eYE on eSP

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The 16th ICP was held in the "Pavillion Argentina" in the National University of Córdoba, Argentina . Congress Chair Silvia Braslavsky reports for EyeOnESP

A get-together south of the Rio Grande

The 16th International Congress of Photobiology, organized by the International Union of Photobiology, was the first of its kind to be held in the Southern Hemisphere. The University of Córdoba is the oldest in Argentina (founded 401 years ago) and the City of Córdoba offered a wonderful frame (and great weather) for the Congress.

The Organizing Committee, listed in the website of the Congress, addressed nearly all areas of photobiology including photomorphogenesis, photosynthesis, photomovement of plants and bacteria, the interaction of UV light with ecosystems, circadian rhythms in plants and animals, vision and light-induced damage to the retina, UV induction of skin cancer, as well as the use of light for the treatment of various illnesses and the photochemistry of xenobiotics and biological molecules. The use of light-based technologies for the study of biological processes was also the subject of several symposia.

The Congress registered 507 delegates from 38 Countries worldwide, and 280 of the registered participants were young researchers (graduate students and young).

The **Science Administration Agencies from Argentina** supported the Congress with grants from the National Research Council, CONICET, and from MINCyT. In addition, the programme **Raices** from MINCYT financed the travel to the Congress of several of the Argentinian colleagues working abroad. Important support (both financial and logistic) also came from the German Institutions (**Research in Germany** grouping DAAD, DFG, Fraunhofer, Humboldt Foundation) and the Max Planck Society, as well as financial support from **IUBS** (International Union of Biological Societies), **IUPAC** (International Union of Pure and Applied Chemistry), **TWAS** (The World Academy of Sciences) as well as **ESP**, **ASP** and the French Society of Photobiology. These grants permitted waiving the fees of Latin- American graduate students and young researchers.

Silvia Bravlavsky
Local Organiser
ICP Congress

Inside This Issue

Photobiology in Industry:
a bespoke symposium at the 16th ESP Congress in 2015

"Couldn't scientific meetings be the opportunity for researchers from academic and industrial setting to get to know each other and start working together?"

Doug Learn from Charles River Laboratories tells Eye on ESP about a long-standing idea finally taking shape.

Q: A whole symposium dedicated to photobiology in industry: this is something completely new to the ESP. How did the idea of such a symposium come about?

A: I have been involved with photobiology in an industrial/business environment for my whole career in photobiology. I started at Schering-Plough in 1988 when they established a formal skin biology group to support their consumer products division, including the Coppertone suncare line. I have attended the European Society for Photobiology and American Society for Photobiology meetings over these years. One cannot help to notice that the meetings are very strongly focused on academic research. This year at the American Society for Photobiology I realised that photobiology in industry does not have as much visibility as it should, nor does it contribute as it might, for many reasons. This might be due to the fact that not many companies are involved in photobiology in any form and that scientists, such as those involved in plant photobiology or in the chemical/pesticide industries attend other meetings. But I feel the visibility does not reflect what we do or what we can contribute. Also, over the coming years there will be PhD students and post-docs that will need a job, and they need to know that a lot of interesting research and other work can be done in the industrial setting as well as academia. I have been talking about this with a few "industrial" colleagues, and in Liege I discussed about this with Lesley (Rhodes, ESP President) and this symposium is the result of all those discussions.

Q: You nicely laid out the ground for the next question I had in mind: if you asked a student or an early career researcher about the possible career paths outside academia, what answer do you think you would get?

A: My experience is one of interest but little knowledge. Most of the early career researchers are unaware of the research careers they could follow outside of academia, which is understandable because of the environment with which they are associated. Traditionally, industry was considered by some to be the "plan B" to put in place if a tenure track position was not secured, and not emphasized during career development. And honestly my side of this discussion has not reached out to these people and made those options known. This is one of the main drives for this symposium. Industries are very active in research in the different fields of photobiology, and while it is usually very directed, it is nonetheless as challenging and stimulating as that in an academic setting.

