



# NEWSLETTER

COMMISSION INTERNATIONALE D'OPTIQUE • INTERNATIONAL COMMISSION FOR OPTICS

## ICO mourns the loss of Gallieno Denardo

**This special issue is dedicated to the memory of Gallieno Denardo.**

We live in difficult times, and unfortunately the optics community recently experienced a great loss. Gallieno Denardo, who was for more than two decades a leader of the optics and photonics programmes at the Abdus Salam International Centre for Theoretical Physics (ICTP), passed away on 23 July after a heart attack. It was a sudden and unexpected loss. ICO has lost a great friend and a key person who disseminated optics and photonics across the world.

I had the great fortune to work with Gallieno over the last six years and I was always impressed by his tenacity, dedication, generosity and great

sense of how to manage optics activities. There is little more that we can add, so it is perhaps time to continue with our joint work.

This entire issue of *ICO Newsletter* is dedicated to the memory of Gallieno. These pages refer to important aspects of his unique work to develop programmes in optics and photonics, and they reflect the extent of his international prestige.

It is also a good opportunity to thank the ICTP for its necessary support to ensure that Gallieno Denardo's legacy continues.

**Maria L Calvo, ICO secretary**

## Compassionate, generous and a man of great vision

**Katepalli Sreenivasan pays tribute to Denardo's enormous contribution to the field of optics, and shares his sadness at the death of his friend.**

In writing about my friend Gallieno Denardo, I have had to resist the temptation to write in the present tense, as if he is still with us – as if he will somehow show up in my office and fill it with his boisterous, if somewhat nervous, laughter. Alas, that will never happen again.

Monday 23 July was Gallieno's 72nd birthday. I sent him a brief e-greeting some time that afternoon. He had been housebound for more than a week because of an accident and I didn't expect an immediate response. I hadn't received anything from him by the next morning. At around 10.00 a.m. on the 24th I learned that Gallieno was no more. He had likely passed away just around the time I sent my e-mail.

At first I could not believe the news of Gallieno's death because it seemed so unlikely and untimely. I hoped against hope that someone might show up to reassure me that this terrible news was not true. But, alas, it was true and there was nothing left to do but stare into endless emptiness.

I had had lunch with Gallieno just the previous Friday and had mentioned to him that he had probably missed the ICTP more than the ICTP had missed him during his absence. When I drove him from Adriatico to the Main Building, he alighted from the car with some difficulty and walked slowly on his crutches, but he gave no indication of anything more than modest discomfort. If it is true that gentle death without suffering befalls only generous people, there was abundant proof in death, as



Katepalli Sreenivasan (left) and Gallieno Denardo celebrate Africa Day on 23 May 2007 at ICTP, Trieste.

in life, that Gallieno was unreservedly generous to all. I know for a fact that he always thought in terms of how he could be useful to others in need, never asking how his actions would serve his strategic advantage.

When I came for my first formal visit to the ICTP, still unsure if I would accept the position of ICTP director, Gallieno was one of the people who tipped my decision in favour. He convinced me that it would indeed be possible to set up an experimental research programme at the ICTP (he took me to Elettra and the Optics Lab), and explained why someone like me would be good for the ICTP at that time. Later he was like an older brother to me, giving guidance and advice when asked, rarely pushing a personal agenda and never demanding

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things in return. He made me feel good about myself on occasion – heaven knows that there are many reasons to feel otherwise – and provided as input his immense experience when critical decisions had to be made.

Now that Gallieno is gone for good I have to find people to take on all of the responsibilities that he shouldered so capably without pretence. No doubt the ICTP will rise to the occasion and things will turn out fine at some level, but it will never be the same without him. We will miss the wealth of information that resided in Gallieno's mind, and the compassion and effectiveness with which he used it.

### **Africa Day**

Recently the ICTP celebrated Africa Day at the instance of the Africa department of the Italian Ministry of Foreign Affairs. Several African scientists, young and old, spoke at the meeting. For those who knew of Gallieno's involvement in Africa it came as no surprise that the meeting turned out, unplanned, to celebrate Gallieno's contributions to African science. Nearly everyone acknowledged the warmth and personal involvement that he invested in the ICTP's projects in Africa. In his usual unassuming way, he brushed off this honour simply by saying that people were exaggerating. Those who knew the details were aware that the truth was different: Gallieno deserved everything that was said of him that day.

