

Message from the President



The holiday season is here again, so very best wishes to all our members for holidays with friends and family and for success in the New Year. This is also the time to thank

those who have kept our society functioning and prospering this year - firstly **John Simon**, editor of *Photochemistry and Photobiology*, and his staff. You have all seen the handsome “new look” of the journal and a series of exciting Symposia-in-Print are in preparation. Taking the journal to bimonthly publication has enabled the stabilization of finances while maintaining high publication standards. All papers are indexed and freely available on the internet as soon as they are accepted, so there is no effective delay in publication due to this altered schedule. The Council is meeting in Washington DC on February 5 to discuss further ways of ensuring the success of the journal in a time of major changes in scientific publishing, particularly open access publishing.

Thanks are due also to our Treasurer, **John Streicher**, who has steered our investments in an upward direction, and to the rest of our ASP officers - Past President **Tom Moore**, incoming President **Lisa Kelly** and Secretary **Lanie Hill**. Also many thanks are due to **Peter Ensminger**, editor of *ASP News* and webmaster, and finally, to our Secretariat **Linda Hardwick** and her staff, who cheerfully keep us functioning and organized.

It already seems a long time since our successful Seattle meeting. The year 2005 will be the first year that the ASP does not meet since 1973. However, we encourage you to attend the meeting of our sister society - the ESP - in September 2005 in Aix-les-Bains, France. The ASP has a commitment to our associate members and will be offering competitive fellowships for them to attend the ESP meeting. We

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hope also to see many of our regular members there.

We are also actively planning the July 2006 meeting of the ASP, to be held at the Westin Rio Mar Beach Resort in Puerto Rico. This is located a mile from the Caribbean National Forest, known as El Yunque, which takes its name from an Indian spirit Yuquiye, "Forest of Clouds", the name of the mountain that dominates the 28,000 acre tropical forest. Also a photobiologist's delight is Bioluminescent Bay (see: www.biobay.com), which can be visited by kayak. There are many other sites in Puerto Rico, including the Arecibo telescope, Camyun Caves and Old San Juan. We look forward to your suggestions and input to make this an exciting and productive scientific meeting.

In February, the Council will also be discussing the topic of extending terms of office, as we now meet biennially. This year **Lisa Kelly** and I will have an exchange of the gavel in July, which will be a virtual one that we will capture for the web site.

Frances Noonan
ASP President

2005 ESP Meeting



The Casino Grand Cercle in Aix-les-Bains, France, site of the 2005 ESP Meeting (Sept 3-8). The casino features gaming tables, slot machines, a night club, an Irish bar, a piano bar, and a dance hall.

The 11th Congress of the European Society for Photobiology will be held in Aix-les-Bains, France, September 3-8, 2005. The scientific program will consist of 5 plenary lectures, 29 half day-symposia, oral communications, and two poster sessions. One of the objectives of the conference is to cover all the main fields of photobiology. There will be presentations on photophysics and photochemistry of molecules of biological interest, biological effects of UV and visible radiation, PDT, photosensory biology, photosynthesis, and vision. Both fundamental and more applied aspects of photobiology will be covered.



Aix-les-Bains is on Lac du Bourget, the largest natural lake in France. Swimming, sailing, scuba diving, and other water sports are available in the summer, when the water reaches 25°C. Hikers and cyclists can also visit nearby Mont Revard (1550 meters).

Aix-les-Bains is an easily accessible international resort located in the heart of the French Alps in the vicinity of scenic cities and popular tourist spots such as Annecy, Chambéry, Chamonix, and Albertville (site of the 1992 winter Olympics). St-Exupéry-Lyon and Geneva airports are about 65 miles and 50 miles respectively from Aix-les-Bains and shuttle buses from these airports are readily available. There are also several direct fast train connections (TGV) with Paris every day and an excellent motorway network, for easy connections with Italy, Switzerland, and the rest of France. For more information on the congress, please visit the ESP web site: www.esp-photobiology.it.

Everyone is welcome in Aix-les-Bains for a fruitful and enjoyable conference!