Some companies allow publication, others do not at all, but satisfaction can also be found when you are part, even a small one, of ensuring that the safety of a drug or chemical that is released for use involved your work.

At Charles River Laboratories we cannot publish as much as we would like due to client confidentiality and other reasons involved with the type of studies we perform (toxicity studies required by our clients to assess safety/risk assessment of drugs and chemicals), but there are many other sources of professional satisfaction. There is a lot of scope for photobiology researchers with academic background in industry. An academic background trains you to think, which is what industry looks for. If you have such a background,

good ideas, are willing to learn new areas and apply yourself in many different areas of science, management and business, you are probably very suitable to work in industry or the regulatory field.

Q: Is there enough collaboration between industry and academia in photobiology?

A: I can't say how much interaction there is as an overall generalization, but we see more and more requests for safety support of compounds being commercialized from academic labs, and there will be more as the pharmaceutical companies continue to support early discovery in academic settings before determining if they will purchase the technology. Traditionally, academia focused on basic research, but this scenario is changing, whereas in the industry research aims at finding solutions to the problems related to product development (and profit). The two are beginning to be complementary to one another, rather than mutually exclusive. Companies do see the value of what can be wrought from basic research and are starting to reach out to these groups; academics on the other hand are starting, through business groups in their institutions and other means, to reach out to companies to make their work known.

Q: How could academia and industry help each other at best?

A: By starting a dialogue then continuing the collaboration. Industry needs to raise its profile with academics; I talk to academic organizations as much as I can to expose the students to the life of an industrial scientist. Academia needs to make its science and applications known to industry. Meetings such as the ESP congresses are the places where we are both in the same room, making that discussion all the simpler.

Q: What is the role of societies like ESP to foster collaborations between industry and academia?

A: Societies are very good at bringing people together and providing opportunities to start a discussion. As I noted above, scientific meetings like the ESP and ASP are perhaps the most appropriate setting to start a dialogue, because they are the "common ground" where academia and industry can showcase their research and expertise.

Q: Can you tell us anything about the contents of the symposium?

A: To showcase all the photobiology research in industry we would need much more than one symposium, but our aim here is to get started. Unfortunately, we cannot cover everything (e.g., agrochemistry, plant genetics, biofuels from algae), but we are bringing together people who can give a flavour of different areas of photobiology and thus careers in the field.

Daniel Bauer from Novartis will discuss phototoxicity in a pharmaceutical company. I will talk about the role of a contract research organization (CRO) in the regulatory studies on phototoxicity needed for drug development. Prithwiraj Maitra will talk about photobiology in consumer care products at Johnson & Johnson. Peter Kasper works for the German Federal Institute for Drugs and Medical Devices (BfArM), and will discuss the regulatory and career aspects of drug and chemical approval and use. We will leave ample time for discussion at the end of the presentations to start what I hope is a continuing dialogue.

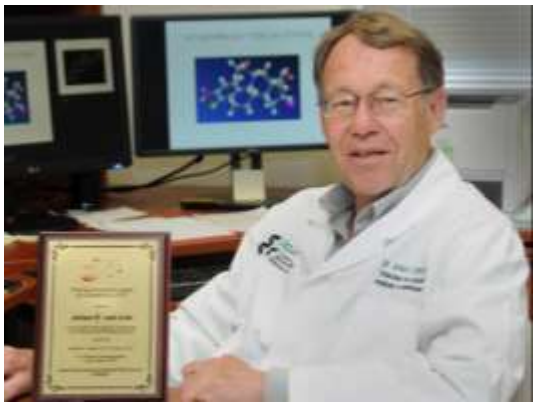
Dr. Doug Learn is the Director of Photobiology and Cellular Therapeutic Safety at Charles River Laboratories in Horsham, PA. Doug Learn was interviewed by Francesca Giuntini

I am highly supportive of this groundbreaking symposium at the 2015 ESP Congress in Aveiro, which will be of great scientific and practical interest to industrial and non-industrial scientists, who may wish to forge collaborative work, and young photobiologists who are interested in exploring the various career paths open to them.

