Photochem. Photobiol. Vol. 35, pp. 597 to 614, 1982
Printed in Great Britain.

0031-8655/82/050597-18$03.00/0

HISTORY OF THE AMERICAN SOCIETY FOR PHOTOBIOLOGY (ASP)*

The First 10 Years, and Before

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1. INTERNATIONAL PHOTOBIOLOGY (1928–1982)

A renewal of interest in photobiology in modern times was climaxed in 1928 by the establishment of an international organization for photobiology under the name Comite International de la Lumiere (C.I.L.). In 1951 the name was changed to Comite International de Photobiologie (C.I.P.). The first of a series of international congresses on photobiology was held by C.I.P. in 1954, and probably represents the beginning of modern day photobiology. In 1955 the C.I.P. was established as the Commission on Photobiology in the Division of General Biology of the International Union of Biological Sciences. In 1976 (at the Congress in Rome) the name of C.I.P. was changed to Association International de Photobiologie (A.I.P.).

Physicians were prominent in the activities of C.I.L., because the importance of natural sunlight to human health and disease was recognized, though not well understood. The bringing together of physicians with physicists, biologists and chemists from the pure and applied branches of their science was the aim of the C.I.L., and this aim continues today with A.I.P. (For a history of C.I.P. through 1974, see D. Vince-Prue and D. O. Hall, *Photochem. Photobiol.* **22,** 77–82, 1975.)

2. REGIONAL PHOTOBIOLOGY GROUPS IN THE USA (1962–1978)

(a) *Northern California Photobiology and Photochemistry Group (NCPPG) (1962–1974)*

In early 1962, Kendric C. Smith sent a questionnaire to the 36 then known photobiologists in the San Francisco Bay Area with the purpose of producing a 'complete' directory of photobiologists in the area (there were 101 members of the NCPPG in 1967), and of exploring the interest in establishing an informal scientific association. An organizational meeting was held at the University of California at San Francisco on March 23, 1962, during which Smith was elected President and Mary Beth Allen was elected Secretary. The first scientific meeting was held on May 8, 1962. Thereafter, the meetings were generally held three times a year, alternating between Berkeley and Palo Alto. In 1964 and for several years thereafter, the NCPPG sponsored a session on photobiology at the annual meeting of the Pacific Slope Biochemical Conference. In 1965, Mary Beth Allen moved to NIH; the

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President then took on the duties of the Secretary. Lester Packer became President of NCPPG in 1966, Cyril Ponnamperuma in 1967, Ellen C. Weaver in 1970, A. Douglas McLaren in 1971, Arthur C. Giese in 1972 and Robert B. Painter in 1973. Because of the natural competition with the meetings of the American Society for Photobiology, the NCPPG was informally disbanded in 1974.

(b) Northeast Photobiology Group (NPG) (1967–1970)

An exploratory meeting was held at the Cornell Medical Center on May 11, 1967, to discuss the formation of an association of photobiologists. A preliminary inquiry was mailed out, based on a list of those who had applied for travel funds to the 4th International Photobiology Congress in Oxford in 1964. Farrington Daniels, Jr. was elected President and Brian E. Johnson was elected Secretary/Treasurer. There were about 60 members. The first annual scientific meeting was held at the Cornell Medical Center, October 6–7, 1967; the second at Harvard on May 10–11, 1968; the third at Cornell University, Ithaca, NY, May 9–10, 1969. In 1970, T. T. Bannister was elected President, and Richard M. Klein was elected Secretary/Treasurer. However, they were unable to find an institution willing to host the next meeting and with the impending formation of the American Society for Photobiology, further efforts to maintain the NPG were abandoned.

(c) South Central Photobiology Group (SCPG) (1969–1977)

In 1969, John Jagger sent a questionnaire to people in the south central states who he thought might be interested in photobiology. Due to an enthusiastic response, Jagger established the SCPG. It had its first (organizational) meeting in the fall of 1969, concurrent with the meeting of the Texas Association for Radiation Research (TARR), at College Station, TX. Annual scientific meetings were subsequently held in various towns throughout Texas, and every other year was held jointly with TARR. In October 1969 there were 71 members. The Presidents of the SCPG (who also functioned as Secretary/Treasurer) were John Jagger, Keith J. McCree, Homer S. Black and Roger R. Hewitt. Because of the natural competition with the meetings of the American Society for Photobiology, the SCPG was formally disbanded in 1977.

(d) Photochemistry Photobiology Group (PPG) of the Biophysical Society (1970–1978)

The Bylaws of the Biophysical Society were modified in 1969 to permit the formation of specialty subgroups within the Society. Taking advantage of this change, Kendric Smith organized the Photochemistry Photobiology Group (PPG), and became its Chairman in 1970. Succeeding chairmen were John Jagger, Milton P. Gordon, Gordon Tollin, Edwin W. Abrahamson, Warren L. Butler, James W. Longworth and Walther Stoeckenius. The Secretary/Treasurers were Robert M. Pearlstein, John S. Cook, John Lee and John P. Pooler. The PPG organized symposia on various aspects of photobiology that were held the day before the main program of the Biophysical Society began. There were 170 members of PPG in 1971. Because of the competition with the annual meeting of the American Society for Photobiology, the PPG was formally disbanded in 1978.

3. UNITED STATES NATIONAL COMMITTEE FOR PHOTOBIOLOGY (USNC/P) (1952–1981)

In 1952, a Committee on Photobiology was established in the United States under the aegis of the Division of Biology and Agriculture of the National Research Council (NRC) of the U.S. National Academy of Sciences (NAS) to serve as the U.S. Section of the A.I.P. (see International Photobiology, above). The main functions of the Committee on Photobiology were to select representatives to The General Assembly of A.I.P. at the international congresses on photobiology that were held every four years by A.I.P., to raise travel money so that U.S. photobiologists could attend these congresses, and to assist A.I.P. in the furtherance of the science of photobiology. The Committee on Photobiology was the organizer and host for the 5th International Congress on Photobiology, that was held at Dartmouth College, Hanover, NH, August 26–31, 1968.

In 1972, the name of the Committee on Photobiology was changed to the United States National Committee for Photobiology (USNC/P) and a constitution was approved. The purpose of the USNC/P was: "(A) To function as the organization through which photobiologists and photochemists in the United States can participate in the activities of the Comite International de Photobiologie (C.I.P.). (B) To promote the science of photobiology and photochemistry in the United States, and increase communication among those concerned with the biological actions of nonionizing radiation".

The Chairmen of the Committee on Photobiology and the USNC/P were Sterling B. Hendricks, Alexander Hollaender, Carl P. Swanson, Richard B. Setlow, Kendric C. Smith, Anthony San Pietro, James W. Longworth, John Jagger and Leonard I. Grossweiner. The NRC formally terminated the USNC/P on June 30, 1981.

The pressures that led to the demise of the USNC/P were similar to those that prompted the formation of the ASP. First, the organizational structure of the NAS/NRC did not generally allow for innovation and the USNC/P wanted to take a leadership role in furthering the science of photobiology. For example, in the draft constitution for the USNC/P we had used the phrase "To undertake activities—". We were told by a Staff Officer (7/28/71) that "A National Committee can always propose problems that need action through the NAS–NRC. Such problems often

need special funding, and new committees, approval by the Governing Board is required for each new activity, even though no special funding is required". Obviously, if you live in someone else's house, you must abide by the rules of the house and the rules of the house were quite restrictive.

It also became painfully clear that the NRC did not even consider the USNC/P to be their source of expertise for photobiological problems. On January 10, 1970, Kendric Smith brought before the Committee the information that pediatricians were using and misusing light to treat premature babies with hyperbilirubinemia. The Committee was sufficiently concerned with the urgency of the problem that Chairman Richard B. Setlow wrote an official letter (via the President of the NAS, Dr. Philip Handler) to the Surgeon General (Dr. Jesse Steinfeld) calling to his attention the possible dangers of this type of therapy.

