



# NEWSLETTER

COMMISSION INTERNATIONALE D'OPTIQUE • INTERNATIONAL COMMISSION FOR OPTICS

## Roberta Ramponi, ICO President (2017-2020)

### The new president of ICO.



Roberta Ramponi, ICO President, January 2018.

### From the President

It is a great honour and pleasure for me to serve as ICO President in the term 2017-2020. We are facing a very exciting and challenging period. Following the great success of 2015 International Year of Light and Light-based Technologies, proclaimed by the United Nations General Assembly to recognise “the importance of light and light-based technologies in the lives of the citizens of the world and for the future of development of the global society on many levels”, consciousness on the huge potential of optics and photonics for a healthier and wealthier world has grown and we have now more and more opportunities to make it happen. Optics and photonics are indeed key technologies to foster sustainable development and to meet the societal challenges that the world is dealing with. Starting from 2018, on May 16th, each year we will celebrate the International Day of Light, again proclaimed by UNESCO. It will be a great opportunity to keep the attention focused on the pervasiveness and benefits of light and light-based technologies.

The ICO, as our motto says, is “the place where the world of optics meets”, but it needs more and more to be also the place where optics meets the world, overcoming social, economic, religious and political barriers in the name of science. In order to achieve this aim, we need to share our strategy and act in full synergy and close collaboration with all our members, the Territorial Committees and the International Societies, so as to reciprocally leverage the impact that we can have locally and worldwide.

During the past term, we applied to become a Union of ICSU. The final decision will most likely be taken in the next few months. It is a crucial step for ICO to gain more freedom and independence, and to be able to interact directly with other Unions so as to promote the use of optics and photonics in wider areas than the traditional ones. If we succeed, new important challenges will deploy in front of us. Of course we will not forget our previous “home”, IUPAP, which will remain an important counterpart and with which we will continue to interact and cooperate in the areas of common interest.

In the years to come, ICO should help the optics and photonics community all over the world to be a key policy-making player in the present knowledge-based society, it should foster the use of scientific and technological capacity to reduce the gap between developing and developed countries, favouring an open science approach, fruitful interactions and people mobility. We need to promote instruments to support gender balance and to inspire and support young minds. We need to foster knowledge and technology transfer for the sake of innovation and human well-being.

To achieve this, we need to work hard. We have an excellent team of Bureau members that will guide all actions. Indeed, through our Committees, chaired by Bureau members, but which may also include other stakeholders, we will interface with the industrial community and the regional policy makers for strategic planning and we will support coordination and actions in education and training. We will keep investing in our Traveling Lecturer Program, aimed at promoting optics and photonics in regions where particular support is needed, we will award prizes to different categories of scientists for outstanding achievements in the field of optics and photonics. Last but not least, besides the Triennial Congresses, we will keep organising annually Regional and Topical Meetings, and, through our participation to TSOSA (Trieste System of Optical Sciences and Applications), we will maintain a close collaboration with the ICTP in Trieste for its programs in optics, mainly directed towards developing countries, including the annual Winter College on Optics. A comprehensive summary of the ICO's activities is published in the triennial Green Book that is available for download on the ICO website.

ICO should become more and more the place where everybody in the optics and photonics community feels at home, it must be the flower garden of optics, full of colours, where everybody wants to be and to meet. With the help and support of all our members, we can make ICO not only “the place where the world of optics meets”, but also the place where optics and photonics help us to shape a better world for future generations.

# Report on the International Workshop on Optics and Photonics, 2017

**The purpose of the workshop was to bring together the ICO-ICTP Gallieno Denardo Award winners and other leading scientists from around the world.**



Dr. Joseph Niemela, ICO treasurer.



Dr. Javed Ashraf, QAU Vice Chancellor.



Dr. Imrana Ashraf, Chief Organizer of the conference.

Five days international workshop on Optics and Photonics (IWOP), organized by Dr. Imrana Ashraf, was inaugurated at the Department of Physics Quaid-i-Azam University (QAU), Islamabad, Pakistan on December 11, 2017. The purpose of the workshop was to bring together the ICO-ICTP Gallieno Denardo Award winners and other leading scientists from around the world, working in the area of Optics and Photonics.