Lesley Rhodes, ESP President

Dr. Johan Van Lier on the Thomas Dougherty Award

The Thomas Dougherty Award for Excellence in PDT was presented to Dr. Van Lier during the 8th International Conference on Porphyrins and Phthalocyanines in Istanbul, Turkey (June 22nd-27th, 2014).
Fabienne Dumoulin had a chat with Dr Van Lier and reported to us. The full interview is available on the ESP website.



Q: What does this prize represent for you?

A: The Thomas Dougherty Award for Excellence in PDT is a recognition from scientists with whom I share the excitement about the many faces of PDT, from novel synthetic procedures to the exploration of mechanism of action at the molecular level. Because of this, it is particularly precious for me.

Q: How did you get involved in photodynamic therapy?

A: In the early stages of my career I was interested in the development of new radiopharmaceuticals. Porphyrins were ideal candidates as radioisotope ligands for cancer imaging because of their preferential accumulation in tumours, but their central cavity cannot accommodate the large ^{99}Tc-m ion. We speculated that phthalocyanines could show a similar preferential tumour uptake, and we prepared water-soluble Tc-99 sulfophthalocyanine complexes. When I presented our results at a PDT symposium in California, it emerged that phthalocyanines could be potent photosensitizers for PDT and my research focus changed accordingly. We initially addressed the role of the central metal ion for PDT efficacy, but we soon realized that the degree of sulfonation is also a crucial factor. Later on, our metallophthalocyanines with different degrees of sulfonation proved that the amphiphilic derivatives exhibit the best cell penetrating ability and highest *in vivo* PDT potency.

Q: A professional lifetime with PDT: what did this field give you?

A: PDT has been a rewarding topic in my own career, and it also proved an excellent training ground for students, exposing them to basic synthetic chemistry procedures, in vitro assays, studies in animal models and molecular imaging techniques.

Johan Van Lier is the Jeanne and Jean-Louis Lévesque Professor of Radiobiology at the Faculty of Medicine and Health Sciences of the Université de Sherbrooke, Québec, Canada. He has authored over 300 papers covering topics from synthetic organic and medicinal-chemistry, cancer research, and specialized topics in photobiology and nuclear medicine.

Q&A

Five words to describe research.

"Passion, dedication, challenge, euphoria, satisfaction, and I'll throw in frustration, not necessarily in that order."

Pas de problème!

"When I was offered a junior faculty position in Sherbrooke, I was told that I would teach biochemistry to medical students in French, I replied without hesitation "pas de problème", which at the time was about the extent of my fluency in the language of Napoleon."

Doing it all again.

"Once established in Sherbrooke I was lucky to work with great, young, and enthusiastic colleagues; their scientific interests allowed me to explore new research areas and attract ambitious students, leaving no time to look back or elsewhere, I guess I had found my niche."

Prizes and awards for a scientist.

"A psychologist friend of mine once told me that everyone needs a pat on the shoulder every so often to be happy: this reward is a solid slap on the back."

When scientists get together.

Meetings like the ICPP8 bring together many disciplines connected through a common interest in porphyrins and phthalocyanines: they are opportunities for students and faculty to explore new avenues for their future endeavors.

Goodbye Brixen!

For the last 20 years the International Symposium on Photodynamic Therapy and Photodiagnosis in Clinical Practice has been the biannual appointment to look forward to. In October 2014 the South Tyrolean town of Bressanone/Brixen (Italy) hosted the 10th and last edition of the meeting, and Eye on ESP had a look back on its history with Herwig Kostron and Giulio Jori, the two scientists that got it started back in February 1995.

The International Symposium in Photodynamic Therapy and Photodiagnosis in Clinical Practice was first held in Innsbruck in 1995 on the 10th anniversary of PDT of brain tumours, with the aim to create a bridge the scientific basis of PDT with its clinical application.

In 1999, after two more editions in Innsbruck, the meeting moved to the premises of the University of Padua in Brixen, thanks to the involvement of Giulio Jori, co-organizer of the conference with Herwig Kostron from then on.