Jean Cadet
ESP Meeting Organizer

Letter from the Editor

The ASP has met annually since their first meeting on the Lido Beach in Sarasota, Florida on June 10-14, 1973. According to **Kendric Smith**, the ASP was planning to meet at a newly remodeled hotel and convention center in 1973. Then the development company declared bankruptcy several weeks before the meeting and left the ASP "on the beach". Fortunately, the Lido Biltmore stepped into the breach and the ASP moved from the beach and into that hotel.

For the first time in 30 years, there will not be an annual ASP meeting in 2005. Instead, in a move toward closer ties with the ESP, the ASP encourages all members to attend the ESP meeting in Aix-les-Bains, France on September 3-8, 2005. **Jean Cadet** and colleagues have already prepared a preliminary program and this is available on the newly designed ESP web site: www.esp-photobiology.it. So brush up on your French and polish your tongue for an exciting time in September!

Abbaye d'Hautecombe lies directly across Lac du Bourget from Aix-les-Bains, site of the 2005 ESP meeting. The abbey's construction began in 1100. It served as a mausoleum to many princes of the House of Solvay. In the 19th century, Charles-Felix, king of Sardinia, rebuilt the abbey in the Troubadour Gothic style. Visitors are welcome.



ASP News

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Free-electron Lasers Council Committee Visits Jefferson Lab



Fred Dylla (far right), director of the Jefferson Lab Free-Electron Laser Program, describes the operation of the

laser to (from left) David Sliney, John Sutherland, Patrick Neale and Ed De Fabo. All are standing within the vacuum ring that recirculates a pulsed beam of electrons. The linear accelerator, which generates the high-energy electron beam, is behind Neale and De Fabo and the optical cavity, which converts the energy in the electron beam into a laser beam, is to the left. Photo by Gwyn Williams, FEL basic research program manager.

In late October, four members of the committee appointed by the ASP Council to explore the impact and application of free-electron lasers (FELs) in photobiology visited the FEL facility at the Thomas Jefferson National Accelerator Facility (Newport News, VA). Two other members, **Rox Anderson** and **Martyn Caldwell**, were unable to attend, although Rox has visited the facility on other occasions.

This committee is charged with reporting to the ASP Council on the potential for FELs as light sources for photobiology experiments. Among the half dozen FELs operating in North America, the Jefferson FEL is outstanding in both the spectral breadth and time-average power of the light produced. With the commissioning of the UV component, scheduled for completion within a year, this FEL will produce high intensity (hundreds to thousands of watts, time average power) at wavelengths ranging from the UV-C through the infrared and into the THz region (between the infrared and microwave regions).

Potential applications in photobiology include:

- Determination of high-resolution monochromatic action spectra in animals, plants and microorganisms in the UV-B and UV-A, where activation cross-sections are small and conventional light sources provide limited wavelength and power.
- Photodynamic therapy and other areas of photomedicine.

- Probing biological effects such as protein folding dynamics and exposure limits.

The Committee will submit a report before the winter meeting of the ASP Council.

John Sutherland
ASP Council

Donate to the ASP

Your contributions to the ASP will help secure our future by building a strong financial base. You can mail your donation to the ASP Secretariat at the address below or submit your donation electronically at asp-donations.allenmm.com. The first five people to donate \$200 will receive a photobiology book (*Life Under the Sun*, \$26.95 value). **Contributions may be tax deductible.**

Name _____

<u>ASP Fund</u>	<u>Pledge Amount</u>
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ASP Endowment Fund*	_____
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Urbach Student Travel Endowment Fund*	_____
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ASP Operations**	_____
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Student Travel Subsidy**	_____
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*Contributions to endowment funds will be invested. Proceeds from those investments will support the endowment's named objective.

**Contributions to operating funds will be spent toward their named objective as needed.

Mail to:
American Society for Photobiology
PO Box 1897
Lawrence, KS 66044-8897

ASP Homepage Usage Statistics

Visits to the ASP homepage, www.photobiology.org, are being monitored by bravenet.com. Details are available at www.pol-us.net/ASP_Home/stats.html.

