

ASP NEWS



Spring 2010

vol. 39(2)

Greetings, ASP members!



Sayles Hall (Brown University), site for ASP-2010 registration and poster sessions.

It has turned out to be a good year for an affordable meeting. We are glad to offer reasonably priced accommodations at Brown University and have worked hard to offer the lowest possible registration fees. The scientific program is full of cutting-edge and highly topical sessions that are meant to be appreciated by non-experts. We also have sessions on education and public outreach that will be useful for educators. The atmosphere of the meeting is sure to be enjoyable as we meet in lecture halls on campus and use a lovely old hall for receptions, as well as the beautiful campus green adjacent to the meeting rooms. The mentoring committee has planned some events especially for associate members. A number of restaurants and cafes within walking distance offer affordable meals. Many of our northeastern members should be able to drive to Providence. So reserve some dorm rooms, or make a reservation at the Biltmore Hotel (with an excellent room rate), load up that van and bring your whole research group!

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ASP-2010

Location: Brown Univ, Providence, RI

Dates: June 12-16, 2010

Web site: www.asp2010.org

Highlights

Michael Siebert, from the US DOE National Renewable Energy Laboratory, will speak about "Photosynthesis in Biofuel Production" at the **Kendric C. Smith Lecture on Innovations in Photobiology**. **Ben Wiehe** will present a plenary lecture about opportunities for public outreach including Science Cafes and COPUS (Coalition on the Public Understanding of Science). **Nik Kollias** and **Dave Sliney** will present interesting photobiology schools on the fundamentals of "Using Light for Diagnosis" and "Guidelines for Obtaining Action Spectra". Sessions throughout the meeting will involve circadian rhythms, PDT, low level light therapy, photochemistry, ocular photobiology, photocarcinogenesis, optical imaging, and the controversial topic of tanning, solarium and sun beds. Additional

sessions with contributed papers will allow members to catch up on the latest work of their colleagues.

With the best view of three rivers that pass through Providence and of the Providence skyline, this year's banquet will be held at Waterplace Restaurant. The banquet price is included in the registration fee and guest tickets are only \$40.

We hope you can join us!

-Linda Jones & Dave Sliney
(ASP 2010 Program Chairs)

-Linda Hardwick
(Executive Meeting Planner)

New Bioluminescent Fungi



The genus *Mycena* is a large group of widely distributed small mushrooms. **Dennis Desjardin** and colleagues (*Mycologia* 102: 459-477) recently reported seven new bioluminescent species of this genus, including *Mycena luxaeterna* (above). The top photo was taken in daylight and the bottom photo in darkness. Images courtesy of Dennis Desjardin.

Letter from the Editor



The editor, pausing during a recent ski race in upstate NY

This is the last issue of our newsletter before the upcoming ASP meeting in Providence RI (June 12-16). Check out the recently updated

program at www.asp2010.org. This web site also has links to lots of places in Providence for eating, drinking, and recreating.

Linda Jones and **Dave Sliney** remind us on the front page of this newsletter that ASP has negotiated reasonable housing rates for all attendees. You can stay next to the meeting site in a dormitory for a mere \$55 per night, or you can stay at the Biltmore Hotel in downtown Providence for \$139 per night. The Biltmore is about half a mile from the Brown University campus and regular bus service is available. You should also be able to walk, bike, skateboard, or rollerblade over to campus.

David Kessel, our new Historian, has also contributed an article to this newsletter (see page 5). David plans to have a slide show of previous ASP meetings in Providence, based on his extensive supply of photos and other documents. David would be happy to receive any additional photos that you might have laying about and would also be glad to hear about your own reminiscences.

See you in Providence!