The idea of gathering basic scientists and clinicians was well received, and over the years the number of participants increased to 250, filling the conference venue to its limit. The international delegates describe the Brixen meeting as one of the most enjoyable in the field of PDT. People enjoyed the topics of the lectures and oral communications which spanned "from bench to bedside", the lunchtime poster presentations in the garden under marquees, and the informal mix of research students, academics, and clinicians.

The combination of science with social events has been one of the most distinctive flavours of the Brixen meeting: the discussions started in the lecture theatre often continued in the evenings of the Törggelen (roasted chestnuts served with new and old wines) and the gala dinners at the Hotel Elefante. Cosy Brixen with its beautiful surroundings did the rest to enchant attendees.

To contain the running costs of the meeting, Herwig and Giulio personally worked at the organisation of the conference with the sole help of a part-time secretary. The free premises provided by the Universities of Innsbruck and Padua, the willingness of the invited speakers to travel always at their own costs, the availability of reasonably priced accommodation, and the support of companies such as Biolitec and Apocare, helped to keep the registration fees as low as possible to encourage the participation of students.

The 10th and last edition of the symposium, which took place in October 2014, helped all of us to achieve an important goal: the *mise-au-point* of the present state of PDT and the foreseeable advancements over the next 5-10 years. The meeting also provided a capsule of the history of PDT, and its impact in areas outside the conventional medical field, such as societal, economic and environmental aspects.

More than 200 scientists, industrials, students attended the meeting, making this 10th edition a huge success, and Herwig and Giulio very proud of their 20-year old creation.

Hello Nancy!

At the end of the meeting in Brixen In 2012, Giulio and Herwig announced that they would not to organise any further meetings. No one in the audience was particularly happy with the idea that "there would not be another Brixen". After some thinking, a few of us decided to invest energies and ideas to carry on the spirit of Brixen, that is to say, to engaging young researchers, industrial researchers, and senior academics in the discussion on fundamental research and clinical applications of PDT, with poster presentation, oral communications and invited talks in a nice atmosphere with good wine, good food and music.

The first of the "post-Brixen meetings" will be held in Nancy, 24-28th October 2016 organized by the French PDT community, and the next one in Germany in 2018. We are waiting for you!

Celine Frochot

Highlighted PPS articles on ESP website

We are delighted that we were able to introduce a section for highlighted articles from Photochemical and Photobiological Sciences to coincide with the launch of the new ESP website. This idea has been incubating for a while and has now been facilitated by excellent co-operation with Sarah Ruthven (the managing editor of PPS at our publishers, the RSC) who provides useful statistics on most cited papers etc., and also has the articles suitably spruced up so that they are suitable for the PPS blog (which is also the version we use on our web-site). For now, and as the Editor-in-chief of PPS, I have taken on the job of selecting suitable papers (which may be the most cited in a particular period or clearly have exceptional novelty, etc.) and twist (not too much) the author(s) arm to prepare a description. However, I would be delighted to receive suggestions for articles that merit highlighting. Past highlighted articles can also be accessed on the ESP website as well as the current feature.

Rex Tyrrell

Upcoming events

Arnold Rikli Award 2014

The Jörg Wolff-Foundation announces the awarding of the 16th Arnold Rikli Prize for photobiological investigations in relation to human beings.
The prize was originally awarded by the Institute F. Wolff of Riehen, Switzerland in 1989. Jörg Wolff, the brother of the former sponsor, continues this tradition and the prize is announced by the Jörg Wolff foundation every year since 2006. The deadline for application is on the 31st of January 2015. The instruction for application are available on the ESP website.

Dates for the diary

Tetrapyrrole Discussion Group meeting, Royal Society, London (UK), January 8th 2015
3rd International Conference of Photodynamic and Nanomedicine in Health Sciences, 2nd-7th January, 2015
ICP 2015: XIII International Conference on Photobiology, Istanbul (Turkey), May 21-22, 2015
16th Congress of the European Society for Photobiology, Aveiro, Portugal, August 31st-September 4th, 2015