Quebec Association for Industrial Research gave him a lifetime achievement award for his contributions to the field of optics in the greater Quebec region and, in May 2002, he was named Knight of the National Order of Quebec for his dedication to the development of optics in Quebec and internationally.

Editorial expertise

Among his many activities, Dr Lessard acted as interim editor of SPIE's *Optical Engineering* journal. He served a one-year term in 2000 while editor Donald C O'Shea took up the SPIE presidency that year. He was also a member of the editorial board of *Optical Engineering* for several years, with his areas of expertise being in photophysics, spectroscopy and optical data storage. He was a member of the SPIE board of directors from 1998 until 2000.

A special session "A Tribute to Roger Lessard and Art Guenther" was organized at the last Education and Training in Optics and Photonics (ETOP) meeting, held in Ottawa, in June 2007. The session addressed the many contributions made by both of these important figures and gave all of the attendees the opportunity to honour them and their work in the optics community. Details will appear in the ETOP 2007 report in the October 2007 issue of the *ICO Newsletter*. A second special session will commemorate Art Guenther and Roger Lessard at the forthcoming ICO topical meeting, to be held in Cape Coast, Ghana, November 2007.

Henri H Arsenaux, former ICO vice-president (1999–2002)

G8-UNESCO forum argues for reform across the globe

ICTP forum focuses on education, research and innovation.



The opening session of the G8-UNESCO forum Education, Research and Innovation, held in Trieste on 10-12 May 2007. From left to right: K Matsuura, director of UNESCO, R Prodi, Italian prime minister, U Calzolari, rector of the University of Bologna, P Supachai, secretary general of UNCTAD and KR Sreenivasan, director of ICTP.

The Abdus Salam International Centre for Theoretical Physics (ICTP) hosted the G8-UNESCO forum in Trieste on 10-12 May 2007. The main focus of the event was Education, Research and Innovation: New Partnership for Sustainable Development. It was attended by 600 experts in science, policy and industry scope from 60 countries. Among them were two winners of the Nobel Prize for Physics (M Perl and C Rubbia), three Italian ministers (G Fioroni, minister of education; F Mussi, minister of the university and research; L Nicolais, minister for reform and innovation) and six African ministers of education from the Democratic Republic of Congo, Egypt, Ghana, Rwanda, South Africa and Uganda.

The opening ceremony was chaired by Prof. KR Sreenivasan, ICTP director, and was honoured by the attendance of Romano Prodi, prime minister and president of the Council of Ministers of Italy, and Koichiro Matsuura, director general of UNESCO.

In his introduction Prodi urged Matsuura to begin a process directly aimed at materializing strategic programmes for education in those parts of the world where huge difficulties are giving rise to a great challenge for development.

Five key topics

The origins of the forum lie in the 2006 G8 summit in St Petersburg, and the event was focused on three aspects: education, scientific research and technological innovation.

During the three-day meeting, 10 sessions took place dedicated to various crucial issues: universities, research, institutions and industry; the development of partnerships in global innovation and society; education in the knowledge-based society; global environmental challenges; and sustainable development and health, energy and knowledge. In particular, in the session dedicated to universities, research institutions and industry, there was general agreement that universities are still applying an old-fashioned model (a rather medieval concept) to their internal organizations. Universities need to overcome obsolete systems and provide updated disciplines for modern training.

Universities now require large budgets for effi-



The conference room during the speech of U Calzolari, rector of the University of Bologna.

cient functioning (as expressed by U Calzolari, rector of the University of Bologna). The results obtained from fundamental research have to be freely disseminated for universal knowledge (as proposed by D V Livanov, rector of the State Technological University of Moscow). Also, Z Xinsheng of the UNESCO executive board of directors noted the importance of the impact of China on science and technology in the coming years. As with India, indicators predict a high rate of growth in the young population.

Regarding the current educational status in Africa, a special session devoted to science, technology and innovation in African regions was organized, with particular emphasis on the sub-Saharan situation. One conclusion was the forthcoming launch of a network of centres of excellence for sustainable development. This was a clear decision reached following the intervention of various African ministers of science and technology, stating that the current conditions for the development of new programmes in science at universities in many African countries are quite unfavourable.

Two ICO representatives attended the forum (ML Calvo, secretary and G von Bally, associate secretary). ICO is ready to enhance its ties with ICTP initiatives supporting activities in optics and photonics, identifying urgent programmes to be developed in pertinent geographical areas and key subjects. These emerging actions should form part of a bridge between the many areas of modern society in which education may lead the progress of humanity.

More information can be found at <http://g8forum.ictp.it/>

María L Calvo, ICO secretary

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Associate secretary G von Bally

Vice-presidents, elected

S N Bagayev, A M Guzmán, G F Jin, B Y Kim, M Kujawinska, H Lefèvre, J Love, I Yamaguchi

Vice-presidents, appointed

J Braat, M Gu, I C Khoo, G Sincerbox, P Stahl, A Wagué

Senior adviser (ad personam)

P Chavel

IUPAP Council representative

Y Petroff



IOP

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

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