Counter Dates: Aug 16 – Nov 15 (93 days)

Total page views: 2611 (avg of 28.1 per day)

Total unique visits: 1860 (avg of 20.0 per day)

PAE

2004 Finsen Awards

The International Union of Photobiology (IUPB) presented the 2004 Finsen Award and the 2004 Finsen Lectureship to two **ASP** members. These awards are presented once every four years at the International Congress of Photobiology. This year's congress was in Korea, at the Jeju Island resort of Jungmoon. These awards commemorate 1903 Nobel Prize recipient Niels Finsen for his contributions to photobiology.

John Epstein

The IUPB named ASP member **John Epstein**, Clinical Professor of Dermatology at the University of California at San Francisco (UCSF), as the 2004 Finsen Award winner. This medal is awarded for life-time achievement in photobiology and is the highest honor that the IUPB awards.

John Epstein has been with the Department of Dermatology at UCSF for more than 30 years. During that time, he has authored or co-authored more than 250 papers and has received many other awards for his work in dermatology. Dr. Epstein also serves as a consultant for many San Francisco hospitals and has a private practice in San Francisco.

John Epstein specializes in photomedicine and photocarcinogenesis. He has also studied other conditions such as lupus and the porphyrias.

Dan Yarosh

The IUPB named ASP member **Daniel Yarosh**, founder and CEO of AGI Dermatics, the "Finsen Lecturer" for 2004.

Dan Yarosh was singled out for this distinguished award by the IUPB for his research efforts that produced a topically applied drug (T4N5 Liposome Lotion, trade name Dimericine®), currently under review by the FDA. T4N5 Liposome Lotion uses liposomes to deliver DNA repair enzymes into the cells of the skin. These enzymes reverse the DNA damage caused by sunlight.

ASP member **Herbert Hoeningmann**, President of the IUPB and Professor of Dermatology at the University of Vienna Medical School, said, "Finsen Lectures are presented by scientists that have

achieved a breakthrough in the photosciences. Dr. Yarosh is receiving the award for his research in DNA repair and prevention of skin cancer. It is with great pleasure that the Board of IUPB has selected Dr. Yarosh as Finsen Lecturer for 2004."

The IUPB is the worldwide association of photobiology societies, including those of the United States, Europe and Japan.

Yarosh said, "I am honored to receive this award, which reflects the dedication of scientists at AGI and collaborators around the world. It recognizes that basic photobiology research can put products in our hands to reverse skin damage even after sun exposure."

(reprinted with modification from the AGI web site)



Niels Ryberg Finsen, 1903 Nobel Prize winner for his research in photobiology.

Research by ASP Members

Ultraviolet Radiation and Melanoma

In the United States, melanoma accounts for about 3.5% of skin cancers, but about 80% of skin cancer deaths, or ~8000 people per year. Sunlight exposure is implicated in initiating melanoma, but there is controversy about the relative importance of UV-A (320-400 nm) and UV-B radiation (280-320 nm).

A recent study by ASP members **Edward De Fabo**, **Frances Noonan** (George Washington University Medical Center) and colleagues shows that only UVB-containing sources initiated melanoma in a transgenic mouse model that recapitulates human melanoma. These results have important implications for risk assessment from exposure to solar and artificial UV radiation, and to the development of effective UV radiation protection strategies. The study was published in the September 15 issue of *Cancer Research*.

Evolution of Dinoflagellate Luciferase

An enzyme with multiple catalytic sites represents an evolutionary elaboration of an enzyme with a single catalytic site. One example is the luciferase of dinoflagellates, which has three homologous catalytic domains. This enzyme catalyzes bioluminescence in the presence of luciferin and oxygen and is regulated by a circadian clock.

In the November 15 issue of *Proceedings of the National Academy of Sciences*, ASP member **Woody Hastings** (Harvard University) and colleagues present their study of the catalytic sites of the

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luciferase from seven dinoflagellate species. Their study elucidates the relationships and evolutionary significance of the different catalytic domains of dinoflagellate luciferase.

