



# NEWSLETTER

COMMISSION INTERNATIONALE D'OPTIQUE • INTERNATIONAL COMMISSION FOR OPTICS

## 2017–2020 ICO Bureau member elections

### Interim report of the Nominating Committee 2017 ICO Bureau.



According to established procedures in the ICO Rules and Codes of Practice, elections for members of the ICO Bureau take place every three years and will take place this year at the ICO-24th Congress, to be held 21–25 August, Keio Plaza Hotel, Tokyo.

The procedures and protocols for the election are as described in the ICO Rules and Codes of Practice. For the upcoming elections, the Nominating Committee consists of Duncan T Moore (chair, USA), Maria Calvo (Spain), Seung Han Park (Korea) and John Harvey (New Zealand).

Pursuant to ICO rules, letters were sent to the Territorial Committees (TCs) in October

2015 and June 2016 for nominations to be received up to 24 hours before the election (19 August 2017). As of 12 June, the nominations shown in the table below have been received and/or established by protocol.

The position of past-president for the term 2017–2020 will automatically be assumed by Prof. Yasuhiko Arakawa (Japan).

Added to these in the Bureau composition will be the individuals appointed as vice-president by the Member societies. Regarding the position of elected vice-president, two of these nominations need to be from industry. At this time, we only have one nomination – please consider a nomination in this capacity. It should be remembered that nominations for all positions/officers close 24 hours before the second business meeting (24 August) of the International Commission for Optics General Assembly in Keio, Tokyo, Japan.

The election activities will take place as indicated during the ICO General Assembly – the first session is scheduled 14:00–17:00 on 22 August, while the second and final ICO General Assembly is scheduled for 17:00–20:00 on 24 August. Additionally, the Nominating Committee will now be collecting candidate's CV's and endorsements of candidates from the Territorial Committees.

**Duncan T Moore, ICO past-president, chair of the ICO Nominating Committee**

Nominations received as of 12 June 2017		
Position	Nomination	Territorial Committee
President	Prof. Dr Angela Guzman	Colombia
Secretary	Prof. Dr Humberto Michinel	Spain
Associate secretary	Prof. Gert von Bally	Germany
Treasurer	Prof. Joseph Niemela	Italy
Vice-president <small>Those in industry are marked with *</small>	Prof. Qihuang Gong	China
	Adrian Podoleanu	UK
	Gilles Pauliat	France
Present vice-presidents eligible for a second term	Prof. John Harvey*	New Zealand
	Prof. Seung-Han Park	Korea
	Prof. Jakub Zakrzewski	Poland
	Prof. Mourad Zghal	Tunisia

## ICO 24th General Assembly

### Agenda and delegates.

The Agenda for the ICO 24th General Assembly is available at the ICO website. The General Assembly will be held in two separate sessions. The first session is mainly devoted to reports of the ICO Bureau members and chairs of the ICO Committee will be held during the second session. Each ICO Territorial Committee has the number of votes specified in the [Shares and votes 2017](#) section “Members” in the ICO website, which can be cast by its official delegates. The Territorial Committee representatives and the International Society Members are expected to communicate to the ICO Secretariat who will be their official delegates.

A Member who is unable to send a delegate to

the General Meeting but wishes to vote on appropriate matters appearing on the Agenda, may send its vote in writing to the president. Alternatively, it may give a proxy to another member of the same category. A proxy delegation can be accredited by filling in the [delegate form](#) available at the ICO website. To be valid, votes sent to the president should be made in writing and proxies must be received by the ICO Secretariat prior to the first session of the General Assembly.

According with the ICO Statutes any Member, including Associate Members, as well as the ICO president can invite delegates at the General Meeting with no restriction of number, but the number of voting delegates is restricted to those assigned to the Member. Associate Members do not have the right to vote.

The triannual report of the ICO, “Towards

ICO 24" will be available online and a printed copy will be mailed to each ICO Member. There have been some modifications proposed to the Rules of Code and Practice, that will be subject to vote by the General Assembly.

As reported in former *ICO Newsletters*, the ICO Bureau prepared a proposal for an [ICO Strategic Plan](#) for the period 2017–2023, that might guide the ICO towards a closer integration with other ICSU Members, particularly in the case that the ICSU General Assembly to be held in Taipei in October 2017, approves the application of the ICO to become an ICSU Union. The Strategic Plan has been posted on the ICO website for several months, and the comments received will be published in the ICO Greenbook.