Rather than consulting the resident committee of experts on photobiology, the NRC convened an *ad hoc* committee to evaluate the phototherapy problem. The chairman was selected by polling two pediatric societies. By this means a chairman was selected who had no first hand experience with this clinical problem, and who had not availed himself of review articles on the clinical and photobiological aspects of the subject. Most of the time of two meetings (in July and September of 1971) was spent in educating the chairman, and little time was spent in generating a report that might be useful to pediatricians. These were frustrating times for the USNC/P.

Another area of frustration was in obtaining funds for the USNC/P to operate. For several years the Committee was supported modestly by the Charles F. Kettering Foundation. These monies ran out at about the time Kendric Smith became Chairman of the Committee. It was exceedingly frustrating to become Chairman of the Committee and to have no funds with which to call a meeting. Smith tried conducting meetings by mail, but this did not work very well.

Subsequently, Kendric ferreted out the fact that, as a U.S. National Committee, the USNC/P was entitled to one meeting a year funded by the Office of the Foreign Secretary of the NAS. After finding that this money was due the USNC/P, there was even an initial problem of getting the Division of Biology and Agriculture to accept this money on behalf of the USNC/P.

The Committee (i.e. the NAS) also submitted applications for grants to the National Science Foundation, the Atomic Energy Commission and the Charles F. Kettering Foundation for funds to run the Committee, but they were rejected. At the request of Chairman Smith, Dr. Handler talked informally with Dr. William D. McElroy (then head of NSF) about our problem, and subsequently a more modest proposal was submitted by the NAS to NSF, which was funded for one year at $10,000, beginning 15 January 1972.

These monies were used to send out Newsletters to photobiologists, for holding meetings to write grants for travel money so that U.S. photobiologists could attend the 6th International Congress on Photobiology (Bochum, Germany) and to perform other duties of the USNC/P and for meetings to plan and initiate a national society for photobiology.

Not everyone on the Committee was thrilled with the idea of starting a national society for photobiology. One member of the Committee referred to photobiology in 1971 as 'a non-field'. (It is of interest, however, that this person later became President of ASP.) In order to overcome such negative feeling about photobiology, a considerable amount of 'missionary' work concerning the formation of a society for photobiology was done by Smith both through the Photobiology Newsletter and at the meetings of the UNSC/P.

At the April 17–18, 1972 meeting of the USNC/P, there was again much discussion about the need for a national society for photobiology and the feasibility of starting one. The following is taken from the minutes of that meeting: "After much discussion Dr. (Kendric) Smith again presented the question of the formation of a Society. A motion was made by Dr. (Farrington) Daniels (Jr.), seconded by Dr. (Thomas R. C.) Sisson, that a national society for photobiology be started. The committee passed the motion unanimously".

We were on our way! They came the practical problems of naming the society, organizing the society, writing the Constitution and Bylaws, incorporating the society, funding the society, designing a logo and organizing the first national meeting.

4. THE EARLY DAYS OF ASP (1972–1973)

Photobiology Newsletter No. 4 (June 1972) of the USNC/P was a call for Charter Membership in the American Society for Photobiology.

"The Committee on Photobiology of the National Academy of Sciences/National Research Council recognizes that there is a growing general awareness of the unique importance of the effects of light (both beneficial and detrimental) on man and all other living organisms, that the science of photobiology is generated by scientists of diverse educational and practical experience and therefore needs a vehicle for enhanced communication and the dissemination of knowledge, and that current problems of national and international concern require an accurate and effective input of knowledge of photobiology and photochemistry. While the Committee on Photobiology could institute certain educational and informational programs, funding is not readily available to a committee on photobiology but is available to a society for photobiology. Therefore, while it has decided to continue to serve as the U.S. liaison for international photobiology as the U.S. representative to Comite International de Photobiologie, the Committee on Pho-

tobiology (NAS/NRC) has decided to form an American Society for Photobiology and to delegate its national responsibilities to this Society."

The Constitution of the American Society for Photobiology states that:

"The purpose of the Society shall be:

1. To promote original research in photobiology. Photobiology is broadly defined to include all biological phenomena involving non-ionizing radiation. It is recognized that photobiological responses are the result of chemical and/or physical changes induced in biological systems by non-ionizing radiation.
2. To facilitate the integration of different disciplines in the study of photobiology.
3. To promote the dissemination of knowledge of photobiology.
4. To provide information on the photobiological and photochemical aspects of national and international problems.

Membership in the Society shall be open to persons who share the stated purpose of the Society and who have educational, research, or practical experience in photobiology or in an allied scientific field."

Subspecialties of photobiology

For the purpose of identifying the scientific expertise of its members, the science of photobiology was divided into 14 subspecialty areas.

Bioluminescence. Although most areas of photobiology deal with the biological consequences of the absorption of light, one area deals with the biological emission of light (i.e. bioluminescence). Bioluminescence can be viewed as enzyme-catalyzed chemiluminescence. In the simplest case of chemiluminescence, two molecules react to form a molecule in a higher energy state (an excited molecule). This excited molecule can then give off a photon of light as it returns to its resting (ground) energy level. In nature, the bioluminescence reaction is used for sexual signaling (firefly), to attract food (Australasian glowworm) and for protection by scaring predators.

Chronobiology. The ability to distinguish time of day without reference to external light or darkness is found in both plants and animals. Light has a number of important effects on this time sense or circadian clock, as it is sometimes called. Light keeps the timing cycle synchronous with environmental day and night and adjusts it to long or short days and even stops or starts it under certain conditions. In man, mental acuity varies with the time of day, just as do body temperature, hormone levels and many other physiological functions. Even the sensitivity to drugs varies according to a circadian rhythm; a dose that is toxic at one time of day may have little effect at another. When our circadian clock gets out of adjustment with local time, as occurs with airplane passengers who change several time zones, the phenomenon called 'jet lag' occurs.

Environmental photobiology. Environmental photobiology is a recent formalization that crosses several fields of research. We have the capacity to change the spectral quality of sunlight by destroying (e.g. with spray cans, supersonic aircraft, etc.) the ozone layer in our stratosphere, which filters out much of the short wavelength UV radiation. What would be the ecological consequences of such a change? The role of artificial light on the human environment has only begun to receive serious attention. It is appropriate to ask if there are beneficial effects of light on man other than through the eyes, as has been shown for nonmammalian vertebrates.

Photochemistry. Since biological responses to light are the consequence of photochemical changes produced in the biological system by the absorption of light, it is necessary to know the chemical changes that occur in biological molecules when they are exposed to light. Once the photochemical mechanism is known, it is usually possible to learn how to modify the photochemistry, and thus to improve the efficiency of a wanted (i.e. beneficial) reaction or to inhibit an unwanted (i.e. detrimental) reaction. Photochemistry is becoming increasingly important as a tool in biological research, e.g. for the study of the juxtaposition of molecules in complex biological structures. Because many synthetic chemicals (e.g. herbicides and pesticides) can be altered by sunlight to produce compounds toxic to man and other organisms, it is also important to study the photochemistry of all chemicals produced by man that may become exposed to light.

Photomedicine. To avoid the sun would be to exist without one of the great pleasures of life. But as with most enjoyable things, indiscriminate exposure and lack of understanding of the possible unpleasant consequences can result in unhappiness and even serious illness. Man's sensitivity to sunlight is controlled by heredity. This is exemplified by genetic deficiencies in melanin formation, and the consequent absence of tanning that helps protect the skin from injury from subsequent exposures to sunlight; deficiencies in cellular capacity to repair solar radiation-induced damage, as in the inherited disorder xeroderma pigmentosum that predisposes people to early death from sunlight-induced skin cancer; and metabolic over-production of porphyrins (photosensitizers). Photomedicine is also concerned with the beneficial effects of light. For example, phototherapy is effective in treating jaundice in premature babies, while photochemotherapy can be effective in treating psoriasis.