### **Patient and pragmatic**

Gallieno did many things for the ICTP but this is no place to attempt a list. I should, however, mention three aspects: the Office of External Activities (OEA); his mentoring of an important training activity on lasers and optics; and his

special interest in eastern Europe. In all of these his vision was not grandiose but pragmatic and practical. He built the OEA over time and with patience, and he cultivated deserving scientists all over the world. He was keenly aware of their shortcomings and knew their little problems and difficulties, but he also knew what measures would be appropriate to solve them. Even though his own field of research was not optics he saw its importance for a number of areas of basic sciences and, through the involvement of many interested people over the world, created a great optics community around the ICTP. For areas in which the ICTP does not have local expertise, as has been the case with lasers and optics, I believe this to be the most effective way to forge ahead. Gallieno had strong feelings for central European cultures, particularly Slavic (he spoke fluent Slovenian), and he devoted much energy to creating strong links with the ICTP. Naturally he had many friends in that part of the world. He was also keen to nurture the ICTP's relationships with the International Atomic Energy Agency, which he considered vital and strategic.

I know that different people have their different ideas of what happens after death. I must confess that I don't know my own thinking well in this respect – let alone knowing about those of others. However, if it is true that there is a soul that survives the collapse of the physical body, I have no doubt that Gallieno's soul hovers over the ICTP, taking pride in its accomplishments and cheering us on to do better when it falls short of expectations. But he would be neither jealous nor complaining. That thought lessens my sadness at the knowledge of his death.

**Katepalli R Sreenivasan, ICTP director and Abdus Salam honorary professor**

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## **Many scientists have benefited from ICO–ICTP links**

### **Anna Consortini recalls Denardo's involvement in the collaborations between ICO and the ICTP.**

Contact between ICO and the ICTP started in 1991 with collaborations "on schools" and on "information 'on and to' optical scientists in the third world" (an item at the ICO Bureau meeting in 1991). The ICO president at the time, Chris Dainty, was invited by Gallieno Denardo to serve as a director in the 1992 ICTP training college.

The official collaboration started with the joint organization of the Winter College on Optics (8–26 February 1993), where ICO took care of the scientific organization. ICO devoted considerable importance to this initiative, with the involvement of the ICO president and two vice-presidents (P Hariharan and me) as directors, and several ICO Bureau members or past members as teachers.

A set of hands-on experiments for the students was also planned in the laboratory, which was at that time located at the ICTP. The organization of the experiments deserves

some detailed explanation. As the laboratory was mainly equipped with instruments donated by different institutions for laser measurements, the teachers were asked to organize the experiments of interest by borrowing the necessary material from their home laboratories for the duration of the winter college.

### **A great organizer**

I first had an opportunity to work with Gallieno Denardo in Trieste, selecting the students for the college in the summer of 1992, and I realized the kind of organizer and hard worker he was, and also how great his humanity was. There were many more suitable applicants than places available and he was very concerned about this. Without doubt the college was very much appreciated and he immediately started thinking of another one to allow others to attend. The second Winter College took place



At the Winter College 2004, Denardo and ICO/ICTP award winners Revati N Kulkarni and Imrana Ashraf Zahid look on as ICO president René Dändliker cuts the the ICTP 40th anniversary cake. This is a typical photograph of Denardo, standing modestly behind the scenes of his successful activities.

in 1995, including the laboratory experiments. Since 2000 the ICO/ICTP award has been delivered during the college. Here is a short background to the award.

In previous years Denardo had established and personally funded the Sarwar Razmi prize, to honour the memory of an ICTP associate and personal friend. Denardo worried that the prize would not last for many years. Meanwhile, I was involved with the problem of the ICO awards: there were the well known ICO prize and the Galileo Galilei award, but I felt the need also to think of young people from developing countries. Denardo and I considered that a solution might be to propose to the ICO and ICTP authorities the creation of a joint award. I presented the idea to the ICO Bureau meeting in San Francisco in 1999, and I spoke about making a formal proposal the subsequent year. The bureau found the idea of immediate interest and solicited the proposal for the meeting of the old and new bureau a few days later. The subsequent days were very productive as Gallieno and I, working by telephone, prepared the proposal by establishing in detail the contribution of the two institutions. That same week the ICO Bureau and the ICTP approved “a proposal by Gallieno Denardo and Anna Consortini” to establish a joint prize, the



Gallieno Denardo and Gert Von Bally at the ICTP on 29 June in possibly one of the last photographs of him.

