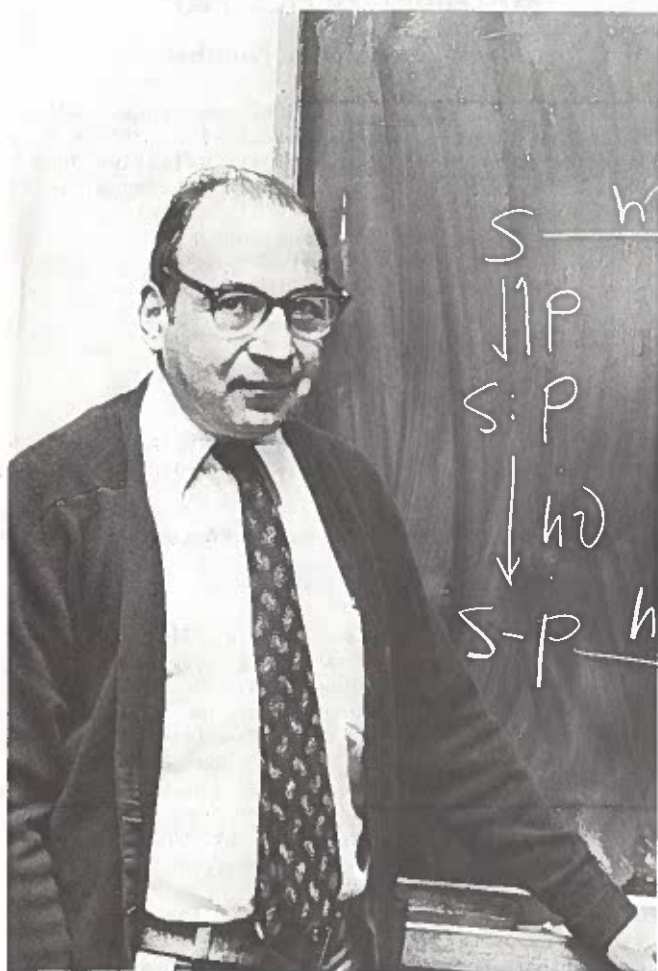




# Newsletter

Editor: DR. VINCENT DE LEO, Department of Dermatology  
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No. 109 June/July 1987



ASP PRESIDENT 1987/1988

Leonard Grossweiner

LEONARD GROSSWEINER is a professor of physics at Illinois Institute of Technology and Visiting Professor of Physics at the University of Illinois College of Medicine at Chicago. He was a member of the first graduating class of the Bronx High School of Science in 1941, following which he studied chemical engineering at the City College of New York. He completed the program after a two-year interruption by the second world war, and in 1947 he joined the Chemistry Division of the Argonne National Laboratory, located at that time on the campus of the University of Chicago. His early research involved an unusual high-temperature reaction between beryllium oxide and water vapor, the x-ray induced luminescence and thermoluminescence of ice, and heterogeneous photochemical reactions in aqueous solution catalyzed by semiconductors. In 1953, he and Dr. Max S. Matheson constructed one of the first flash photolysis units in the U.S., which led to the spectral identification of the dihalide radical anions. While working at the Argonne Laboratory, he pursued graduate studies at Illinois Institute of Technology, which led to the M.S. degree in chemical engineering in 1950 and the Ph.D. in physics in 1955. From 1955 to 1957, Dr. Grossweiner was an evening instructor at IIT, and in 1957 he joined the physics department as an associate professor.

At IIT, the flash photolysis technique was used to investigate optically-induced color center transformations in alkali halide crystals and dye-photosensitization of zinc oxide films, including the applications in electrophotography. Dr. Grossweiner's interest in protein photochemistry began in 1956, when Dr. Hugo Fricke, a pioneer in radiation chemistry, suggested that it might be interesting to see whether a protein gave any interesting flash photolysis products. The very first results with aqueous ovalbumin and its constituent aromatic amino acids led to the observation of unstable aromatic amino acid radical intermediates, which are still the subject of active research. In 1963, Dr. Grossweiner and his colleagues reported the first flash photolysis evidence for the photoionization of aromatic molecules in aqueous solution, leading to the formation of hydrated electrons.

Please note new address: 8000 Westpark Drive, Suite 400, McLean, Virginia 22102

1340 Old Chain Bridge Road, Suite 300 / McLean, Virginia 22101 / (703) 790-1745

This work was extended to lysozyme and proteolytic enzymes after 1971, with the basic objective of relating the initial photochemical reactions of an aqueous enzyme to the permanent chemical damage and loss of enzymatic activity. With the development of pulse radiolysis in the early 1970s, he and Dr. Jacques Ovadia assembled a 40 MeV electron apparatus at Michael Reese Medical Center and investigated the early stages of ionizing radiation damage in trypsin and carbonic anhydrase.