According with the ICO Statutes, the follow-

ing business will be carried out at the General Meetings: (a) election of the Bureau; (b) examination of a Financial Statement presented by the Bureau; (c) agreement on a provisional budget for future years; (d) discussion of questions submitted by the ICO Members, the Bureau or the Executive Council of IUPAP.

Please note that for any issue to be considered by the ICO General Assembly, the question should be submitted in advance to the ICO Secretariat. Alternatively, subjects not on the [Provisional Draft Agenda](#) may be added at the meeting with the consent of a simple majority of the votes of Members represented at the meeting. We are looking forward to seeing you at ICO-24 in Tokyo.

**Angela Guzmán, ICO Secretary, 2014–2017**

## AOP 2017

**Third triennial international conference on Applications of Optics and Photonics**



Above: Best PhD Thesis 2015 winner Marta Ferreira and her supervisor Dr Orlando Frazão of INESC-Tec. Manuel Filipe Costa, SPOF President, is on the left. Bottom right: Opening session (left to right), Prof. Efrain Solarte, president of the Iberoamerican Optics Network – RIAO/SOPHIA; Prof. Jürgen Jans, president of the European Optical Society, EOS; Dr Robert Lieberman, immediate past-president of SPIE; Prof. Angela Guzman, secretary of the ICO; Prof. Manuela David, Pro-Rector of University of Algarve; Prof. Maria de Lurdes Cristiano, director of the Faculty of Sciences and Technology of the University of Algarve; Prof. Manuel Filipe Costa, president of the Portuguese Society for Optics and Photonics, SPOF, and chair of the conference; Prof. Jose Figueiredo, local organizing committee from University of Algarve.

Celebrating optics and photonics and its outstanding positive impact in the world and in our everyday life, largely resulting from the current remarkable success and fast sustainable development in O&P research, the Portuguese Society for Optics and Photonics, SPOF – Sociedade Portuguesa para a Investigação e Desenvolvimento em Óptica e Fotónica, successfully organised its third triennial international conference on Applications of Optics and Photonics, 8–12 May, at the University of Algarve in the lovely city of Faro, Portugal.

The conference aims to establish co-operation with colleagues and institutions from all around the world while increasing the external visibility of Portugal's optics and photonics research.

The success of the conference is due to the enthusiastic commitment of the Portuguese optics and photonics community and of our friends from all over the world, the endorsement and active support of the most important international scientific optics societies – ICO, SPIE, EOS, RIAO; several national societies committees and boards – SEDOPTICA, AMO, CTOM, STO, OPSS, CVO, RCO, SOFE and SPF; photonics and optics industries companies and projects and initiatives – LaserLab, iBROW, INNOVA, Laser World of Photonics, OPA, OQJ-Springer, adLASER, MTBrandão; and contribution of the authors of the 191 effectively presented works in all domains of optics and photonics.

The nearly 200 works presented, and the 34 invited lectures from world-leading scientists, including 7 plenary lectures, gave an excellent overview of the state of the art in optics and photonics research across the world pointing out perspectives of future developments.

Well over one third of the 149 participants were students, this percentage increasing to nearly 50% among the Portuguese participants. The support of the International Commission for Optics to the conference helped the participation of 17 students. EOS and SPIE awarded prizes, respectively, to the best students' poster presentations and best students' research works presented at the conference. At the closing ceremony of the conference, the 2014 and 2015 SPOF's Best PhD Thesis in Portugal in Optic and Photonics were awarded to Hugo Martins (Distributed and Remote Fiber Sensing Assisted by Raman Effect) and to Marta Ferreira (Fiber Sensing Based on New Structures and Post-Processing Enhancement) both former students of the University of Porto.

The development of the scientific and technological research in optics and photonics in Portugal over the last decades and the success of the previous editions of SPOF's conference, lead us to change the periodicity of our AOP conferences to biannual. The next conference will be held 3–7 June 2019, in Lisbon. We are looking forward to another exciting and most enjoyable conference.

**Manuel Filipe Costa, president SPOF**



# Photonics in Israel 2017

**The photonics industry is flourishing in Israel.**

Optical research started in Israel at the Hebrew University of Jerusalem in the late 1920s. This was done by two researchers who emigrated from Germany: S Sambursky worked on spectroscopy, and G Wolfson worked on the properties of light. In the 1950s and 1960s, the pioneering researchers in optics and electro-optics were S Yatsiv and Z Lev (Hebrew University), and then, in the 1960s and 1970s, A Friesem (Weizmann Institute), E Marom (Tel Aviv University), B Sturlesy (Rafael) and Y Shamir (Technion). Today, advanced research and development activities are carried out by thousands of people in academia, in research institutions and in industry. Hundreds of students attend courses in optics, electro-optics and photonics in the major seven universities and in several colleges. The Israeli basic and applied research in photonics is highly respected all over the world.