**Dr. Joseph Niemela** (ICTP, Italy), while Inaugurating the workshop noted that it was an excellent platform to gather together talent from different parts of the world. He emphasized that science is international and naturally involves collaborations across diverse national boundaries, and so it was good to have so many scientists from different parts of the world together, sharing their knowledge.

QAU Vice Chancellor, **Dr. Javed Ashraf** while addressing the inaugural session said the conference would be helpful to promote new ideas, discuss latest research trends and share the innovative work in the field of Physics. He appreciated the efforts of the organizers and welcomed the participants including the international students from Iran, Turkey, Malaysia, Russia and China.

**Dr. Imrana Ashraf**, Chief Organizer of the conference said the activity has been designed to promote light sciences and applications within Pakistan's scientific community including its students. She said the workshop structure will allow students and young researchers to meet and interact informally with the plenary speakers and other international participants. She also thanked the Prof. Joseph Niemela (ICTP, Italy), Prof. Miguel Alonso (University of Rochester),

Prof. Ali-Reza Mouradi (University of Zanjan), Prof. Parviz Elahi (University of Bilkent), Prof. Humberto Cabrera (Institute of Scientific Research, Venezuela) for sparing time and attending the workshop.

## **Other activities during the IWOP**

In addition to the lectures, practical training with laboratories was also conducted, covering a variety of topics, including the basics of optics, information processing, Fourier optics and laser spectroscopy. A variety of topics were addressed in the workshop, including Classical Optics, Quantum Optics, Atom Optics, Nonlinear Optics, Optical Engineering, Fiber Optics, Optoelectronic Devices, Laser Spectroscopy, and Optical Imaging.

## **Prizes during IWOP**

Prizes were provided by the Optical Society of America (OSA) and the International Society for Optics and Photonics (SPIE), for the best oral and poster presentations respectively. The prize for best oral presentation was shared between Ozge Demirtas (Middle East Technical University, Turkey) and Sviatoslav I. Gusev (ITMO University, Russia). Poster prizes were given to three students: first prize was shared by Sidra Jamil (Quaid-I-azam University, Pakistan) and Vahideh FarzamRad (Zanjan University, Iran), while M. Khairol Anuar Zaini (University of Malaya, Malaysia) took the second place prize. The workshop concluded on December 15, 2017.

**Dr. Imrana Ashraf, Chief Organizer of IWOP**



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# In Memoriam

**Valentin Vlad died in Bucharest on 24 December 2017.**



Prof. Valentin Vlad, President of the Romanian Academy.

*"He was a very kind man indeed and he remained in Romania to bring on a new generation when so many had to leave."*

**Chris Dainty**  
ICO President 1990-1993

*"It was always a great pleasure to visit Romania and to enjoy all the great conferences, gathering with many colleagues and his great sense of hospitality."*

**María Luisa Calvo**  
ICO President 2008-2011

**Valentin Vlad**, "Galileo Galilei" Prize winner of the International Commission of Optics (2005), died in Bucharest on 24 December 2017. He was 74.

Valentin Vlad was the current President of the Romanian Academy (the highest academic forum in Romania), since 2014.

He was also the Head of the "Nonlinear and Information Photonics" group in the Laser Department of the National Institute for Laser, Plasma and Radiation Physics, as well as Professor at the University of Bucharest, Faculty of Physics.

A distinguished scientist honored by several prestigious societies and national and international bodies, with a prodigious publishing activity and international conference organization, he is credited with many milestones and accomplishments as can be read [here](#).

In short, he was a Fellow of the OSA, SPIE, IOP, an Honorary member of the Academy of Sciences of the Republic of Moldova and Honoris Causa of several Romanian Universities.

He was a leader among those who promoted the Optics in Romania to the level we know today. He has supported dissemination of Optics research as chair of many editions of the Romopt international conference.

On a personal note, I was a student of his in 1973, when he taught us "Optical transmission of information", as an external lecturer coming

from a distinguished research institute. He emanated professionalism and rigor that inspired me in choosing optics as my career. Later on, in 1991, we went together to San Diego to meet the SPIE Board to represent the wishes of the Romanian optics scientists to form the Chapter of SPIE in Romania. I traversed together with him some memorable moments in the opening of Eastern Europe towards the rest of the world. He manifested both wisdom and delicacy in handling important moments faced by the Romanian Science community due to the challenges that followed. He was a role model, a true leader in the practice and teaching of Science, as well as in its administration.