Photomorphogenesis. Nature has evolved a number of light absorbing molecules that enable biological systems to respond to fluctuations of the natural light environment. Light signals can regulate changes in structure and form, such as seed germination, leaf expansion and flower initiation. Many of the responses are controlled by very low levels of light. This is in contrast to photosynthesis, which is a light energy gathering reaction. These photomorphogenic

responses confer an enormous survival advantage on organisms. For example, time measurements must be very precise in order for seed to be produced before the first killing frosts and yet allow the photosynthetic process to accumulate an optimum of stored reserves to support seedling growth in the spring. Commercial greenhouse growers regulate the production of floral crops such as Easter lilies and poinsettias for Christmas by regulating the length of night and day. Animals also respond to changes in daylength, e.g. the photoperiodic control of reproduction, of migration and of the production of overwintering forms of certain insects.

Photomovement. Photomovement involves any light-mediated behavioral act involving the spatial displacement of all or part of an organism. One example is the bending of plants toward a light source. Some flowers, e.g. the sunflower, face the sun throughout the day. Motile organisms can respond to light in a variety of ways, e.g. by moving either toward or away from the light source (i.e. positive or negative phototatxis). This ability can be ecologically important, for instance when it enables photosynthetic organisms to move into a favorably lighted environment. Such responses depend upon the organism being able to determine the intensity of light and to perceive its direction. Some organisms use the sun as a directional compass for migration (European starling) or food-gathering (honeybee).

Photoreception. The perception of light by receptors other than true eyes is well documented both for invertebrates and for vertebrates. A classical example is the house sparrow. It uses the cyclic annual change in daylength to synchronize its reproductive cycle with the appropriate season. The receptor for this light signal is not in the eye, but is in the brain, and it receives light that penetrates through the feathers, skin and skull at the top of the head. In mammals, the processes that have been found to be mediated by extraretinal photoreceptors in other classes of vertebrates seem to be mediated by the eyes. Presently, the only well-documented exception is that extraretinal photoreception affects the level of pineal serotonin in newborn, but not in adult rats. If extraretinal photoreception can be shown to occur in newborn humans, then it is appropriate to be concerned with the occasionally extreme lighting conditions used in hospital nurseries. If extraretinal photoreception is found in adult mammals, then it may be appropriate to ask if artificial lighting, as now optimized for vision, is the appropriate mix of wavelengths for man to live under.

Photosensitization. This phenomenon can occur in all organisms. For example, some plants contain potent photosensitizing chemicals; when cattle and sheep eat these plants they become light-sensitive and may even die if they stay out in the sunlight. Grazing animals with liver disfunctions also become light-sensitive due to the accumulation of chlorophyll metabolites that are photosensitizers. Some snack foods, such as potato and corn chips, develop an 'off flavor' when exposed to light (as in brightly illuminated supermarkets). This apparently results from the photooxidation of unsaturated oils that remain in the chips after cooking. Studies of photosensitization phenomena at the molecular and cellular level are important in their own right, in order to increase our understanding of these important chemical and biological responses. In addition, photosensitized reactions are important tools in biological research, e.g. to alter specific amino acid residues in a protein or to inactivate specific parts of cells.

Phototechnology. Continued progress in the science of photobiology depends upon the timely development of new sources of nonionizing radiation to solve specific problems, and equipment to measure their intensity and spectral quality. Some of the more sophisticated developments in phototechnology have been the laser and equipment based on the laser, such as cell sorters, cytofluorographs and photoacoustic spectrometers and microscopes.

Photosynthesis. Photosynthesis, the conversion of light energy into stabilized chemical energy, involves the absorption of light by a pigment, transfer of this energy to a 'reaction center' and the initiation of chemical reactions. In this process the energy of light is used to convert carbon dioxide into organic molecules useful to the organism, and oxygen, useful to man and other animals, is given off. To elucidate the many complicated steps involved in photosynthesis requires the collaboration of physicists, chemists and biologists. In addition, photosynthesis can also be studied from the points of view of the ecologist and the agronomist. The importance of photosynthesis in the production of food is widely appreciated, and currently, there is increasing interest in the possibility of using photosynthetically converted light energy as a means of expanding our energy supply.

Spectroscopy. The first law of photochemistry states that only light that is absorbed can produce a chemical change. Therefore, from the absorption spectrum of a given molecular species one can deduce which wavelengths of light can produce photochemical changes in this material and which wavelengths will have no effect. Spectroscopy can provide information about the structure of a molecule, and of the energy states and transitions that can occur within the molecule; it can also be used to analyze the amounts of specific chemicals present in solutions.

Vision. Only a relatively narrow band of light can be detected by the human eye (380–700 nm). By definition, these wavelengths make up that portion of the spectrum called visible light. Other animals have different wavelength sensitivities, e.g. some insects 'see' best in the long wavelength UV range. Because man is so visually oriented, it is not surprising that a lot of effort has been spent in trying to understand the molecular and physiological bases of vision. Vision research deals not only with the initial photochemistry that occurs in the eye upon being exposed to light, but also with how these photochemical changes in the

visual pigments are converted to nerve impulses that lead ultimately to perception.

Ultraviolet radiation effects. This research area is concerned with identifying the photochemical changes that are produced in living tissue by the absorption of UV radiation and determining the biochemical and physiological responses of cells to this damage. The major source of UV radiation in our environment is the sun. The most important contribution made by UV photobiologists has been the discovery that all cells have a remarkable capacity to repair damage that is produced in their deoxyribonucleic acid (DNA) by UV radiation. Cells can also repair their DNA when it has been damaged by other types of radiation (e.g. X-rays) and by chemicals (e.g. carcinogens). Furthermore, there is evidence that DNA repair systems are not just of importance to a cell when exposed to chemicals or radiation, but are also necessary for everyday life processes.

The Charter Officers and Councilors of ASP (1972–1973)

These were elected from among the then members of the USNC/P (Table 1).

Executive Secretary

The then President of the Radiation Research Society (RRS), Dr. Alan D. Conger, was very supportive of ASP and volunteered the good offices of RRS to assist the ASP in getting organized. The Executive Secretary of RRS, Mr. Richard J. Burk, Jr., helped the USNC/P with the paper work necessary for incorporating ASP as a non-profit scientific organization. This was duly accomplished on July 24, 1972, in Washington, DC.

It was subsequently arranged that the ASP would share the offices of the RRS, and Mr. Burk would serve part time as the Executive Secretary of ASP (beginning January, 1973). Therefore, we had established an administrative continuity to stabilize the business functions of the Society. The next problem was how to pay for it all, since membership dues are generally insufficient to pay for administrative support.

Photochemistry and Photobiology

While enjoying the California sunshine on the deck of the home of Kendric Smith, Captain Robert Max-

Table 1. Officers and Councilors of The American Society for Photobiology

	1972–73	1973–74	1974–75
President	Kendric C. Smith	Kendric C. Smith	John D. Spikes
President-Elect	(Vice Pres: Angelo A. Lamola)	John D. Spikes	Jack Myers
Past President	—	—	Kendric C. Smith
Secretary/Treasurer	(Secty: Edwin W. Abrahamson) (Treas: Leo P. Vernon)	Edwin W. Abrahamson	John D. Spikes (acting)
Editor	John Jagger	John Jagger	Pill-Soon Song
Councilors	Karl H. Norris	David S. Dennison	David S. Dennison
	Claud S. Rupert	William S. Hillman	William S. Hillman
	Thomas R. C. Sisson	Richard M. Klein	Richard M. Klein
	John D. Spikes	Angelo A. Lamola	Angelo A. Lamola
	Beatrice M. Sweeney	John Lee	John Lee
	Frederick Urbach	James W. Longworth	James W. Longworth
		Michael Menaker	Michael Menaker
		Anthony San Pietro	Hitoshi Shichi
		Hitoshi Shichi	Thomas R. C. Sisson
		Thomas R. C. Sisson	Betsy M. Sutherland
		Beatrice M. Sweeney	Beatrice M. Sweeney
		Frederick Urbach	Frederick Urbach