Dr. Grossweiner's interest in photosensitization started with flash photolysis investigations of xanthene dyes, which were extended to ionizing radiation with pulse radiolysis. Both types of excitation led to the same short-lived free radical intermediates under appropriate conditions, providing a link between the reactions of dye triplet states with oxidizing and reducing substrates and the reactions of the primary water radiolysis products with the same dyes. His current interest in phototherapy originated with studies on photosensitization by furocoumarins in 1975, which led to the then unexpected result that 8-methoxypsoralen photosensitizes lysozyme inactivation via a Type 2 mechanism. Subsequent work examined the kinetics of 8-MOP photobinding to DNA, and the repair of psoralen-DNA photolesions in *E. coli*, carried out with Dr. Kendrick C. Smith at Stanford University. His interest in furocoumarins has continued, and a recent paper in Photochemistry and Photobiology reports singlet oxygen quantum yields for 8-MOP and several other psoralens in aqueous solutions and results on photosensitization of liposomes. Dr. Grossweiner's research on porphyrins was stimulated by the first clinical reports of photodynamic tumor therapy or PDT in the late 1970s. The putative action mechanism in PDT involves the attack of singlet oxygen on tumor membranes, which motivated his studies on model membranes, first with liposomes and currently with resealed red blood cell membranes. Dr. Grossweiner has participated in recent clinical trials of PDT at the Wenske Laser Center of Ravenswood Hospital Medical Center, where he serves as a consultant and Research Director. He is especially interested in laser interactions with tissue, and has developed an analytical model for optical dosimetry in PDT that is being compared to clinical results.

Dr. Grossweiner was chairman of the IIT Physics Department from 1970 to 1981, and has been active in several scientific societies. He is a charter member of the ASP, and has served on the Council and Executive Committee since 1977. He played an active role in the formation of the division of Biological Physics of the American Physical Society, and served as the Division's first Secretary-Treasurer from 1972 to 1976, and as Chairman in 1977. He was a member of the U.S. National Committee on Photobiology from 1978 until 1981 and served as its Chairman in 1982, and he has been a Board member of the Midwest Bio-Laser Institute since 1983 and is the present Secretary.

Dr. Grossweiner and his wife Bess, a computer scientist, have been married for 35 years and they have three children in various stages of the educational process, a college junior, a graduate student, and a medical resident. Tennis is his favorite recreational activity, and he tries to arrange his schedule so as not to miss two regular evening matches each week.

## STUDENT TRAVEL AWARDS

### 1988 ASP Annual Meeting

#### Colorado Springs, Colorado

Attention Students, travel awards to the ASP 1988 meeting at the Broadmoor Hotel, Colorado Springs, CO, March, 1987 are available. Students interested in applying for a travel award to the 1988 meeting should note that the announcement and application materials will be contained in a call for papers scheduled for dispatch early in August 1987. IMPORTANT--the deadline for applications and abstracts will be approximately one month earlier than for persons submitting regular abstracts.

## EDITORIAL OFFICE P&P

### New Telephone Number

In the last NEWSLETTER, we announced the relocation of the Editorial Office of Photochemistry and Photobiology effective June 1, 1987. There has subsequently been a change in the phone number of that office as listed below:

Professor Pill-Soon Song  
Editor-in-Chief  
Department of Chemistry  
University of Nebraska  
Lincoln, NE 68588-0304

Telephone (402) 472-2733

After June 1, 1987, all manuscripts should be submitted to the above address.

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### CALL FOR NOMINATIONS

The Nominating Committee of the ASP, Chaired by Irene Kochevar, is soliciting nominations for President-Elect and Councilors. Nominations for offices to become vacant can be made by the Committee and also by a signed petition or letters from the Membership. Nominations for President-Elect may be made by ten (10) members in the form of a signed petition or letters. In addition, a written statement by the nominee of willingness to serve must be received.

The election of Councilors shall follow the same schedule as for the election of Officers. Nominations for a Councilor position may be made by five (5) members in the form of a signed petition or letters. In addition, a written statement by the nominee of willingness to serve must also be received.

In order that the names of persons so nominated may appear on the Ballot, petitions or letters must be received by the Society by October 2, 1987.

Please address all Petitions/Letters and nominees' statements of willingness to serve to:

Richard J. Burk, Jr.  
Executive Secretary  
American Society for Photobiology  
8000 Westpark Drive, Suite 400  
McLean, VA 22102

## POSITION AVAILABLE

Postdoctoral Position. A position is available for the study of Psoralen-DNA Photochemistry and Photobiology as it relates to two possible projects:

(1) "Photofootprinting" of 8-MOP-DNA photoadducts using monoclonal antibodies; experience in photochemistry desirable; experience in DNA sequencing necessary.

(2) Repair of 8-MOP-DNA photoadducts in lymphocytes; characterization using monoclonal antibodies and cytofluorography; experience in photochemistry and in cytofluorography helpful but not necessary.

Starting date is late Spring or early Summer. For more information contact:

Dr. Frank Gasparro  
Yale University  
Department of Dermatology  
HRT 615/P.O. Box 3333  
New Haven, CT 06510

POSTDOCTORAL RESEARCH ASSOCIATE. Position available immediately for biochemical purification and spectrophotometric analyses of (flavoprotein) receptor pigments and other molecules involved in blue-light responses of the fungus *Phycomyces*. These responses include phototropism, light-growth response, light-induced carotene synthesis, and light-controlled differentiation.