ASP News

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ASP Election Results

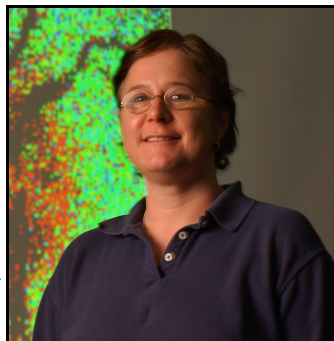
This year we had 18 candidates running for council. Thank you to all our candidates. The election results were close and the new ASP President and council members are:

President Elect:

> Beth Gaillard
(pictured at right)

Council:

- > Tom Vogelmann
- > Francesco Lenci
- > Wolfgang Gaertner
- > Georg Wondrak
- > Micheline Matthews-Roth



ESP PHOTOBIOLOGY SCHOOL

June 21-26, 2010

Brixen/Bressanone, Italy

The ESP is pleased to announce the 2010 ESP Photobiology School, taking place in Brixen/Bressanone in South Tyrol, Italy. The purpose of the school is to provide an introductory overview of all main aspects of photobiology, presented by experts in each area.

The intention of the school is to cover the basic principles of photobiology and photochemistry of biomolecules as well as applications of such knowledge in understanding effects of climatic changes, influence of light on biological systems, applications of light in medicine and for other purposes. The school will include basic lectures in each field that should be attended by all participants as well as optional special lectures in the same fields. The students will be able to present their results at a poster session. The course may act as a fundament for further research in the photobiological sciences. The attendants may be MSc- and PhD-students as well as others who would be interested in an overview of the photobiological sciences.

However, the course will be designed for PhD students. The course will end with a short final test and an attendance certificate will be provided for those who need a documented exam.

For further information, please see:

www.esp-photobiology.it/school.html

-Kristian Berg

(Chair, Organizing Committee)

ICRR-2011

www.icrr2011.org

On behalf of the host organization, the Maria Skłodowska-Curie Polish Radiation Research Society, we invite you to attend the **14th International Congress of Radiation Research**. This largest gathering of radiation scientists in the world will, for the first time ever, be organized in Warsaw from August 28 to September 1, 2011. Noticeably, in that year we will celebrate the centenary of the second Nobel prize awarded to Maria Skłodowska-Curie for the separation and characterization of radium and polonium.

The scientific programme of the 14th ICRR will cover all of the major disciplines of the contemporary ionizing and nonionizing radiation science including physics, chemistry, biology, medicine, and radiation protection.

In association with the Congress, satellite symposia will be organized in Cracow (Poland), Prague (Czech Republic), and Kiev (Ukraine). These will cover such topics as physical and biological foundations of the hadron therapy and new perspectives in the diagnosis of heart diseases in women (Cracow), ethics of radiation protection (Prague), and health consequences of the Chernobyl disaster, a quarter century later (Kiev). Last but not least, enjoyable and memorable social events and tourist attractions will be offered to all the participants and their partners.

-Marek K. Janiak

(Chair, Organizing Committee)

Caveat Googler

I was interested to read the list of most-cited *Photochemistry and Photobiology* papers compiled by **Peter Ensminger** for the last issue of *ASP News*. A few years ago I did the same for several other journals and was immediately struck by the relatively small number of

citations for some of the papers on his list. It quickly became apparent that Peter had fallen victim to one of the shortcomings of Google Scholar. After some correspondence, we thought it might be useful to share these with the readers of this newsletter.

Google Scholar (GS) is a free search engine accessed from the main Google page. It is self-defined as a “simple way to broadly search for scholarly literature”. (Note the split infinitive in the fine tradition of “to boldly go”.) GS relies on Google’s “web crawlers” to compile information about publications, and this can then be searched from the GS Advanced Search page. Results of the proprietary search algorithm are presented in an order based on undisclosed factors, but partially weighted by the number of citations to the paper. To see what went wrong with Peter’s search, go to the Advanced Search page and enter *Photochem Photobiol* in the Publication box and 1990-2010 in the Date box. You should see a list very similar to that in ASP News except that the number of citations has, of course, increased. Now search for papers in *Photochemistry and Photobiology* instead and you will get a completely different list. Also note that papers with hundreds of citations are listed after those with only 50 or so.

We can deal with the problem of rank order by utilizing another piece of free software called Publish or Perish (PoP). This is maintained by Anne-Wil Harzing at the University of Melbourne and can be downloaded at www.harzing.com. PoP allows users to search the GS data and to list results in strict order of the number of citations. It also provides a number of other bibliometric indices such as the famous (or infamous) h-index, with which you can waste many hours. PoP cannot overcome the basic limitation that GS does not rely on structured databases, so that problems such as the ambiguity of journal title illustrated above arise all the time.