The optical industry in Israel started with E Goldberg, who founded Zeiss-Ikon in Germany, and then escaped from the Nazis to Israel in the 1930s. He built Goldberg Instruments, which manufactured a variety of optical products. The company later became Elop. In the early 1950s, Z Tabor developed solar collectors for water heating, which are used in many houses in Israel, as well as around the world. In the early 1960s, J Yaffe, who immigrated to Israel from the UK, left the Weizmann Institute and established Rehovot Instruments, which developed IR systems, and subsequently merged with Elop. In the early 1970s, some of the Israeli government ministries realized that photonics is an important enabling technology and they provided significant support funds. This injection of funds, together with the mass immigration of electro-optics scientists and engineers, especially from the Soviet Union, led to a surge of development both in academia and industry. In academia, many more research groups were established and flourished. In industry, a large scale-up centered, at the beginning, in fields related to defense, in the Israel Aircraft Industries, Elop and Rafael. But parallel to this, other industries concentrated on medical, metrology and printing applications.

It is estimated that at least 10,000 professionals work in optics and electro-optics in Israel today, in academia, research institutions and in about 500 companies. Israel is nicknamed a "Startup Nation" and indeed, many of these companies are high-tech start-ups. They are involved in bio-photonics, defense electro-optics, optical communications, optical devices, optical testing and quality control, renewable energy and printing. Many global corporations have established research, development and manufacturing centers in Israel, including GE, Phillips, Carl Zeiss, Samsung, Johnson & Johnson, Nokia Siemens, Microsoft, Google, Intel as well as others.

The largest electro-optics company is Elop,



OASIS 2017: Prof. Abraham Katzir (centre) with professors Jacob Scheuer, Tel Aviv University, and Dan Marom, Hebrew University. Photo by Perry Mendelboym.

which is involved in defense products, with annual sales of more than \$1 bn. There are at least 15 companies, each of which has annual sales of more than \$100m. Among those companies are, for example, Mobileye, developing imaging systems for car safety and autonomous vehicles; Israel Aircraft Industries, developing products in the defense area; Indigo, developing novel printing systems; Orbotech and Applied Materials, developing laser systems for diagnostics and repair of integrated circuits; GE Healthcare and Phillips, developing medical systems; Lumenis, developing medical laser systems for surgery and therapy; Syneron and Alma Lasers, developing laser systems for aesthetic purposes; Given Imaging, developing imaging pills that provide diagnosis of the digestive tract; SCD, developing advanced IR sensors and lasers; and Rafael, developing various electro-optic systems, including high-power lasers for the defense industry.

OASIS conferences in Optics and Electro – Optics, are held every two years in Tel Aviv and chaired by Abraham Katzir. The last conference, OASIS 6, was held in February 2017 and attracted more than 1000 participants, many from abroad. 60 companies exhibited their products and there was a delegation of 25 European companies.

It is surprising how a tiny country like Israel, with a population of eight million, achieved such excellent scientific research and highly successful industries. It stems, first of all, from the excellent students and the education that they get at university and college. There are close collaborations between scientists in academia, research institutions and industries, and this is very fruitful and shortens the development time of products. The government agencies continue to support both pure research in academia and development in industry, as well as international collaborations supported financially. Today, private investors recognize the potential of photonics and are willing to invest in new companies in Israel.

Ben Gurion, the founding father of Israel, used to repeat the words of the Prophet Isaiah: "I shall submit you as a light unto the nations". Ben Gurion added: Israel must be a "lighthouse to all nations." We all try to follow this call!

**Prof. Abraham Katzir, physics, Tel Aviv University, Israel**



# Farewell as Colin Sheppard retires

## A pioneer of optical imaging and microscopy



Our colleague and ICO collaborator for many years, Colin Sheppard will retire on the 30 June, the eve of his 70th birthday.