ICO/ICTP award, devoted “to young researchers from developing countries who conduct their research in a developing country”.

The award has now been delivered to nine young scientists from eight countries from across the world. This may be the moment to begin an official proposal to call this award the “ICO/ICTP Gallieno Denardo award”. This would be an act by the optics community to promote the permanent dissemination of his legacy.

**Anna Consortini, ICO past-president (1997–1999)**

## Denardo created TSOSA to support developing countries

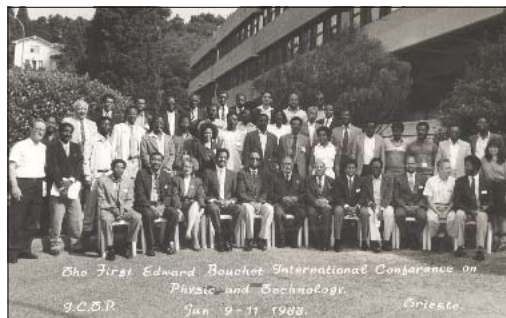
**Anthony Johnson remembers a “distinguished humanitarian” who was dedicated to disseminating excellent science to developing countries.**

I am stunned and saddened by the sudden loss of my friend and colleague of nearly 20 years, Prof. Gallieno Denardo. The significance of his loss is difficult to express in words, but my fond memories of this distinguished humanitarian are easy to articulate.

I met Gallieno for the first time in 1988, when Prof. Abdus Salam, the late Nobel laureate and founding director of the ICTP, created the Edward Bouchet Abdus Salam Institute (EBASI<sup>®</sup>). Gallieno was the primary facilitator for Prof. Salam and three of the primary objectives of EBASI, which were:

- to provide a mechanism for synergistic scientific and technical collaborations between African and African-American scientists;
- to increase the technical workforce pool working in Africa today;
- to facilitate the training of PhD students from African universities.

As one of the founding members of the American Council of EBASI, I started working with Gallieno at the ICTP and found him to be one of the most gifted, visionary and compassionate of individuals, totally dedicated to disseminating excellent science to developing countries, not only in Africa but also in Asia and Latin America. What seemed to many like an insurmountable task was made agreeable and enjoyable, owing mostly to Gallieno’s congenial, affable nature. I found that his remark-



The First Edward Bouchet International Conference on Physics and Technology, held at the ICTP on 9–11 June 1988. Standing at the extreme left is a young Denardo, who coordinated the conference. Prof. Salam is seated in the first row, sixth from left, and several of the most renowned African and African-American physicists of the decade are present. Anthony Johnson, then a young Bell Labs scientist, is seated in the first row, fifth from right.

able energy galvanized me and countless others into supporting this noble cause.

Already an internationally recognized centre for theoretical physics, the ICTP became a mecca for scientists from developing countries to learn the latest advances in theoretical physics from the top scientists in the world. Gallieno, with his background in elementary particle physics, recognized early on that the field of optics and photonics was an exceptional vehicle to expand the scientific breadth of the ICTP

to a wider audience in the developing world. As the organizer of the ICTP activities in lasers and optics since 1985, he simultaneously served as head of the the ICTP Office of External Activities (OEA) from 1989 to 1997. With the passing of Prof. Salam in 1996, Gallieno became the principal spearhead to implement Prof. Salam's mandate that the ICTP should "foster advanced studies and research, especially in developing countries". Even mandatory retirement did not sway his enthusiasm and commitment, as evidenced by Gallieno's activities as a consultant to the OEA since 1998.