Fluorescent Phytochrome

Phytochrome is a pigment that regulates growth and development of plants. It is also present in cyanobacteria. In a forthcoming issue of *Proceedings of the National Academy of Sciences*, **Amanda Fischer** and ASP member **Clark Lagarias** (University of California, Davis) report their studies of the directed evolution of a cyanobacterial phytochrome.

They identify a specific region of the apoprotein that is important in regulating the spectroscopic properties of phytochrome. They also show that a specific tyrosine-to-histidine mutation transforms phytochrome into a red fluorescent protein. Such mutant proteins have potential as far-red light fluorescent reporter genes and for other applications.

(reprinted with modification from the ASP web site)

Fredrick Urbach Rest in Peace

Frederick Urbach, of Villanova PA, died peacefully in his home on July 8th 2004. Dr. Urbach was a founding member of the ASP, an ASP Councilor on two occasions, and was ASP President in 1977. He received the ASP Lifetime Achievement Award in 1993.



Dr. Urbach was born in Vienna, Austria in 1922. He earned an AB cum laude from the University of Pennsylvania and an MD from Jefferson Medical College. Following a fellowship in dermatology at the University of Pennsylvania, which culminated in his Certification in Dermatology, he held appointments in physiology and dermatology at Roswell Park, the University of Buffalo, and Temple University. He was chief cancer research dermatologist at Roswell Park Memorial Institute in Buffalo NY, before joining the Temple faculty in 1958. From 1967 to 1991 he was Professor and Chairman of Dermatology at Temple, and for about a

dozen of those years was the Director of the Center for Photobiology at the Skin and Cancer Hospital in Philadelphia. For 31 years he served on the staff of the former Skin and Cancer Hospital, which was affiliated with Temple. He retired from the chair of dermatology at Temple University in 1991.

An authority on photobiology, Dr. Urbach wrote more than 200 articles and six textbooks. He was devoted to educating the public about the dangers of tanning and overexposure to the sun. In 1963 he researched the effects of ultraviolet radiation from the sun on vulnerable parts of the face and neck and showed that umbrellas and hats did not provide adequate protection. Later he travelled around the world, including the North and South Poles, to study the increase of ultraviolet radiation caused by depletion of the earth's ozone layer. Following his retirement, Dr. Urbach continued to write and consult, including for NASA. He was a pioneer and world renowned expert in the photobiological effects of ultraviolet radiation and received numerous awards for his research. In 1991 he received the highest honor in photobiology, the prestigious Finsen Medal from the International Union of Photobiology (IUPB) at the International Congress for Photobiology in Kyoto, Japan. At this year's IUPB meeting, the congress established a research fund in his honor.

In addition to his service with the ASP, Dr. Urbach was also a member of the US National Committee for Photobiology (1973-1982), served as Vice-President (1976-1980) and President (1980-1984) of the IUPB, and was an honorary member of the Austrian Society for Dermatology and Venereology.

Herbert Hoenigsmann

ASP History

Archives Added to ASP Web Site

Irene Kochevar, ASP Historian, has recently added extensive archival materials to the ASP web site. These materials include ASP histories (previously published in *Photochemistry and Photobiology*), photo galleries of ASP presidents, and photos taken at ASP meetings from 1973 to the present. All materials are available by clicking the "History" link on the navigation menu or by going directly to http://www.pol-us.net/ASP_Home/asp_history.html.

PAE

Upcoming Events

January 5-10, 2005

Fourth Asian Photochemistry Conference (APC-2005)