Colin is a renowned scientist and a pioneer in key areas of optics, imaging, and microscopy. He has seminal contributions as in the study of the fundamental limitations of the resolution and image formation properties of optical microscopes for which he demonstrated that it is necessary to consider the foundations of diffraction theory with research interest as well in confocal and multiphoton microscopy. He has discussed throughout many of his seminal papers the most important components of an optical imaging system-the lens-and to find the key role of Fourier analysis in the theory of coherent and incoherent image formation. To have an idea of the impact of his contributions one of his pioneering papers in microscopy resolution has the order of 2900 cites. Colin is currently at the Italian Institute of Technology (IIT), Genoa,

Italy and will return to Australia where he will continue, after his retirement, in participating in conferences and other related activities.

Colin served as ICO vice-president, 1999–2000. He has always been active in ICO initiatives – he was lecturer at the Winter College in Optics 2017, ICTP, Trieste, Italy with key lectures and the opening the conference on the foundations of optical microscopy.

IIT organized a day of celebration to mark his retirement, his birthday and 40 years since the first ‘confocal’ results in Oxford. The day entitled “Colin Sheppard: Forty Years of Confocal, Seventy Years of Science” was held in the Palazzo Ducale in Genoa on 30 June with many of his friends and colleagues participating.

We wish him a fruitful retirement. More information: [www.iit.it/people/colin-sheppard](http://www.iit.it/people/colin-sheppard), or [https://en.wikipedia.org/wiki/Colin\\_Sheppard](https://en.wikipedia.org/wiki/Colin_Sheppard).

**Maria L Calvo, ICO past-president (2011–2014)**

## Contacts

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

### Bureau members (2014–2017)

**President** Y Arakawa

**Past-president** D T Moore

**Treasurer** J A Harrington

**Secretary** A M Guzmán,  
P.O. Box 4572, Deerfield Bch  
FL 33442-4572, USA

e-mail [secretariat@e-ico.org](mailto:secretariat@e-ico.org);  
[ico.secretariat@gmail.com](mailto:ico.secretariat@gmail.com)

### Associate secretary

G von Bally

### Vice-presidents, elected

J Harvey, F Höller, H Michinel,  
J Niemela, R Ramponi, S-H Park,  
J Zakrzewski, M Zghal

### Vice-presidents, appointed

K Choquette, J C Howell,  
S Morgan, E Rosas, P Urbach,  
A Wagué, M J Yzuel

### IUPAP Council representative

C Cisneros

### Editor in chief

### Editorial committee

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



## Forthcoming events with ICO participation

Below is a list of 2017 events with ICO participation. For further information, visit the new ICO webpage at <http://e-ico.org/node/103>.

### 21–25 August 2017

#### 24th Congress of the International Commission for Optics (ICO-24)

Tokyo, Japan

Contact: Yasuhiko Arakawa

tel: +81-3-5452-6245

[arakawa@iis.u-tokyo.ac.jp](mailto:arakawa@iis.u-tokyo.ac.jp)

<http://ico24.org>

### 11–15 September 2017

#### 13th International Conference on Correlation Optics “Correlation Optics ’17”

Chernivtsi, Ukraine

Contact: Oleg V Angelsky

tel: +380372244730

[o.angelsky@chnu.edu.ua](mailto:o.angelsky@chnu.edu.ua)

<http://ptcsi.chnu.edu.ua/en/corrupt17>

### 6–9 November 2017

#### International Workshop on Optics and Photonics

Islamabad, Pakistan

Contact: Imrana Ashraf

tel: +92-3330222001

[drimrana@comsats.net.pk](mailto:drimrana@comsats.net.pk)

[www.qau.edu.pk](http://www.qau.edu.pk)

### 23–26 November 2017

#### International Conference on Advances in Optics and Photonics (ICAOP-2017)

Hisar, Haryana, India

Contact: Devendra Mohan

tel: +91-9416893273

[icaop2017@just.org](mailto:icaop2017@just.org)

[www.gjuonline.ac.in/icaop2017/](http://www.gjuonline.ac.in/icaop2017/)

Responsibility for the correctness of the information on this page rests with ICO, the International Commission for Optics; <http://www.e-ico.org/>. *President*: Prof. Yasuhiko Arakawa, Director, Collaborative Institute for Nano & Quantum Information Electronics, University of Tokyo, Japan, [arakawa@iis.u-tokyo.ac.jp](mailto:arakawa@iis.u-tokyo.ac.jp). *Associate Secretary*: Prof. Gert von Bally, Centrum für Biomedizinische Optik und Photonik, Universitätsklinikum Münster, Robert-Koch-Straße 45, 48149 Münster, Germany; [bally@uni-muenster.de](mailto:bally@uni-muenster.de)