### The first Winter College

During his tenure with the ICTP, Gallieno organized more than 50 scientific meetings and training courses in the field of lasers, atomic and molecular physics. I remember when he organized his first conference on optics and photonics in 1985, which was entitled the Winter College on Lasers, Atomic and Molecular Physics (21 January – 22 March). The directors of this college were G Amat, T Arcetri, R Bonifacio, A Dymanus, F P Schäfer and O Svelto – all internationally recognized members of the optics community. These were extremely well organized workshops, with 60–80 students having completed or almost completed their PhD from universities in developing countries around the world. The lectures were quite comprehensive, covering the basics to the latest advances in optics and photonics. I recall Gallieno had "rock star" status among the students, who revered him for his scientific prowess as well as his charismatic personality. His attention to detail and concern for scientific excellence was nothing short of extraordinary. For nearly two decades now I've admired Gallieno because I have seen the impact that he has had on so many promising students and practising scientists all over the world. It was a pleasure to lecture in two of his early workshops, and subsequently to discuss strategies for the future of the centre

### OSA and SPIE supported ICTP colleges

I was president of the Optical Society of America (OSA) when it signed a memorandum of understanding with the ICTP to support the annual Winter Colleges at a level of \$5000, and authorizing this was one of the most satisfying tasks of my term. Given the size of the budget required to run the colleges, this contribution was quite small, but to Gallieno it was priceless simply because it had the approval of the OSA. When SPIE followed with a similar memorandum of understanding the following year, Gallieno was equally delighted.

Many times he and I discussed the possibility of getting support and advice from the international optics community, so in 2003 he formed the Trieste System for Optical Sciences



Denardo and Anthony Johnson at the 2004 Winter College on Optics and Photonics, where they discussed ideas for the next Winter College and the TSOSA advisory group meeting. "These discussions were always cordial and quite contemplative, and usually punctuated with one of his famously infectious laughs," said Johnson.

and Applications (TSOSA) Advisory Group to promote optical sciences in the developing world. TSOSA includes representatives from SPIE, ICO, OSA, the European Optical Society, Optics Within Life Sciences, the IAEA, UNESCO and science programmes across Europe. In addition to advising the centre's leaders about programmes for the annual Winter College on Optics, TSOSA offers a vehicle for sharing centre news with the global optics community. It gave Gallieno a professional and international framework to continue his mission of offering assistance and training to young researchers from the developing world. For his efforts, Gallieno received the 2005 SPIE Educator award, a well deserved accolade that recognized his work in organizing optics and photonics schools, colleges, conferences and workshops for the past 20 years.

### A tireless advocate

When Gallieno retired we still managed to keep in touch. He continued to give his time and attention to making science and engineering education accessible to grateful students in developing countries around the world. I found him to be one of the warmest and most caring individuals that I have ever met and I will never forget our friendship. The ICTP outreach programmes have lost a tireless advocate, an esteemed mentor and a benevolent leader in Prof. Gallieno Denardo. I can't imagine who could fill his very large shoes.

\* EBASI was named in honour of Edward A Bouchet who, in 1876, was the first African-American and the first-known person of African descent to earn a PhD degree in physics.

**Anthony M Johnson, director, Center for Advanced Studies in Photonics Research, University of Maryland Baltimore County; OSA past-president (2002)**

# African scientists have lost a great friend and supporter

**Ahmadhou Wagué describes how Denardo created links between African scientists and the international community.**



Left to right: Ahmadhou Wagué, Gallieno Denardo and Dr Barry at the 1995 biennial conference of science and technology, AFRISTECH, in Dakar, Senegal. Denardo was awarded Knight of the Lion National Order, the highest distinction accorded by the president of the Republic of Senegal.

It all started with an article that I wanted to submit as a reprint to the ICTP in August 1986. I had been told to contact Prof. Gallieno Denardo in the first instance, and I must say that on that day I had the opportunity to meet a formidable man. In particular I was struck by his bursts of friendly laughter. Since then, each year when I returned to Trieste for various activities at the ICTP, and particularly for the Winter Colleges organized by Prof. Denardo, I was always very happy to meet and work with him to organize the seminars on lasers, atomic and molecular physics. It was very special and comforting to work with him. I remember we used to meet very early in the morning in his office because he was always an early bird at the ICTP. After these meetings I always left his office with at least one positive answer to the many problems involved in the development of sciences in Africa.