	1975–76	1976–77	1977–78
President	Jack Myers	Angelo A. Lamola	Frederick Urbach
President-Elect	Angelo A. Lamola	Frederick Urbach	James W. Longworth
Past President	John D. Spikes	Jack Myers	Angelo A. Lamola
Secretary/Treasurer	Norman I. Krinsky	Norman I. Krinsky	Norman I. Krinsky
Editor	Pill-Soon Song	Pill-Soon Song	Pill-Soon Song
Councilors	Warren L. Butler	Warren L. Butler	Warren L. Butler
	A. Eisenstark	Milton J. Cormier	Milton J. Cormier
	John Lee	Edward A. Dratz	Edward A. Dratz
	James W. Longworth	A. Eisenstark	A. Eisenstark
	Michael Menaker	Govindjee	Govindjee
	Ruth Satter	John Jagger	Leonard I. Grossweiner
	Howard H. Seliger	James W. Longworth	J. Woodland Hastings
	Hitoshi Shichi	Michael Menaker	John Jagger
	Betsy M. Sutherland	Ruth Satter	Lee H. Pratt
	Beatrice M. Sweeney	Howard H. Seliger	Ruth Satter
	Frederick Urbach	Betsy M. Sutherland	Howard H. Seliger
		Beatrice M. Sweeney	

Table 1 (*cont.*)

	1978–79	1979–80	1980–81
President	James W. Longworth	Beatrice M. Sweeney	Howard H. Seliger
President-Elect	Beatrice M. Sweeney	Howard H. Seliger	Govindjee
Past President	Frederick Urbach	James W. Longworth	Beatrice M. Sweeney
Secretary/Treasurer	Norman I. Krinsky	Norman I. Krinsky	Norman I. Krinsky
Editor	Pill-Soon Song	Pill-Soon Song	Pill-Soon Song
Councilors	Ludwig Brand	Ludwig Brand	Roderick K. Clayton
	Roderick K. Clayton	Roderick K. Clayton	Edward O. DeFabo
	Milton J. Cormier	C. S. Foote	C. S. Foote
	Edward A. Dratz	Elisabeth Gantt	Elisabeth Gantt
	C. S. Foote	Leonard I. Grossweiner	Andre T. Jagendorf
	Elisabeth Gantt	J. Woodland Hastings	Irene E. Kochevar
	Govindjee	Andre T. Jagendorf	August H. Maki
	Leonard I. Grossweiner	John A. Parrish	John A. Parrish
	J. Woodland Hastings	Lee H. Pratt	Barbara B. Prezelin
	John Jagger	Barbara B. Prezelin	Ronald O. Rahn
	Lee H. Pratt	Claud S. Rupert	Claud S. Rupert
	Claud S. Rupert	Walter Shropshire, Jr.	Walter Shropshire, Jr.

	1981–82
President	Govindjee
President-Elect	Norman I. Krinsky
Past President	Howard H. Seliger
Secretary/Treasurer	Leonard I. Grossweiner
Editor	Pill-Soon Song
Councilors	Edward O. DeFabo
	Hector R. Fernandez
	P. Donald Forbes
	Barry Honig
	Andre T. Jagendorf
	Irene E. Kochevar
	Paul A. Loach
	August H. Maki
	John A. Parrish
	Barbara B. Prezelin
	Ronald O. Rahn
	Walter Shropshire, Jr.

well (owner of Pergamon Press) donated the Journal *Photochemistry and Photobiology* (then in its 11th year of publication) to the Society. There was only one proviso, that all regular members of the Society should receive the Journal. A suitable contract was then arranged (effective January, 1973) for Pergamon Press to publish the Journal for the Society. The income from this Journal has been one reason for the successful functioning of the Society.

ASP logo

After many months of deliberation and redrawing, a logo for the Society was finally selected from among 31 entries. The winning design was executed by J. Eisinger of Bell Laboratories, who received a $50 first prize. A very close second was E. D. Bickford, then of Sylvania. As the second prize, 'Woody' received a free ticket to the Luau at the first meeting of the Society in Sarasota, FL.

The task of choosing an emblem was not an easy one. It soon became apparent that symbols for man, plants, chemistry, eyes, DNA, etc., became too complicated and difficult to render on a logo. In the interest of simplicity, a modern sun was coupled with a touch of Latin to maintain our contact with the past.

5. THE FIRST ANNUAL MEETING OF THE SOCIETY (1973)

The first meeting was held on the Lido Beach in Sarasota, FL (June 10–14, 1973). Its theme was "Light and the Quality of the Environment". Dr. John N. Ott (then Chairman and Executive Director of the Environmental Health and Light Research Institute at Sarasota) served as our Local Arrangements Chairman. He organized a very efficient Local Arrangements Committee and a Women's Committee, helped to raise money to support the Society, and invited Congressman Paul G. Rogers to speak at our opening ceremonies.

We thought we were to be the first users of a completely remodeled hotel and convention center on the beach, but just a few weeks before our meeting the development company declared bankruptcy and we were almost literally left out on the beach. We could

have moved to a hotel in town, but that would have defeated the whole reason for meeting in Sarasota, i.e. ready access to the beach. Finally, the Lido Biltmore came to our rescue. This organization had bought a private club that was very run down. They planned to renovate the club before opening it to the public, but agreed to open it for us 'as is'. It is fair to say that the accommodations were less than palatial, and the air conditioning was only partially functional. The hotel people were very nice, and the food was great, reducing the impact of the defects in the rooms. Also, the ASP members were in a generally happy and forgiving mood since this was the first meeting and, besides, the beach and the weather were wonderful.

"The Opening Ceremonies for the 1st Annual Meeting of the American Society for Photobiology (ASP) were held at the Van Wezel Performing Arts Hall in Sarasota, FL, on Sunday, June 10, 1973. Dr. Kendric C. Smith, President of ASP, gave a brief history of organized photobiology, both national and international. Dr. Alan D. Conger, Past President of the Radiation Research Society, spoke of the similar goals of the two sister societies and hoped for continued close cooperation between the Radiation Research Society and the American Society for Photobiology. Dr. Luis R. Caldas (Rio de Janeiro, Brazil), member of the Executive Committee of Comite International de Photobiologie (CIP), spoke about the benefits of international cooperation in photobiology. He also expressed his pleasure that the name of the Society indicates the intent of the Society to include photobiologists from both North and South America, and announced that there are now four members of ASP from Brazil. Dr. Ray Jensen, Manger of the Biological Program of the Climatic Impact Assessment Program (CIAP) of the Department of Transportation (DOT), discussed the concern of DOT about possible biological effects that might result if the ozone concentration in the stratosphere is reduced by effluents from supersonic commercial aircraft. A reduction in ozone concentration would permit more solar UV radiation to reach the surface of the earth. Assessing the possible biological consequences of such an occurrence is clearly a problem in photobiology. This is one example of the relevance of the science of photobiology to national problems. Incidentally, the Society is indebted to the CIAP program of DOT for its partial support of the symposia for the scientific meeting of ASP. The next speaker was the Honorable Paul G. Rogers, M.C. (Florida), Chairman of the Subcommittee on Public Health and Environment. He commented that we have drastically changed our environment by living under artificial lights whose spectra differ from that of natural light. Since many life processes respond to a balance between different wavelengths of light, it is the responsibility of government to establish proper safeguards against the use of improper lighting. However, to do this, legislators need proper scientific input. The American Society for Photobiology can play an important role in advising the government on problems relevant to the biological effects of light. Dr. John Ott then presented a talk that was both entertaining and thought provoking on the effects of light on the growth of plants and the behavior of school children as documented by the use of time-lapse photography. Afterwards, the members returned to the hotel for a mixer." (ASP Newsletter No. 8, July 1973).

There were 240 registrants for our first meeting, including some from Brazil, England and Europe. There were 160 papers presented. A brief history of the origins of the Society and a summary of the scientific highlights of the Sarasota meeting were published (The Science of Photobiology, K. C. Smith, *BioScience* **24**, 45–48, 1974). The concluding paragraphs are reproduced below.