Valentin Vlad will be sorely missed by the Optics Community, by the family of Romanian Physicists. He will be fondly remembered by all who knew him.

**Adrian Podoleanu**,  
ICO Vice-President

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## EOS biennial Meeting (EOSAM) 2018

**EOSAM 2018 will be held in Delft, Netherlands, 8-12 October, at the Technical University of Delft.**

The European Optical Society (EOS) biennial meeting (EOSAM) will be held in Delft, The Netherlands in October 08-12, 2018. The symposium is chaired by Prof. Paul Urbach, Technical University of Delft (TU Delft), and Stefan Bäumer, Netherlands Organization for Applied Scientific Research (TNO), and organized in co-operation with TU Delft, TNO, and the local EOS Branch society, PhotonicsNL. The meeting is co-sponsored by the ICO.

The symposium includes several topical meetings, tutorials, workshops, industrial exhibition, and more. The Netherlands is the hot spot for photonics in Europe and the strong optics research and industry in Delft makes it a perfect location to hold the upcoming symposium.

- TOM 4. Bio-Medical Optics
- TOM 5. Metamaterials, Plasmonics and Resonant Nanophotonics
- TOM 6. Frontiers in Optical Metrology
- TOM 7. Organic & Hybrid Semiconductor Materials and Devices
- TOM 8. Adaptive Optics & Information driven optical systems
- TOM 9. Optical tapered fibers for light manipulation on the nanoscale

**Industrial exhibition** will be held alongside the symposium, as well as industrial poster session where companies are entitled to present their key technology competences to conference attendees. In addition there will be a session on dissemination of European projects, where results can be shared and displayed.

### Important Dates:

Submission last day: 15 April 2018  
Informing authors about acceptance: 30 May 2018  
Detailed program: 30 July 2018

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



TU Delft Aula Congress Centre

**Topical meetings (TOMS)** in EOSAM 2018 include:

- TOM 1. Silicon Photonics and Guided-Wave Optics
- TOM 2. Freeform Optics
- TOM 3. Optical System Design, Tolerancing, and Manufacturing

# Institut d'Optique celebrates 100

**On 30th October 1917, "Institut d'Optique théorique et appliquée" registered as the combination of a school, a technical innovation center and research institution.**



An early photograph of the first building dedicated to Institut d'Optique (inaugurated in 1927).



Institut d'Optique in France was first created in 1917. At the time already, there was a perceived need for skilled workers at all levels of education and of a national facility to conduct research in optics, in association with test and measurement facilities. The availability of optical instruments, while always a competitive parameter for industry, was particularly noticeable during the turmoil of World War I, and the French government, in contact with industrialists, decided to take action. Exactly at the same time, similar measures were initiated in several other countries, notably the United Kingdom and the United States. On 30th October 1917, "Institut d'Optique théorique et appliquée" registered as the combination

of a school, a technical innovation center and research institution. Ever since, it has been at the forefront of the field and contributed to the progress of Optics and Photonics.

The first dedicated building, boulevard Pasteur in Paris, hosted the engineering school, a vocational school for optics shop technicians, a metrology and instrumentation platform, and a research laboratory. From the beginning, it was organized in close cooperation with the Sorbonne and its tenured faculty consisted of University professors.

**One hundred years later,** Institut d'Optique – Graduate School, as it calls itself to reflect the close association of master and doctoral level education and research, promotes photonics in every

aspect. It annually delivers 150 master degrees in optical engineering and spans over three sites in France: the headquarters in Palaiseau, one building in Bordeaux, and one in Saint-Etienne near Lyons. At each site, a research laboratory is established in close cooperation with CNRS (Centre national de la Recherche scientifique) and the local University: Laboratoire Charles Fabry in Palaiseau, Laboratoire Photonique, Numérique et Nanosciences in Bordeaux and Laboratoire Hubert Curien in Saint-Etienne, which together host over 150 doctoral students. Emphasis on innovation has always existed, but has been particularly promoted in the last ten years with the creation of the "innovation – entrepreneurship" study track: 15 startup companies have been created by the alumni, of which 13 currently employ a staff of over 150. Their innovative skills have been recognized by a large number of awards.