During the two decades when I had the privilege to work with Prof. Denardo, he helped the African scientific community, working with the ICTP, to make qualitative steps in the development of the optical sciences in Africa. He created, with the support of Prof. Abdus Salam and several African scientists, the African Laser, Atomic, Molecular and Optical Sciences (LAM) Network. He initiated the creation of all of the ICTP-affiliated centres in Africa. In addition, he helped and supported the organization of several meetings on physics or mathematics in many African countries (e.g. Ivory Coast, Benin, Senegal, Ghana, Sudan, Cameroon, Morocco, Tunisia, Egypt, South Africa, Zimbabwe, Namibia, Botswana, Ethiopia, Gambia, Mozambique and Zambia).

## **Africa's 'good fairy'**

Thanks to Denardo, many African researchers, who at the beginning were very isolated, became associate members of the ICTP, and many others have benefited from fellowships on the Sandwich Training Educational Programme, which was initiated by him with the IAEA. Many other African scientists also benefited from the fellowship programme that he initiated with the International Centre for Science and High Technology. In addition, during the last three years, Prof. Denardo fought to make TSOSA operational, with the tentative creation of the mentoring programme and of a permanent optics group at the ICTP. In fact, it can be said that Prof. Denardo was Africa's "good fairy" at the ICTP. He established useful and fertile interactions between African scientists and the international scientific community. Thus, with the ICTP's support, the LAM organized several international conferences, workshops and schools on lasers and optical

sciences all over Africa.

Thanks to these activities the LAM became an international society member of ICO. And thanks to Denardo's continuous intermediation, several African countries became members or observers at the International Union of Pure and Applied Physics. Moreover, he helped to create bonds between African scientists and several international optics societies, such as ICO, the Optical Society of America, the Society of Photo-Optical Instrumentation Engineers and Optics within Life Sciences. In the same way, he was at the beginning of the fertile scientific co-operation that exists between the LAM Network and the University of Lund in Sweden, and with the International Programme in Physical Sciences at the University of Uppsala in Sweden, which receives financial support from the Swedish International Development Cooperation Agency. With Prof. Abdus Salam, Prof. Denardo supported the creation of bonds of scientific co-operation between the African diaspora in the US and the African scientific community of physicists and mathematicians by creating the Edward Bouchet Abdus Salam Institute.

## **Denardo was a true internationalist**

Prof. Denardo was an untiring combatant, and that to the last breathe, for the development of optical sciences in Africa, and he was a friend who was always present to create opportunities for scientific co-operation. Each visitor at ICTP, whether African, Asian, European or American, believed that he was the best friend of Prof. Denardo. That shows how much he was open with all, and in truth one must say that Prof. Denardo was a true internationalist. In fact at ICTP one can say that he incarnated truly the ideal of Prof. Abdus Salam to make universal the sharing of science.

Prof. Denardo, you left us suddenly this Monday 23 July of the year 2007, but to paraphrase the Senegalese poet Birago Diop, in Africa we believe that the dead are not dead, that they are in the running water, that they are in the blowing wind, that they are in the newborn child. But you Prof. Denardo, moreover, you are in the laser light of our laboratories that we created together, you are in the pages of the books, in the memories and on the screens of the computers that we are using at the ICTP affiliated centres, you are in the doctoral theses and in the articles written by our students. You will always be with us during the activities of the LAM and ICO. In the corridors, the offices, seminar rooms and lecture halls of ICTP we will always hear your bursts of laughter so sincere and so friendly.

On 31 May 2007 in Trieste, at the Africa Day

ceremony dedicated to Africa by ICTP, like a premonition African scientists unanimously paid sympathetic homage to your person, *urbi et orbi*.

Today, Prof. Denardo, Africa with endless acknowledgement from the depths of the savan-

nas, deserts and forests, beyond the frontiers of space and time, wants to say: "Thank you Prof. Denardo. Lie in peace, dear Gallieno."

**Ahmadhou Wagué, LAM Network coordinator and president**

## Denardo was awarded the SPIE Educator award in 2005

**Maria Yzuel celebrates Denardo's contribution to training hundreds of students and professors in optics.**

Prof. Gallieno Denardo did an enormous amount of work organizing activities in optics and lasers at the ICTP. Since 1985, colleges and schools in optics have been held each year to train PhD students, postdoctoral researchers and young professors, mainly from developing countries. Some students and young researchers from developed countries also participated in the school seminars. The collaboration of professors and students from different countries has proved to be very fruitful.