I have also found that GS results are not temporally stable – papers that appear in a search can mysteriously disappear when the search is repeated at a later date. Despite its shortcomings, GS is free, easy to use and covers an amazingly wide range of sources. But, as my

title suggests, use with caution!

For more reliable results, I suggest the **Web of Science** (Thomson Reuters) available through most university libraries. The electronic version of the structured database is updated weekly and is easily searched – they will even fix mistakes if you email them. One drawback is the relatively narrow coverage – “only” about ten thousand journals are included, but conference proceedings are also available as an option. I have used a trial version of a similar product called **Scopus** (Elsevier) and it is also very good. Scopus has a broad coverage comparable to GS, but the complete database only goes back to 1995.

To end this note, I have listed the ten most-cited papers published after 1989 in *Photochemistry and Photobiology* according to the Web of Science, based on a search conducted on February 22, 2010.

- Henderson BW, Dougherty TJ (1992) How does photodynamic therapy work? *Photochem Photobiol* 55: 145-157. **Citations: 1187**
- Wagnieres GA, Star WM, Wilson BC (1998) In vivo fluorescence spectroscopy and imaging for oncological applications. *Photochem Photobiol* 68: 603-632. **Citations: 413**
- Foote CS (1991) Definition of type-I and type II photosensitized oxidation. *Photochem Photobiol* 54: 659-659. **Citations: 399**
- Rosenthal I (1991) Phthalocyanines as photodynamic sensitizers. *Photochem Photobiol* 53: 859-70. **Citations: 358**
- Strasser RJ, Srivastava A, Govindjee (1995) Polyphasic chlorophyll-alpha fluorescence transient in plants and cyanobacteria. *Photochem Photobiol* 61: 32-42. **Citations: 355**
- Girotti AW (1990) Photodynamic lipid-peroxidation in biological systems. *Photochem Photobiol* 51: 497-509. **Citations: 323**
- Moan J, Berg K (1992) Photochemotherapy of cancer – experimental research. *Photochem Photobiol* 55: 931-48. **Citations: 319**
- Dougherty TJ (1993) Photodynamic therapy. *Photochem Photobiol* 58: 895-900. **Citations: 314**

• Frank HA, Cogdell RJ (1996) Carotenoids in photosynthesis. *Photochem Photobiol* 63: 257-64. **Citations: 312**

• Du H, Fuh RCA, Li JZ, et al. (1998) PhotochemCAD: A computer-aided design and research tool in photochemistry. *Photochem Photobiol* 68: 141-42. **Citations: 309**

-Mike Patterson

(Juravinski Cancer Centre and McMaster University, Hamilton, Canada)

ASP History

The ASP Council has asked me to take on the job of Historian. Among other duties, I expect to provide a commentary on certain historical items for future Newsletters.



My experience with ASP only dates from the 1981 meeting at Williamsburg VA. This means that I missed the first eight meetings. But there were sufficient noteworthy events during the subsequent 29 years to provide a good source of

material. Prominent among these were the swimming pool episode in Scottsdale (1994), the scandalous Council meeting in New Orleans (1985) and the crystal ball illusion in San Francisco (2000).

ASP History:

www.pol-us.net/ASP_Home/asp_history.html

These will be revealed in subsequent issues. Naturally, there are a few items for which the world is not yet ready, but these can be saved for a later time.

-David Kessel
(ASP Historian)

Research by ASP Members

Hypericin Hydroquinone as a Red/Far-red Photosensitizer

Hypericin (HYP) is a red-colored pigment present in species of the genus *Hypericum* (St. John's wort). HYP absorbs strongly in the green-orange spectral region (~500-600 nm), and the reduced form of HYP (HYP-H) absorbs strongly in the red/far-red region (~640-700 nm). Recent research has shown that hypericin may be a useful agent for photodynamic therapy (PDT). In PDT, a photosensitive agent is administered to a patient and is then activated by light, thus destroying cancerous or other harmful cells.