"One cannot help but be impressed by the great number of ways that plants and animals are affected, both beneficially and detrimentally, by light. Yet, in most scientific experiments using animals and cells, the quality and quantity of light and its cyclicity are totally ignored. Clearly, because of the unique physiological importance of light to all living things, the light environment in experiments must be accurately controlled in the same way that, for example, temperature and pH are controlled.

The future of the science of photobiology seems bright. Its goals can be roughly divided into four categories: (1) The development of ways to protect organisms, including man, from the detrimental effects of light; (2) The development of ways to control the beneficial effects of light upon our environment; (3) The continued development of photochemical tools for use in studies of life processes; and (4) The development of photochemical therapies in medicine. The science of photobiology appears to have come of age as a major new scientific frontier."

Besides the availability of the beach in the afternoons (and at less solar times), an important feature of the meeting was that people in the different disciplines of photobiology really talked to each other. This cross-fertilization of ideas was stimulated by the excellent introductory lectures on several diverse areas of photobiology and the fact that since our Society was small there weren't enough contributed papers in the various scientific areas to keep people segregated by discipline. As a consequence, physicians talked to chemists, biologists and physicists, and vice versa. Physicians were introduced to the techniques and conceptual approaches used in research by the plant and bacterial photobiologists. Physicists, chemists and engineers obtained a better understanding of the problems confronting physicians and biologists. The solutions to some of these problems were already available and only awaited the establishment of an appropriate line of communication. Friendships and interdisciplinary scientific collaborations were begun at this meeting that continue today.

The subsequent meetings of the Society (Table 2) have also been very rewarding, but for those of us

Table 2. Annual Meetings of The American Society for Photobiology

No.	Place	Dates	No. of registrants	No. of papers presented
1	Sarasota, Florida	June 10–14, 1973	240	160
2	Vancouver, British Columbia	July 22–26, 1974	263	157
3	Louisville, Kentucky	June 22–26, 1975	216	123
4	Denver, Colorado	February 16–20, 1976	197	126
5	San Juan, Puerto Rico	May 11–15, 1977	197	111
6	Burlington, Vermont	June 11–15, 1978	233	158
7	Pacific Grove, California	June 24–28, 1979	442	255 (includes 22 posters)
8	Colorado Springs, Colorado	February 17–21, 1980	224	143 (includes 18 posters) 23 (Workshop on Biological Chemiluminescence)
9	Williamsburg, Virginia	June 14–18, 1981	297	233 (includes 45 posters)
10	Vancouver, British Columbia	June 27–July 1, 1982		

who were fortunate enough to attend the first meeting, there will never be another like it.

6. ASP AWARDS

At the second annual Business Meeting of ASP (Vancouver, B.C., 1974), President John Spikes, on behalf of the Officers and Councilors, presented an engraved plaque to Past-President Kendric Smith in recognition of his dedication and effort in organizing the Society, in obtaining the journal *Photochemistry and Photobiology* for the Society and in promoting the membership drives and initial two meetings of the Society. The wording of the plaque is as follows:

> The Officers and Councilors of the American Society for Photobiology present this distinguished service award to Dr. Kendric C. Smith, Chairman of the Founding Committee and First President of the Society, in recognition of his outstanding contributions to the organization and development of the Society.
> 24 July 1974

John also presented Kendric with an informal 'Eagerest ASP' award, consisting of a hand-painted turtle neck shirt (painted by Ms. Yasmen Simonian). The back of this shirt displays the logo of the Society in full color while the front of the shirt has the sun, palm trees and a pyramid at the top, a brightly colored snake (asp) down the front and at the bottom, the words: 'Kendric' The Eagerest ASP.

7. CONGRESSIONAL FELLOWSHIP PROGRAM

Under the aegis of the American Association for the Advancement of Science (AAAS), the ASP and the Biophysical Society have joined forces to sponsor Congressional Fellows. The purpose of these fellowships (1 year term) is "To provide a unique public policy learning experience, to demonstrate the value of such science–government interaction, and to make practical contributions to the more effective use of scientific and technical knowledge in government".

Our first Congressional Fellow (1980–1981) was Dr. John M. Clough from the Botany Department of Duke University. His research interests are plant physiology and plant ecology. He received his Ph.D. in 1978 from the University of Chicago. Dr. Clough summarized his year for us at the Business Meeting of the 9th Annual Meeting in Williamsburg, VA (June, 1981). His 'abstract' is reproduced below.

"The Congressional Science and Engineering Fellows program is designed to place people as special legislative assistants within the congressional staff system. The purpose of the program is threefold: to make practical contributions to more effective use of scientific knowledge in government, to educate the scientific community about the public policy process and to broaden the perspective of the scientific, engineering and government communities regarding the value of mutual interactions. To these ends, AAAS arranges an orientation program, guides the placement process and sponsors seminars throughout the Fellowship year.

This year (1980), the program started on September 2. By October 1, I had interviewed with approximately 25 offices and had taken a position with the United States House of Representatives Committee on Energy and Commerce, John Dingell of Michigan, Chairman. My basic responsibilities have been evolving ever since. A large portion of my time has been spent on the Clean Air Act. It is one of the most complex and most expensive set of laws with which American industry must comply, and the Act is up for reauthorization this year. Industry is asking for many changes to streamline implementation of the Act while environmentalists are fearful that procedural changes in the Act will make it ineffective. Other responsibilities include work on regulatory reform and work on setting up the capability within the Government to monitor long-term trends in global population, resource availability, and environment. Recently, I have started to help coordinate the interaction of the full Committee with the Health and Environment Subcommittee, the Subcommittee with oversight responsibility for NIH.

In addition to the Congressional work, a number of this year's Fellows have started SCITEC–PAC, a political action committee for the scientific community. The budget cutting this year has made us acutely aware of the lack of political organization of the scientific community. The 2.5 million professionals who make up this community represent the last major professional group in the nation whose interests are not aggressively represented to the Federal Government. Some believe that such representation is inappropriate for the research community. However, after seeing first hand how issues of science are treated in Congress, it is clear to us that support of research in the United States can no longer rest on the argument that it is somehow good for the Nation. If the constant erosion of research support is to stop, it is up to the scientific community to make it happen."

Our second Congressional Fellow (1981–1982) is Dr. Harlee S. Strauss from the Biological Department of MIT. She received her Ph.D. in Molecular Biology from the University of Wisconsin. Her research interest is on how proteins recognize particular base sequences in DNA. Dr. Strauss is now working as a Legislative Aid for Congresswoman Claudine Schneider (Rhode Island). She will summarize her experiences at the Business Meeting at the 10th Annual Meeting of ASP in June 1982. ASP is one of 13 national scientific and engineering organizations that sponsor Congressional Fellows (*Science* **214**, 52–53, 1981).

8. ORGANIZATIONS TO WHICH ASP BELONGS

(*a*) *The American Institute of Biological Sciences* (*AIBS*)

AIBS was established in 1947 to "further the advancement of biological, medical and agricultural sciences and their application to human welfare", with 11 professional societies as charter members. Today, AIBS represents 40 professional societies in biology and over 7000 individual members, and continues to promote the biological and agricultural sciences at the national level. It does this, in part, through its Government Relations Program that monitors federal activities of importance to biologists, and its Special Science Programs that provide advisory services in biology for federal agencies. Through its Education Program it has played a major role in curriculum revision both at the high school and the college level. AIBS also publishes the journal *Bioscience* and holds an annual scientific meeting.

The ASP Representatives to AIBS have been: Kendric C. Smith (1976–1981) [Note: Smith was elected Vice-President (President-Elect) of AIBS in 1981]; Walter Shropshire, Jr. (1981–1984).