About 80 people typically participate in the colleges, and more recently the number has been close to 100. Some 75% of attendees are from developing countries and most of them are fully funded by the ICTP. Denardo organized the colleges and took care of the financial support of the students until his death in July.

The faculty – that is lecturers and directors – includes a much smaller percentage of scientists from developing countries. Denardo always tried to have some lecturers and, if possible, a director from those countries. The academic level of the schools is high. The average scientific level of the participants is a PhD. Participants are selected based on merit and also on a balanced geographical distribution. Mainly young scientists are invited. These relationships continue for more than one year (i.e. individuals are often invited to attend colleges in more than one year) to create a link between their institutions and the ICTP, and also between scientists from different developing countries. The college offers opportunities to meet people working in the same field, sometimes from the same country or region. Much collaboration among scientists in developing countries stemmed from their meetings at the the ICTP colleges.

Moreover, the colleges provide an opportunity to meet the ICTP coordinators of the external activities that take place in developing countries with the ICTP's support. In this way the ICTP is the place where coordinators of different optics projects meet, which stimulates the networking of optics activities in the different regions.

Denardo was also active in the Trieste System for Optical Sciences and Applications, the Society of Photo-Optical Instrumentation Engineers (SPIE), Optics within Life Sciences, ICO, the Optical Society of America, the European Optical Society and the Italian Society of Optics and Photonics participates in the group. As the SPIE representative on the TSOSA



SPIE CEO Dr Eugene Arthurs presents the SPIE Educator Award to Gallieno Denardo at the 2006 Winter College.



The 2007 Winter College on Optics and Photonics. Left to right: M J Yzuel, G Denardo, S V Boriskina (ICO/ICTP Award 2007), A Consortini, I Ashraf Zahid, M L Calvo and A Wagué.

board since 2004, I know the work developed by Denardo. I was deeply impressed by his enthusiasm and organizational abilities, as well as by the influence of his initiatives in training hundreds of scientists and keeping fruitful scientific links between the ICTP and academic and research groups in developing countries.

In 2005 the SPIE Educator Award committee and the SPIE board of directors recognized Denardo for his outstanding contribution to training in optics hundreds of postdoctoral students and professors, mainly from developing countries, by organizing international schools and colleges at the ICTP for 20 years. In an article that appeared in *oemagazine* (June/July 2005), Denardo wanted to share the award with the ICTP. He said: "I feel that the ICTP, together with me, deserves this honour." He cited the important support of the ICTP direc-

tor, Prof. Katepalli Sreenivasan. "Without the ICTP I couldn't have done anything," he said. Both Denardo and the the ICTP activities in optics and lasers deserved the award.

All of us will miss Prof. Gallieno Denardo and

will always remember him. I am sure that the ICTP will continue the enthusiastic collaboration with international societies, to continue the legacy of Gallieno.

**Maria J Yzuel, SPIE vice-president (2005)**

## A champion of optics development in Latin America

**Angela Guzman reflects on Denardo's influence in Latin America, and explains TSOSA's commitment to ensuring that his legacy in the field of optics continues.**



Denardo was a strong advocate of Latin-American initiatives in optics.

I received word of Gallieno Denardo's death with a profound feeling of loss and grief. He had a tremendous influence on my development as a scientist and as a professional, and had also, over a 20 year period, grown to be a good friend. I know that he had a similar influence on many other researchers and students from developing countries, who benefited from his gentle guidance and from the programmes in optics that he fashioned.

My memories of Denardo's many achievements centre largely on the great influence that he had on the development and growth of research in optics in Latin America. What has become RIAO/OPTILAS, the principal international conference on optics in the Iberian-American region, was conceived in the early 1980s at the ICTP, where Latin-American physicists had the opportunity to meet and learn about the work of colleagues from their neighbouring countries. Long before the now-international optical societies were pursuing international outreach, the ICTP supported their initiative and helped to fund the first Latin-American Meeting on Lasers (later OPTILAS), which was held in Medellin, Colombia, in 1984.