Grand Hotel, Taipei, Taiwan

Contact: Lorraine Hsu

Tel/Fax: 886-2-2362-4925

E-mail: jwhsu@pub.iams.sinica.edu.tw

Web site: <http://www.iams.sinica.edu.tw/introa/conference/apc2005/apc2005.htm>

January 6-9, 2005

16th Inter-American Photochemical Society Winter Conference

Clearwater Beach, Florida

Contacts: Felix N. Castellano

Tel: 419-372-7513

E-mail: castell@bgnnet.bgsu.edu

Dirk M. Guldi

Tel: 574-631-7441

E-mail: guldi.1@nd.edu

January 9-14, 2005; March 13-18, 2005

Protein Purification: Isolation, Analysis, and Characterization of GFP

Cook College, Rutgers University

New Brunswick, NJ

Contact: William W. Ward

Tel: 732-932-9562 ext 216 or 212

E-mail: crebb@rci.rutgers.edu

Web site: www.rci.rutgers.edu/~meton/protein.html

January 22, 2005

Photonics West/Biomedical Optics

San Jose Convention Center

San Jose, CA

Tel: (360) 676-3290

E-mail: spie@spie.org

Web site: spie.org

February 12-16, 2005

Biophysical Society 49th Annual Meeting

Long Beach Convention Center

Long Beach, CA

Tel: (301) 634-7114

E-mail: society@biophysics.org

Web site: www.biophysics.org

February 17-21, 2005

American Academy for the Advancement of Science

Washington, DC

Contact: American Academy for the Advancement of Science

1200 New York Ave NW

Washington DC 20005

Tel: 202-326-6400

E-mail: aaasmeeting@aaas.org

Web site: www.aaas.org

February 20-26, 2005

8th International Conference on Solar Energy and Applied Photochemistry

Ain Shams University

Photoenergy Center

Upper Egypt [Luxor/Aswan]

E-mail: Solar05@photoenergy.org

Fax: +202 634 7683 or + 202 484 5941

Web site: www.photoenergy.org

March 7-10, 2005

International Laser Safety Conference

Marina de Rey Marriott

Marina del Rey, CA

General Chair: David H. Sliney

Web site: www.laserinstitute.org/conferences/ilsc/

March 14-18, 2005

Photociencias 2005

3rd Symposium & School on Photobiology, Photochemistry and Photo-physics

Havana, Cuba

Tel: (53) (7) 8705707, 8707666

E-mail: fotocien@fisica.uh.cu

April 11-13

Photonics Research and Applications

Hilton San Diego Resort

San Diego, CA

Optical Society of America

Tel: (800) 723-4632

E-mail: custserv@osa.org

Web site: www.osa.org

May 22-7, 2005

Conference on Lasers and Electro-Optics (CLEO)

Quantum Electronics and Laser Science Conference (QELS)

Baltimore Convention Center

Baltimore, MD

E-mail: custserv@osa.org

Tel: 202-416-1907

Web site: www.cleoconference.org/

June 13-16, 2005

European Conference on Biomedical Optics

Neue Messe

Munich, Germany

Web site: www.osa.org/meetings/

topicals/ecbo/

June 18-25, 2005

Graduate summer school: Bio-Photonics '05

The Island of Ven

Backafallsbyn, Sweden

Web site: www.biop.dk/biophotonics05/School/School.asp

July 2-6, 2005

16th International Symposium on the Photochemistry and Photophysics of Coordination Compounds (ISPPCC)

Asilomar Conference Center

Pacific Grove, CA

Contact: Patrick Hoggard

E-mail: phoggard@scu.edu

July 8-11, 2005

Summer Meeting of the Society of Free Radical Research (Europe)

De Vere Belfry Hotel

Leicester, England, UK

Contact: Joseph Lunec, Chief Organizer

E-mail: jl20@leicester.ac.uk

Web site: www.sfrr-europe.org/

July 16-20, 2005

Plant Biology 2005

ASPB's Annual Meeting

Washington State Convention & Trade Center

Seattle, Washington

Web site: www.aspb.org/meetings/pb-2005/index.cfm

July 24-29, 2005

12th International Conference on Photochemistry

Cairns, Australia

Contact: ICP 2005 Conference Secretariat

Phone: +61 3 9682 0244

Fax: +61 3 9682 0288

E-mail: icp2005@icms.com.au

August 27 - September 1, 2005

2005 IUPB and EBSA Joint Meeting

Montpellier, France

Web site: www.iupab.org/

September 3-8, 2005

11th European Society for Photobiology Congress

Aix-les-Bains, France

July, 2006

33rd ASP Meeting

Puerto Rico