(*b*) *The Assembly of Life Sciences* (*NAS/NRC*)

The National Academy of Sciences (NAS), organized in 1863, is a private, co-optative society of distinguished scholars in scientific and engineering research, dedicated to the furtherance of science and its use for the general welfare. The National Research Council (NRC) was organized by the NAS in 1916 to serve the double purpose of encouraging a broader participation by American scientists and engineers in the Academy's service to the nation and more importantly, of bringing into cooperation the scientists and engineers of industry, academic institutions, and the Federal Government. The NRC was recently restructured into a cluster of eight relatively large units; four are titled Assemblies (dealing more directly with scientific disciplines) and four Commissions (dealing more with interdisciplinary matters). The Assembly of Life Sciences (ALS) was formed in 1973 by merging the earlier Division of Medical Science with the biology component of the former Division of Biology and Agriculture. The Advisory Center on Toxicology (formerly in the Division of Chemistry and Chemical Technology) was also made part of ALS (abstracted from "The Assembly of Life Sciences", R. B. Stevens, *Federation Proc.* **34**, 2201–2205, 1975). The representatives of scientific societies serve as advisors to the ALS.

The ASP Representatives to ALS have been: Norman I. Krinsky (1976–1981); Leonard I. Grossweiner (1981–).

9. HOW TRADITIONS ARE BORN (IF YOU ARE NOT CAREFUL)

"Once upon a time, long, long ago on a dark and stormy night before a meeting of the U.S. National Committee for Photobiology, Farrington Daniels, Jr., and Kendric C. Smith arrived at that palatial hotel the Roger Smith in Washington, DC and arranged to have dinner together. The suggestion of a drink before dinner was raised, and after an awkward pause it became clear that both parties were considering buying the 'tax free' liquor of Washington to take home, and weren't really considering wasting money in a bar. At a nearby discount store while K. C. Smith was reading the labels of the different brands of Scotch that are not available on the West Coast, Danny was buying some Hankey Bannister Scotch—is that name for real? Yes! The back label says "Hankey Bannister Scotch Whisky is the blend supplied by us for many years to Officers of Her Majesty's Services, the Diplomatic Corps and markets throughout the world." Smith also bought a bottle and since that memorable day (the exact date is lost in antiquity) Hankey Bannister (not to be confused with hanky-panky) has been the unofficial 'official' Scotch of the Committee for Photobiology and served by its members in 'grand' hotels such as the Presidential, the Park Central and the Roger Smith. Because of the initial overlap in membership of the Committee for Photobiology and the Council of the American Society for Photobiology, Hankey Bannister has been carried over to the ASP. Thus, it might be said that the Science of Photobiology in the USA was founded on Hankey Bannis-

ter—and the founders all lived very happy ever after, hardly spilling a drop." (ASP Newsletter No. 13; December 1974).

It then became a 'tradition' for the Executive Secretary to bring two bottles of Hankey Bannister (since it only seems to be available in Washington, DC) to the ASP meeting each year for the Presidential Reception for Officers, Councilors and Editors.

Since we did not have an official gavel (K. C. Smith had planned to make one out of a prism, but never quite got around to it) to pass on to the new President of ASP, Jack Myers established a tradition by handing over the reigns of office to Angelo A. Lamola (4th Annual Business Meeting, 1976) symbolized by an *empty* bottle of Hankey Bannister. This tradition persists to this day.

A less controversial tradition that seems to have perished was to give ceramic coasters emblazoned with the ASP logo to all invited speakers at the annual meetings and to give small marble paper weights with the ASP logo on them to Officers, Councilors and Editors. When I have visited the offices of recipients of these items, I have always seen them displayed in positions of honor. It is not too late to reestablish old traditions, nor to establish new ones.

10. ASP PUBLICATIONS

The members of ASP who probably work the hardest for the benefit of the Society are those who are responsible for the publication of *Photochemistry and Photobiology* and the *ASP Newsletter*. Generally, these hard working individuals do not get the public credit that they deserve. This section is meant to correct that deficiency.

(*a*) *Photochemistry and Photobiology*

A. Douglas McLaren, the first Executive Editor of *Photochemistry and Photobiology*, wrote on the "Origin of Our Journal" in a Guest Editorial (*Photochem. Photobiol.* **22,** 87, 1975). The last portion of that editorial is reproduced below.

"A great burst of activity and progress was manifested in the fifties in photobiology. Pyrimidine hydrates and dimers were discovered and much of the mystery of photosynthesis was illuminated. Studies by Rupert and by Setlow with biologically active DNAs confirmed the ideas of Stadler and Uber. Flash photochemistry expanded. A journal in the field seemed desirable to many but not to all.

Although the numbers of scientific journals have doubled every 14 years since Newton's time, a few objected to *any* new journal. Dr. Hollaender supported the notion and Dr. Bowen was keen; Claesson, Shugar and I decided to go ahead, and the name of the journal was agreed upon at the Copenhagen (1960) meeting of the International Congress on Photobiology.

Captain I. R. Maxwell of Pergamon Press (Oxford) called long distance and advised me to find some manuscripts for the first issue. This was not easy. Fortunately I had the attendance list from the meeting and I mailed out invitations. Delbruck declined to join the editorial board for the reason mentioned above, but later he sent us a paper by W. Harm because he could not think of a more appropriate journal! Dr. Hollaender declined to be chief editor (he had the role with another journal) so there I sat, with the job. The first paper was hand delivered by Arthur Pardee. The editors of the journal encouraged members of their own staffs to submit papers.

At first I hoped to use the then European system; if a paper had good in-house review, as, e.g. in the Oak Ridge National Laboratory, or came from a well established laboratory, it would be accepted without more review. Subsequently editors seem to have chosen the rather artless procedure of blind referees. The journal now has a home with the American Society for Photobiology. This is gratifying, but I hope our journal will remain a forum for the new and exciting, even if controversial, as well as for the tried and true."

In 1966, Doug handed over the editorial red pencil to Kendric Smith, who made the transition to an editorial system where *all* submitted manuscripts were subjected to outside review. It was not the purpose of this reviewing system to prevent the publication of papers that did not conform to current dogma (as Doug feared), rather it was based on the realization that for any given paper there are only a few people in the world who are uniquely qualified to judge its scientific merit. The vast majority of the readers of a paper are students or scientists in peripheral fields. The goal of the Editorial Board is to assist authors to publish the best papers possible.

The Founding Editors, Edmund J. Bowen, Stig Claesson, Alexander Hollaender, David Shugar and A. Douglas McLaren (obituary, *Photochem. Photobiol.* **30,** 323, 1979) continued to serve as Regional Editors until 1971, when the current system of using Associate Editors, who are experts in specific areas of photobiology, was initiated.

John Jagger served as Editor (1972–1975) during the transition period when the Society took over ownership of the Journal (see Section 4). Pill-Soon Song became Editor in 1975 and continues to serve the Society in this most important capacity.

The Associate Editors are honored in Table 3. The publication statistics for the Journal are listed in Table 4 and the special issues are listed in Table 5.

(*b*) *ASP Newsletter*

The Photobiology Newsletter was first published in April 1970 as a newsletter for the USNC/P (Section 3). In October, 1972, it became the ASP Newsletter, and kept the same numbering sequence. The Presidents of ASP generally served as Editor, but not all of the Presidents relished this idea. Since 1977, the Editor of the ASP Newsletter has been selected from the membership by the Publications Committee (Table 6).