After assuming responsibility for the ICTP's activities in optics in 1986, Denardo became a strong advocate of Latin-American initiatives and strongly supportive of OPTILAS. Through his involvement in the organization of a series of conferences on fibre optics at the ICTP, he established contact with leading Brazilian scientists involved in the successful development of the communications industry in Brazil, along with Italian and other European industries and research institutes, to prepare scientists and engineers from developing countries for optical fibre research and, at a minimum, to be educated consumers of the technology.

Denardo also organized workshops on lasers at the ICTP, where attendees had the opportunity to do experiments in the the ICTP Laser Lab that he built with donations and support from prestigious European labs. Gallieno supported an Argentinean initiative to create the Multipurpose Optical Network, which, through travel grants from the Third World Academy of Sciences, favours scientific collaboration between Latin-American researchers.

On the occasion of the merging of OPTILAS with RIAO (the Iberoamerican Conference on Optics, created by the Spanish in 1992), Denardo again played a decisive role by introducing me

to Anna Consortini, then ICO's past-president and, in his words, his "good friend". She advised me on the intricacies of international conference schedules, international support and diplomacy. Denardo's long-term support of the development of optics in Latin America was recognized formally by the Latin-American optics community at the general assembly of RIAO/OPTILAS in Margarita, Venezuela, in 2004. It was at that meeting that the conference series also welcomed its first Nobel prize laureate lecturer, Claude Cohen-Tannoudji.

### Scientific isolation

It is difficult to imagine now the scientific isolation that researchers in developing countries experienced before the internet age, but for many of us the ICTP and the Winter Colleges presented the only opportunity to keep up to date and to establish international collaborations, because our home institutions could not pay for our attendance at international conferences or for subscriptions to scientific journals. The ICTP library was an invaluable resource for our research and teaching activities, and I still remember Denardo's happiness not so long ago when the Optical Society of America offered free access to its journals for the ICTP Winter School participants for the duration of the school.

Many of us appreciated both the understanding and the encouragement that Denardo gave us when we experienced difficult family situations, as well as his warm congratulations when we achieved professional success or celebrated happy family events. Many of the participants in his early programmes became senior researchers and internationally recognized scientists. Helped by his efforts and those of the ICTP, many of us feel like members of a large international family of optics researchers, sharing a common reference point rather than operating as isolated individuals.

The TSOSA Advisory Group was established in 2003 with the aim of advising the ICTP in the area of optics activities. The members of that group, many of whom represent the major international scientific and technical societies and organizations concerned with optics, care deeply about what Gallieno Denardo achieved on behalf of optics, and are committed to seeing that his achievements survive him and that generations to come can benefit from his legacy.

**Angela M Guzman, TSOSA chair, ICO vice-president**

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**IUPAP Council representative**  
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# IOP



The Abdus Salam  
International Centre for Theoretical Physics



## WINTER COLLEGE ON MICRO AND NANO PHOTONICS FOR LIFE SCIENCES

11 - 22 February 2008

Miramare-Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP), in collaboration with the International Commission for Optics (ICO), the Optical Society of America (OSA), the International Society for Optical Engineering (SPIE), the European Optical Society (EOS) and the International Society on Optics Within Life Sciences (OWLS), will organize a **Winter College on Micro and Nano Photonics for Life Sciences**, which will be held at ICTP, Trieste, Italy, from 11 to 22 February, 2008.

**DIRECTORS:** M. Bertolotti (University of Roma, Italy)  
M. Havenith (Ruhr University, Germany)  
O. E. Martínez (University of Buenos Aires, Argentina)

**LOCAL ORGANIZER:** G. Donato (ICTP, Italy)

The Winter College will expose the participants to the recent achievements of the theory and applications of micro-optics and nano-photonics techniques for the study of Life Sciences. The scientific programme consists of lectures by international experts, internal seminars and group discussions, some laboratory demonstrations. The aim of the Winter College is to provide the background needed to follow the most advanced literature.