Techniques include two-dimensional gel electrophoresis, fast protein liquid chromatography (FPLC), and differential spectrophotometry (including light-induced absorbance changes). The experiments involve comparison of wild-type strains and behavioral mutants with abnormal photoresponses. Candidates should have a strong background in biochemistry, and experience in spectrophotometric techniques.

Send curriculum vitae and three letters of reference to:

Dr. Edward Lipson  
Department of Physics  
Syracuse University  
Syracuse, NY 13244-1130

315-423-2578

### Postdoctoral Position

A post-doctoral position is available immediately for an ongoing project studying the therapeutic potential of porphyrins and related macrocycles for photodynamic therapy of tumors. A Ph.D. in biochemistry of pharmacology preferred, with cell biology background. Familiarity with general biochemical techniques and all aspects of chromatography is needed. Porphyrin methodology is a great plus. Salary commensurate with qualifications and full benefits. Applicants should send curriculum vitae and names, addresses and phone numbers of three references to:

Dr. Martha Kreimer-Birnbaum  
Director, Research Department  
St. Vincent Medical Center  
2213 Cherry Street  
Toledo, Ohio 43608

St. Vincent Medical Center is an affiliated teaching hospital of the Medical College of Ohio.

### Postdoctoral Research Position

A postdoctoral research position will become available starting in the Fall of 1987. This position entails carrying out biochemical and photochemical studies of visual pigment analogs including F-19 NMR studies of labelled visual pigments. A Ph.D. in biochemistry, biophysics or chemistry is needed. Experience in protein isolation and protein NMR studies is desirable. The minimum annual stipend is \$18,000. Employee is granted a one year appointment with a possible renewal. Send the application to, or for additional information contact:

Professor Robert S.H. Liu  
Department of Chemistry  
University of Hawaii  
2545 The Mall  
Honolulu, HI 96822

808-948-6721

### Postdoctoral Research Associate

A postdoctoral research position will become available starting September 1, 1987 for a person interested in investigating the O<sub>2</sub>-evolving process of photosynthesis, photosystem II core complexes, and the properties of photosynthetic membrane surfaces. Areas of interest include structural, biochemical, biophysical, and molecular biological studies. The position is for one year with the possibility of extension to a second year depending on research progress and availability of funding. Salaries are highly competitive. Send a CV, short statement of research interests, and names with phone numbers of three professional references to:

Dr. Michael Seibert  
Solar Energy Research Insititute  
Golden, CO 80401



**ASP SECRETARY-TREASURER**

**David Kessel**

My early education involved fields somewhat removed from photobiology, but not entirely irrelevant. Undergraduate work was done at MIT (Chemistry), followed by graduate studies at the University of Michigan (Biological Chemistry). I received postdoctoral training in Pharmacology at Harvard Medical School, and was later on the faculty at Harvard (Children's Hospital Medical Center), University of Rochester and Wayne State University. I am currently a Professor of Medicine and Pharmacology at the latter University, without ever having had a formal course in either subject. There is a moral here somewhere, but I do not want to look for it.

In 1976, I received my first exposure to photobiology; the National Cancer Institute asked me to investigate the photosensitizing properties of some porphyrins, as part of a contract relating to drug development. This small beginning led to 9 years of current, and 4 of future grant support, organization of 3 international conferences, and

travel to conferences in Sardinia, Japan, Australia, Italy, England, The Netherlands, Norway, Denmark, Germany and Hawaii. It also led to my joining the American Society for Photobiology, among the most worthwhile development.

I have been involved in different aspects of the development of anti-tumor agents since 1963. the use of porphyrins and related products as photosensitizing agents represents a novel approach to cancer control. My work has related to the mechanism of porphyrin photosensitization: modes of selective accumulation, sites of photodamage, synthesis of new products. Along the way, I have learned or re-learned a substantial amount of organic chemistry, spectroscopic techniques (including fluorescence), and animal physiology. The laboratory has slowly filled with light sources, instruments, and people, crowding out other projects.

As part of my interactions with the scientific community, I belong to several societies, but the ASP has always seemed to be among the most useful and informative. The membership consists of highly competent scientists, and the meetings provide a source of interesting new information. The functioning of this Society depends on contribution of effort by selected individuals, and it seems appropriate that I should help in this regard, having received so much aid in my work from many ASP members.

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SOCIETY NEWS

**DUES GRANTS AVAILABLE**

Members of the Society who are presently unemployed may apply to the GRANTS AND AWARDS COMMITTEE for a waiver of MEMBERSHIP DUES. The DUES GRANTS are available for a one year period. Interested members should apply through the Secretariat at the following address:

Secretariat, ASP  
8000 Westpark Drive, Suite 400  
McLean, VA 22102

**American Society for Photobiology**

1340 Old Chain Bridge Road, Suite 300  
McLean, Virginia 22101

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