Table 3. Editors of *Photochemistry and Photobiology*

Journal Editors			
A. Douglas McLaren	(Executive Editor)	1962–1966	
Kendric C. Smith	(Executive Editor)	1966–1972	
John Jagger	(Editor)	1972–1975	
Pill-Soon Song	(Editor)	1975–	
Founding Editors			
Edmund J. Bowen	A. Douglas McLaren		
Stig Claesson	David Shugar		
Alexander Hollaender			
Associate Editors			
Meredithe L. Applebury	1981–	C. David Lytle	1978–
Warren L. Butler	1971	August H. Maki	1975–1978
Milton J. Cormier	1977–1979	Noboru Mataga	1981
Frans C. De Schryver	1978–1979	Micheline M. Mathews-Roth	1974–
Edward J. Dratz	1977	Hans Mohr	1972–1977
Claude Helene	1972–	William Nultsch	1981–
Ruth F. Hill	1972–1973	Lee H. Pratt	1978–
Ruth Hubbard	1971–1973	W. Dean Rupp	1974
Takashi Ito	1978–	A. Paul Schaap	1980–
John Jagger	1971	Hitoshi Shichi	1978–1980
Harold E. Johns	1971	Pill-Soon Song	1971–1974
David R. Kearns	1971–1975	John D. Spikes	1971–1973
David B. Knaff	1980–	Betsy M. Sutherland	1975–1977
Sohei Kondo	1975–1977	John C. Sutherland	1981–
Horst E. A. Kramer	1979–1980	Gordon Tollin	1971–1973
Edward J. Land	1975–1977	T. George Truscott	1978–
John Lee	1974–1977	Leo P. Vernon	1971–1977
Paul A. Loach	1974–1980	F. Wilkinson	1973

11. ASP MEMBERSHIP

The first ASP Directory (published in 1973) lists 542 Charter Members (i.e. those who joined in 1972). All Charter Members received personalized certificates. The 1973 Directory also lists an additional 103 members who joined in 1973, for a total of 645 members of ASP, including 37 from outside the USA. Subsequent Directories were published in 1975, 1977, 1980 and 1982. Except for an unexplained drop in membership in 1974, there has been a steady increase in membership over the years. Currently, ASP has over 1300 regular members (Fig. 1).

In 1979, a new category of Student Membership was initiated. As of November 5, 1981, there were 72 Student Members of ASP.

Another important category of membership is Sustaining Member. "The Council of the Society may elect a person or corporation a Sustaining Member as a result of demonstrated and substantial acts benefiting the Society or its purposes." The Sustaining Members are listed in Table 7.

12. A LOOK TO THE FUTURE

A scientific society should not be a static organization. Sometimes there are obvious problems to be solved, and these galvanize a Society into action. However, at other times, action occurs only when some highly motivated individual sees a need and assumes a leadership position.

It is also possible to have highly motivated people who are unsure as to what is required of them. Recently it became apparent that none of the Officers and Councilors had participated in the early development of ASP, and there were questions as to just what Officers, Councilors and Chairs of Standing Committees were supposed to do. This problem of 'continuity' was readily solved, however, by getting 'the founding fathers and mothers' to write an *ASP Handbook* (adopted in 1981).

Inherent in the philosophy of ASP is to encourage younger scientists to participate in the running of the Society. The first step in this process is to choose younger individuals scheduled to present papers in a given session at the anual meetings to be the Chair of that session. By this mechanism the audience learns the names and faces of new people, and has a chance to judge the quality of the individuals as potential candidates for election to Council. Service on Council then allows the Nominating Committee to judge the quality of individuals as potential nominees for office in the Society. Obviously, the system fails if the first step in the chain of events is skipped. While it is flattering to the older members of the Society to be chosen to chair the proffered paper sessions, it is even more flattering to the younger members and more beneficial for the Society.

Another approach to keeping the Society young and vigorous is to encourage students to participate in the activities of the Society. It has already been

Table 4. Publication statistics for *Photochemistry and Photobiology*

Year	Volume	No. of issues	No. of pages	No. of papers	No. of Research Notes	No. of Technical Notes	No. of Book Reviews	No. of Review Articles	No. of Yearly Reviews
1962	1	4	343	32	3	—	1	—	—
1963	2	4	540	46	1	—	—	—	—
1964	3	4	580	52	3	—	—	—	—
1965	4	6	1251	113	13	—	7	—	—
1966	5	10	905	86	12	—	3	—	—
1967	6	12	933	81	12	—	2	—	—
1968	7	6	837	72	7	—	5	—	—
	8	6	616	49	8	—	2	—	—
1969	9	6	571	45	13	—	3	—	—
	10	6	450	37	9	—	2	—	—
1970	11	6	577	44	14	—	5	—	—
	12	6	525	40	11	—	—	—	—
1971	13	6	515	40	16	—	2	—	—
	14	6	761	54	9	—	—	—	—
1972	15	6	596	43	16	—	5	—	—
	16	6	527	39	13	—	—	—	—
1973	17	6	488	37	15	—	5	—	—
	18	6	544	59	12	—	1	—	3
1974	19	6	463	52	10	1	2	—	2
	20	6	548	56	9	1	3	1	5
1975	21	6	470	55	18	3	5	1	3
	22	4	311	37	11	—	3	—	8
1976	23	6	473	46	9	1	3	1	6
	24	6	622	61	21	2	5	1	5
1977	25	6	627	69	14	1	11	5	—
	26	6	693	63	22	1	9	8	10
1978	27	6	858	93	13	2	8	3	6
	28	5	1039	117	12	1	6	3	—
1979	29	6	1220	135	33	4	17	3	8
	30	6	783	88	13	6	4	—	6
1980	31	6	649	71	21	3	2	—	5
	32	6	859	94	23	—	2	1	7
1981	33	6	975	112	33	2	3	—	5
1982	34	6	796	92	20	4	3	—	5
Totals		205	22945	2130	469	32	124	27	84

Table 5. Special Issues of *Photochemistry and Photobiology*

Volume (Issue)	Total pages	Year	Guest Editor	Title and Source
2(2)	184	1963	C. Sironval	Chlorophyll Metabolism Proceedings of a Symposium held at Gorsem, Belgium, July 30–August 4, 1962.
3(4)	310	1964	—	Molecular Mechanisms in Photobiology Proceedings of a Symposium held at Wakulla Springs, FL, February 16–21, 1964.
4(6)	292	1965	George M. Wyman	Chemiluminescence Proceedings of a Symposium held at Durham, NC, March 31–April 2, 1965.
5(5/6)	147	1967	Dr. P. Rollin	Photomorphogenesis Proceedings of a Symposium held at Rouen, France, November 22–23, 1965.
7(6)	327	1968	J. W. Longworth	Basic Mechanisms in Photochemistry and Photobiology Proceedings of an International Symposium held at Caracas, Venezuela, December 4–8, 1967.
8(5)	171	1968	Gordon Tollin	Photosensitization in Solids Proceedings of the Second International Conference on Photosensitization in Solids held at Tucson, AZ, January 29–31, 1968.
8(6)*	70	1968	—	Symposium on Instrumentation From the 5th International Congress on Photobiology, Hanover, NH, August 26–31, 1968.
14(3)	234	1971	Robert M. Pearlstein	The Photosynthetic Unit Proceedings of the International Conference on the Photosynthetic Unit held in Gatlinburg, TN, May 18–21, 1970.

Table 5 (*cont.*)