In a recent issue of *Photochemistry and Photobiology*, **Theodossiou et al.** [1] report on their recent studies of HYP and HYP-H in cultured DU-145 (prostate cancer) cells. They found that HYP and HYP-H localize to mitochondria and that both are cytotoxic. This is the first report to document significant phototoxicity of HYP-H.

Theodossiou TA, Tsiourvas D, Hothersall JS (2010) Hypericin hydroquinone: potential as a red/far-red photosensitizer? *Photochem Photobiol* 86: 18-22.

Bacteriorhodopsin Photocycle

Bacteriorhodopsin (bR) is a protein present in halobacteria that absorbs sunlight and uses this energy to pump protons out of the cell, creating a proton gradient that is converted to chemical energy. It is an integral membrane protein and can constitute up to 50% of the membrane surface area.

In a recent issue of *Photochemistry and Photobiology*, **Li-Kang Chu** and **Mostafa A. El-Sayed** (Georgia Institute of Technology) report on their studies of the effects of three surfactants on the O intermediate of bacteriorhodopsin (bR) by use of steady-state UV-visible spectrometry, circular dichroism spectroscopy, and time-resolved absorption techniques. They found that a nonionic surfactant (diethylene glycol mono-n-hexyl ether) added to purified bR enhanced the transient O state population and improved proton pumping efficiency.

Li-Kang Chu and Mostafa A. El-Sayed
 (2010) Bacteriorhodopsin O-state
 Photocycle Kinetics: A Surfactant Study.
Photochem Photobiol 86: 70-76.

-PAE
 (adapted from ASP web site)

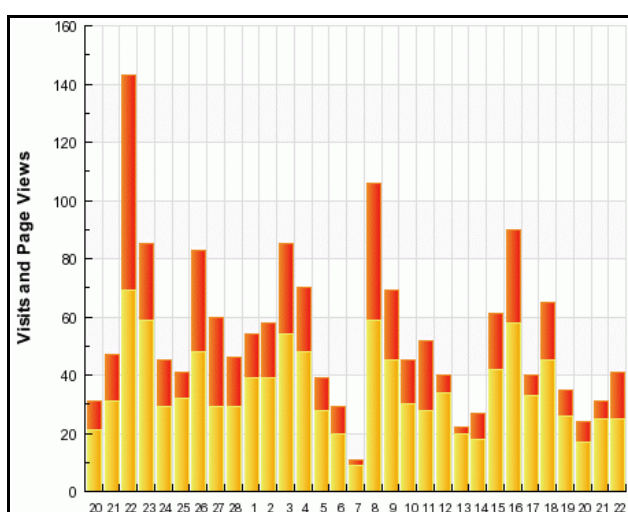
ASP Homepage Usage Stats

Dates: Dec 20, 2009 to March 21, 2010
 (91 days)

Total page views: 4819

Average page views per day: 49

Average visit duration: 2 min 10 sec



Visits (yellow bars) and page views (yellow bars + orange bars) to the ASP homepage from Feb 20 to March 22, 2010. When a single computer makes multiple "visits" within a single 30 min period, it is defined as a single page view.

Language of visitors:

English: 57%
 French: 8%
 Korean: 5%
 Japanese: 4%
 Arabic: 3%
 German: 3%
 Greek: 3%
 Spanish: 2%
 Russian: 2%
 Others: 13%

Browser of visitors:

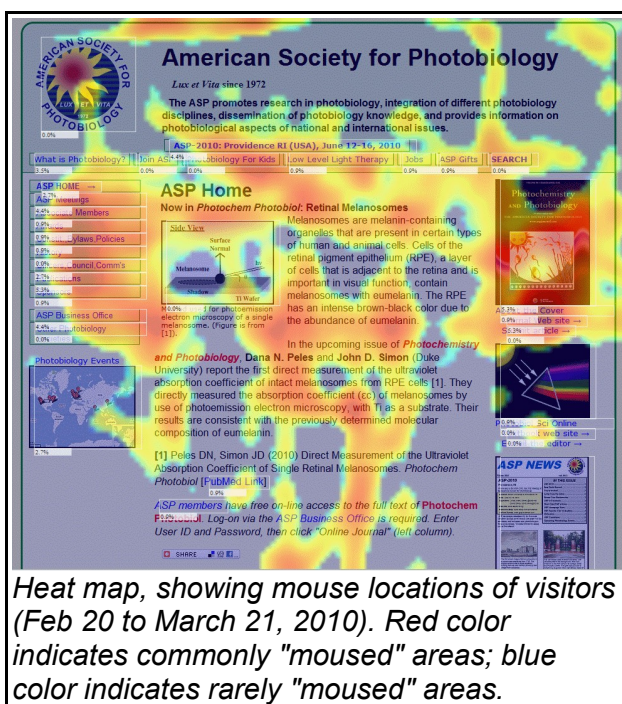
FireFox: 39%
 Internet Explorer-8: 20%
 Internet Explorer-7: 19%
 Internet Explorer-6: 11%
 Netscape: 1%
 Opera: 2%
 Safari: 7%

Location of visitors:

North America: 43%
 Europe: 26%
 Asia: 14%
 Unknown: 11%
 Oceania/Australasia: 3%
 South America: 2%
 Africa: 1%

Screen color depth of visitors:

32 bits: 67%
 24 bits: 31%
 16 bits: 2%



Heat map, showing mouse locations of visitors (Feb 20 to March 21, 2010). Red color indicates commonly "moused" areas; blue color indicates rarely "moused" areas.

Photobiology Events

Interactive Map and Table:
www.pol-us.net/meetings.html

April 17-18, 2010

Photosensory Receptors & Signal Transduction
Il Ciocco Hotel and Resort
Lucca, Barga (Italy)
Web site: www.grc.org

May 18, 2010

Regional Photobiology Network Meeting
Princeton, NJ (USA)
Web site: www.pol-us.net/ASP_Home/ResDoc838.pdf

June 12-16, 2010

ASP-2010: 35th Meeting of the American Society for Photobiology
Brown University
Providence, RI (USA)
Web site: www.asp2010.org

June 13-16, 2010

6th European meeting on Solar Chemistry and Photocatalysis: Environmental Applications (SPEA6)
Prague (Czech Republic)
Web site: www.spea6.com

June 21-26, 2010

2010 ESP Photobiology School
Brixen/Bressanone (Italy)
Web site: www.esp-photobiology.it/school.html

July 11-16, 2010

23rd IUPAC Symposium on Photochemistry
Ferrara (Italy)
Web site: web.unife.it/convegni/iupac-photochem-2010

July 13-16, 2010

Challenges in Physical Chemistry and Nanoscience (ISACS2)
Budapest (Hungary)
Web site: www.rsc.org/isacs2

July 30-Aug 5, 2010

Plant Biology 2010: American Society of Plant Biologists Montreal QC (Canada)
Web site: aspb.org/meetings/pb-2010

Aug 15-20, 2010

7th International Conference on Photo-Excited Processes and Applications (ICPEPA7)
Copenhagen (Denmark)
Web site: icpepa7.com

Aug 15-19, 2010

FASEB - Mechanisms in Plant Development
Saxtons River, Vermont (USA)
Web site: www.faseb.org/meetings

Sept 24-26, 2010

Fifth Latin-American Congress on Photobiology and Photomedicine
Santa Cruz (Bolivia)
Web site:
www.allenpress.com/pdf/AnnouncementLatin-AmericanCongress1.pdf

Dec 15-20, 2010

PacifiChem 2010: The International Chemical Congress of Pacific Basin Societies
Honolulu, HI (USA)
Web site: www.pacificchem.org

Aug 28-Sept 1, 2011

14th International Congress of Radiation Research
Warsaw (Poland)
Web site: www.icrr2011.org/main/article/ptbr

Other Event Calendars:

SPIE Events: spie.org/x1375.xml
Plant Biology: aspb.org/calendar
Chemistry: www.chemistry.org
Gordon Confs: www.grc.org
Cell: www.cell.com/conferences



Please submit upcoming events to Peter A. Ensminger: ensminger@twcny.rr.com