**MAIN TOPICS:** → Photonic crystals and nanostructured devices  
→ Nonlinear techniques (CARS, STED, harmonics and more)  
→ Optics of and with nanoparticles  
→ Single molecule/particle techniques  
→ Near field techniques  
→ Optical manipulation (structured light, tweezers)

**WITH APPLICATIONS TO:**  
→ biosensors  
→ Imaging beyond the classical limits (diffraction barrier, turbid media and more)  
→ optical tomography  
→ protein folding, DNA sequencing and more

An ICTP **PREPARATORY SCHOOL** will be organized the week before the College (from 4 to 8 February 2008) for a limited number of selected participants. The purpose is to recollect some basic scientific elements that are relevant to the contents of the College lectures. The School sessions will have a tutorial structure, i.e. will include lectures and exercises.

The **LAMP** (Laser, Atomic and Molecular Physics) programme will include group discussions and internal seminars by participants. Those who intend to deliver a seminar are expected to come to ICTP prepared with all the material needed for their talk.

### PARTICIPATION

Scientists and students from all countries that are members of the UN, UNESCO or IAEA can attend the College. As it will be conducted in English, participants should have an adequate working knowledge of that language. As a rule, travel and subsistence expenses of the participants are borne by the home institutions. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available for some participants from developing countries, who will be selected by the Organizers.

A limited number of grants will be made available by the Central European Initiative (CEI) Secretariat in Trieste to support participants from CEI countries.

Such financial support is available only for those who attend the entire activity. There is no registration fee to attend the College.

The closing date for requesting participation is **14 OCTOBER 2007**. The 'Request for Participation' form, to be found at the back of the Bulletin, (also obtainable from the ICTP WWW Server: [http://odagenda5.ictp.trieste.it/full\\_display.php?id=207141](http://odagenda5.ictp.trieste.it/full_display.php?id=207141)), should be completed and returned by using only one of the following ways:

**by e-mail** to: [smr1932@ictp.it](mailto:smr1932@ictp.it) (please save and send file attachments in either PDF -preferably- or RTF zipped or Doc format)

or

**by post** to: SMR 1932 - Winter College on Micro and Nano Photonics for Life Sciences  
the Abdus Salam International Centre for Theoretical Physics, Strada Costiera 11, 34014 Trieste, Italy

(Please include a recent photographic signature of the candidate in completion)  
(The decision of the Organizers will be communicated to all candidates as soon as possible)

Telephone: +39-040-22469932 Telefax: +39-040-2246-7932 E-mail: [smr1932@ictp.it](mailto:smr1932@ictp.it)

International Commission for Optics  
Deadline for Requesting Funds  
14 OCTOBER 2007  
July 2007

## Forthcoming events with ICO participation

For further information about any of these events, see [www.ico-optics.org/events.html](http://www.ico-optics.org/events.html).

### 8–12 October 2007

#### Advanced Infrared Technology and Applications (AITA 2007)

León, Guanajuato, Mexico.

Contact: Prof. Marija Strojnik, [mstrojnik@aol.com](mailto:mstrojnik@aol.com) <http://ronchi.isti.cnr.it/AITA2007>

### 21–26 October 2007

#### RIA/OPTILAS'07

Campinas-SP, Brazil.

Contact: Jaime Frejlich, [frejlich@ifi.unicamp.br](mailto:frejlich@ifi.unicamp.br)

or <http://riao-optilas.ifi.unicamp.br>

### 29–30 October 2007

#### Encuentro de Óptica Aplicada/Meeting on Applied Optics

Buenos Aires and La Plata, Argentina.

[www.ciop.unlp.edu.ar/EOA](http://www.ciop.unlp.edu.ar/EOA)

### 19–24 November 2007

#### ICO Topical Meeting 2007 on Optics and Laser Applications in Medicine and

#### Environmental Monitoring for Sustainable Development

Cape Coast, Ghana.

Contact: Prof. Paul Buah-Bassuah, [buahbass@hotmail.com](mailto:buahbass@hotmail.com)

### 7–11 July 2008

#### ICO-21, Triennial Congress of the International Commission for Optics

Darling Harbour, Sydney, Australia.

Contact: Prof. John Love, [jd124@rsphysse.anu.edu.au](mailto:jd124@rsphysse.anu.edu.au)  
[www.iceaustralia.com/ICO2008](http://www.iceaustralia.com/ICO2008)

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