**A highlight of the centennial celebration** was the triple event organized during the week of 9-13 October 2017 successively in Saint-Etienne, Bordeaux and Palaiseau. Five Optics & Photonics learned societies, including some hosted by Institut d'Optique, sent representatives, recognizing its role in their activities for one hundred years. The ICO Secretary Prof. Humberto Michinel was one of five representative of learned societies who attended the Palaiseau event and congratulated the Institute on the occasion. Indeed, Institut d'Optique has always been supportive of learned society activity and its initiative of what appears to have been the first international event in Optics after World War II, Réunion d'Opticiens (Paris, December 1946) was at the origin of the ICO!

**Pierre Chavel, Institut d'Optique**



The three sites of Institut d'Optique, a "national campus" devoted to Optics and Photonics in France: campus de Paris-Saclay, campus de Bordeaux, campus de Saint-Étienne.

ICO Secretary Prof. Humberto Michinel (right) presents Prof. Jean-Louis Martin, the Director general of Institut d'Optique, with a congratulatory certificate.

# The Spanish Optical Society SEDOPTICA to celebrate its 50th anniversary

**This 50th anniversary arrives in a moment of expansion of the optics and photonics community.**



Institute of Optics "Daza de Valdés", former headquarter of SEDOPTICA

The Spanish Optical Society (SEDOPTICA) holds since its foundation in 1968 the representation of the Spanish Territorial Committee in ICO, of which Spain was a founding member in 1948. At the time SEDOPTICA was created, Spain began to expand and modernize its sci-

entific activity, both in its universities and in the National Research Council (CSIC). The Institute of Optics "Daza de Valdés" (founded in 1946 by Prof. José Otero Navascués, former Vice President of ICO) was the headquarters of SEDOPTICA and continues to be integrated within the Center of Physics of CSIC.

**This 50th anniversary comes at a time of expansion of the optics and photonics community in Spain.** SEDOPTICA has now more than 350 individual members and includes so-called Young Area for students, as well as associated entities such as industrial partners and companies linked to activities within optics, photonics, vision, laser and biomedical instrumentation, among others.

**An important activity developed by the members of SEDOPTICA is the periodic publication of "Óptica Pura y Aplicada",** the open-access scientific journal for optics and photonics published in Spanish since 1968, with four issues per year.

In addition, the Society holds different topical meetings, such as the Spanish Meeting of Optoelectronics (OPTOEL) the National Color Congress (CNC) or the National Meeting of Spectroscopy (RNE) among others. The main general congress of SEDOPTICA is the National Meeting of Optics (RNO), celebrated every two/three years since 1988. SEDOPTICA also participates in the organization of the International Day of Light to be held on May 16, 2018. Its central activities in Spain will be carried out in the Faculty of Physics of the Complutense University of Madrid.

**This year, the RNO (<http://www.rno2018.com/>) coincides with the celebration of the anniversary of SEDOPTICA** and the congress will

be held in Castellón, an active university city located on the Mediterranean coast, from July 3 to 6, 2018. The ceremony of the 50th anniversary of SEDOPTICA will be organized on July 6th within RNO2018. This congress will be a great opportunity to meet with colleagues from Spain, but also from Europe, Latin America and the rest of the world.

All the Spanish community in optics and photonics would like to share with colleagues and friends this important celebration for the continuity of its activities and the motivation of the new generations of Spanish researchers involved in the study of the properties of light and its applications.

More information: <http://www.sedoptica.es/SEDO/>

**María Luisa Calvo, Univ. Complutense de Madrid  
Ignacio Moreno, Univ. Miguel Hernández de Elche**



# Francesca Calegari awarded ICO Prize 2017

**Since August 2016 she is Full Professor at the University of Hamburg and Leading Scientist at DESY, Hamburg, Germany.**



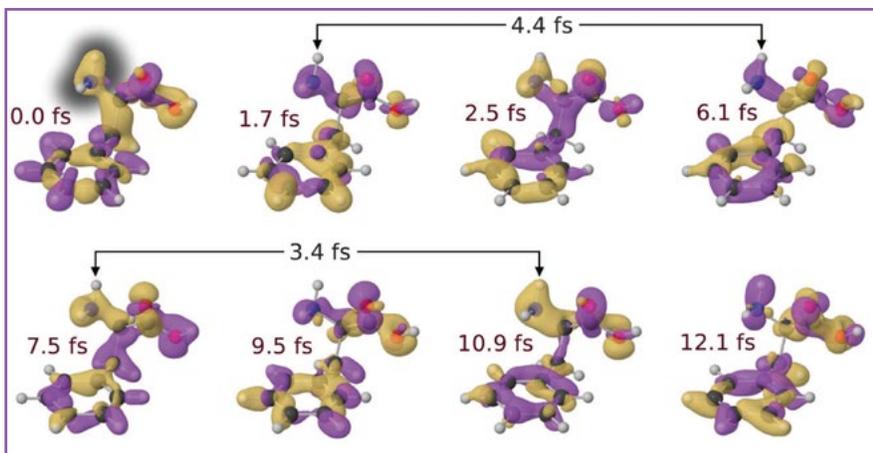
Prof. Francesca Calegari, University of Hamburg and DESY, Germany.

The ICO Prize Committee, consisting of Roberta Ramponi (chair), Zohra Ben-Lakhdar, Yujie Ding, John Harvey, John Howell, Seug-Han Park, Eric Rosas, Maria J Yzuel, and Bingkun Zhou, awarded the 2017 ICO Prize to Prof. Francesca Calegari, University of Hamburg, Germany, “for her innovative and pioneering research on the generation of isolated XUV attosecond pulses at the nJ-energy level and their application to the study of the electron dynamics in complex molecules”.

Prof. Calegari received her PhD in Physics in March 2009. From Dec 2011 till Aug 2016 she had a permanent position as a researcher at IFN-CNR, Milan, Italy. From 2013 till 2016 she was professor of Physics at Politecnico di Milano in Milan, Italy. Since August 2016 she is Full Professor of Physics at the University of Hamburg and Leading Scientist at DESY, Hamburg, Germany. She is co-author of more than 50 articles on peer-reviewed journals. Her research field is attosecond science and technology.

**Prof. Calegari is one of the young rising talents in attosecond science.** Her main achievements are: a new approach for the generation of isolated attosecond pulses at the nJ-energy level for the realization of XUV sources with high photon flux at the kHz repetition rate; the application of this XUV technology to track the electron dynamics in large systems (e.g. sub-4 fs charge migration in amino acid phenylalanine); the demonstration of the possibility to track in real-time the scattering behavior of electrons propagating in a dielectric material after the interaction with high-energy photons. The outstanding contributions of Prof. Calegari have been clearly proven to be the first step in the direction of controlling the electron dynamics in complex molecules for a future “attochemistry”.

Snapshots of charge dynamics induced by XUV attosecond pulses in the amino acid Phenylalanine (F. Calegari et al., Science 346, 336 (2014)).



## Contacts

International Commission for Optics (e-ico.org).

### Bureau members (2017-2020)

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**Past-president** Y Arakawa

**Treasurer** J Niemela

**Assoc. Secretary** F Höller

**Vice-presidents, elected**

Q Gong, J Harvey, N Kundikova, S Otero, S-H Park, A Po-doleanu, L Sirko, M Zghal

**Vice-presidents, appointed**

K D Choquette, J C Howell, C Londoño, E Rosas, P Urbach, G von Bally, A Wagué

**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>.

### 5-16 February 2018

**Winter College on Optics**

Trieste, Italy

Contact: Joe Niemela  
tel: +39-040-2240555

[niemela@ictp.it](mailto:niemela@ictp.it)

<http://indico.ictp.it/event/8295/>

### 8-12 October 2018

**European Optical Society Biennial Meeting (EOSAM)**

Delft, Netherlands

Contact: Elina Koistinen  
tel: +358 50 592 4693

[eosam@myeos.org](mailto:eosam@myeos.org)

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

### 28-30 November 2018

**11th International Conference on**

**Optics-photonics Design&Fabrication**

Tokyo, Japan

Contact: Tsuyoshi Hayashi  
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[odf18@pac.ne.jp](mailto:odf18@pac.ne.jp)

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