Volume (Issue)	Total pages	Year	Guest Editor	Title and Source
16(4)	176	1972	—	Third International Conference on Photosensitization in Solids Sarlat-Dordogne, France, September 9–11, 1971.
23(4)	94	1976	Michael Menaker	Extraretinal Photoreception Symposium on Extraretinal Photoreception in Circadian Rhythms and Related Phenomena held at Vancouver, Canada, July 26, 1974.
24(2)	114	1976	H. Ti Tien	Photoelectric Bilayer Lipid Membranes Proceedings of a Symposium held at the 3rd Annual Meeting of the American Society for Photobiology, Louisville, KY, June 22–26, 1976.
25(4)*	14	1977	James D. Regan	Dye-light Therapy for *Herpes Simplex* Lesions Proceedings of a Symposium held at the 4th Annual Meeting of the American Society for Photobiology, Denver, CO, February 16–20, 1976.
25(5)*	28	1977	Betsy M. Sutherland	Molecular Mechanisms in Photoreactivation Proceedings of a Symposium held at the 4th Annual Meeting of the American Society for Photobiology, Denver, CO, February 16–20, 1976.
27(2)	148	1978	Pill-Soon Song	Photomorphogenesis Annual European Symposium on Photomorphogenesis held at Bet Dagan, Israel, March 19–25, 1977.
27(4)*	35	1978	—	Bioluminescence Proceedings of a Symposium on Recent Advances in Bioluminescence held at the 5th Annual Meeting of the American Society for Photobiology, San Juan, PR, May 11–15, 1977.
28(2)*	50	1978	Kendric C. Smith	DNA Repair and Its Role in Mutagenesis and Carcinogenesis Proceedings of a Symposium held at the 5th Annual Meeting of the American Society for Photobiology, San Juan, PR, May 11–15, 1977.
28(4 5)	506	1978	Ajit Singh Abram Petkau	Singlet Oxygen and Related Species in Chemistry and Biology Proceedings of the International Conference held at Pinawa, Manitoba, Canada, August 21–26, 1977.
28(6)	104	1978	Govindjee	Photosynthesis Proceedings of a Symposium on Primary Photoprocesses in Photosynthesis: Ultrafast Reactions, held at the 5th Annual Meeting of the American Society for Photobiology, San Juan, PR, May 11–15, 1977.
29(4)*	100	1979	Hitoshi Shichi Edward A. Dratz	Symposia on Vision Proceedings of a Symposium on Molecular Aspects of the Visual Process and a Symposium on Light Damage to the Retinal Pigment Epithelium held at Burlington, VT, June 11–15, 1978.
30(1)	198	1979	Waldemar Adam Guiseppe Cilento	Chemi- and Bioenergized Processes Proceedings of the International Conference held at Guaruja-Sao Paulo, Brazil, August 8–10, 1978.
30(4)*	16	1979	Angelo A. Lamola	Photochemistry and Photobiology of Chemicals Affecting Man Proceedings of a Symposium held at the 5th Annual Meeting of the American Society for Photobiology, San Juan, PR, May 11–15, 1977.
32(4)	140	1980	Toru Yoshizawa Hitoshi Shichi	Transduction Mechanisms in Visual Cells A Symposium held at Otsu, Japan, November 27–December 1, 1979.
33(4)	192	1981	Thomas G. Ebrey Toru Yoshizawa	Light Energy Transduction in *Halobacterium halobium* Papers presented at a meeting held at Kyoto, Japan, in May 1980. Under the auspices of the US–Japan Cooperative Science Program.

* Only a portion of the issue.

mentioned (Section 11) that the ASP established a category of Student Membership in 1979. Also, a program of student travel awards for the annual meetings was initiated in 1978.

The first three purposes of the Society (Section 4) are to promote original research in photobiology, to facilitate the integration of different disciplines in the study of photobiology and to promote the dissemination of knowledge of photobiology. The major vehicles used by the Society to accomplish these goals are the annual scientific meetings, the journal *Photochemistry and Photobiology* and the *ASP Newsletter.*

In addition, the Society has begun a modest program of sponsoring national and international workshops on photobiology. In February, 1980, the Society sponsored a Workshop on Biological Chemiluminescence (organized by Burton R. Anderson and Norman I. Krinsky) that partially overlapped and

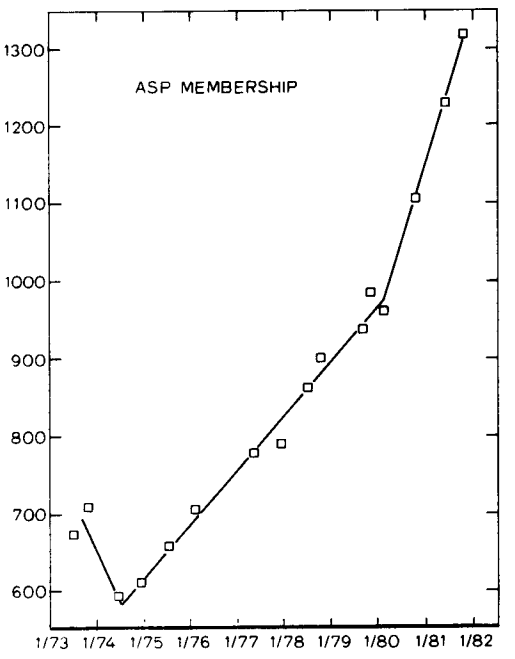

Figure 1. Membership statistics for ASP.

extended beyond the 8th Annual Meeting of ASP in Colorado Springs, CO. In May 26–29, 1982, ASP will co-sponsor an International Workshop on Photobiology (organized in part by Pill-Soon Song) to be held at the Jeju National University, Jeju Island, Korea.

Although not officially sponsored by ASP, it certainly had the unofficial blessing of ASP since most of the teachers were former Presidents of ASP. I am referring to the two week course on photobiology for college teachers that was sponsored by the National Science Foundation, and was administrated by the American Institute of Biological Sciences (to which ASP belongs; Section 8a). This course was organized and run by Winslow R. Briggs and Kendric C. Smith, and was held June 29–July 12, 1980, at the Center for Continuing Education at the University of Chicago. Over 20 college teachers attended this concentrated course on photobiology. It would be most appropriate for ASP to officially sponsor such courses on photobiology in the future.

The fourth purpose of the Society is "to provide information on the photobiological and photochemical aspects of national and international problems". This purpose is the most difficult to fulfill, because it doesn't have set deadlines as do the annual meetings or the issues of a journal. Nevertheless, it is a function that the Society should pursue with vigor and imagination. While photobiology was called "a non-field" in 1971 (Section 3), that certainly is not true today, and the Society should even increase its efforts to enhance the science of photobiology.

At the present time, what is deemed by the general public to be of importance in science is what is relevant to man. Some plant photobiologists have voiced complaints about the seeming emphasis at ASP meetings (and Photobiology Congresses) of the effects of light on man. Although Photomedicine is only one of the subspecialties of photobiology, currently it offers the Society an opportunity to demonstrate the relevance of photobiology to the general public. Once the relevance of photobiology has been established (and the 10 year growth of ASP should help vouch for the relevance of photobiology), the next step is for the Society to make its voice heard.

Over the last few years, the Society has spoken out on two problems of national concern. (1) From about 1970 to 1975, many members of ASP served on various committees of federal agencies concerned with the possible environmental impact of a reduced stratospheric ozone concentration, and the concomitant increase in solar UV radiation that would reach the surface of the earth. It was obvious that a good deal of basic data was needed before an intelligent estimate of the possible effect (outside of the human skin cancer issue) of increased solar UV radiation on the terrestrial biosphere could be made. At the request of Congress, the subcommittee on Biological and Climatic Effects Research (BACER) of the Interagency Task Force on Inadvertent Modification of the Stratosphere prepared a report in 1976 outlining a minimum photobiological research program necessary to serve as a basis for regulatory action. At the same time the Environmental Protection Agency (EPA) was appointed as the lead agency for the research program. This was an unfortunate choice because the EPA was neither prepared administratively nor scientifically for this task and, insufficient

Table 6. Editors of the ASP Newsletter

Editors	Issue numbers and dates
Richard B. Setlow (USNC/P)	No. 1 (April 1970)
Kendric C. Smith	No. 2 (July 1971)–No. 12 (September 1974)
(The ASP Newsletter started with issue No. 5)	
John D. Spikes	No. 13 (December 1974)–No. 17 (December 1975)
Angelo A. Lamola	No. 18 (June 1976)–No. 21 (August/September 1977)
Bodo Diehn	No. 22 (December 1977)–No. 49 (September 1981)
Thomas P. Coohill	No. 50 (October 1981)–

Table 7. Sustaining Members of ASP

	Supporting Members		Affiliate Members	
	Company	Representative	Company	Representative
1973	Duro-Test Corporation	Luke Thorington	Klett Manufacturing Co., Inc.	Charles Lowenberg
	Environmental Health and Light Research Institute	John N. Ott	Kearns' Development Corporation	Kenneth L. Kearns
	GTE Laboratories	William F. Nelson		
	Medi-Spec Corporation	Julius Schneider		
	Pergamon Press, Inc.	Robert Maxwell		
1974	Duro-Test Corporation	Luke Thorington	Klett Manufacturing Co., Inc.	Charles Lowenberg
	GTE Laboratories	William F. Nelson	Westwood Pharmaceuticals, Inc.	Frank Nero
	GTE Sylvania, Inc.	Robert B. Reid		
	Pergamon Press, Inc.	Robert Maxwell		
1975	Duro-Test Corporation	Luke Thorington	Westwood Pharmaceuticals, Inc.	Fred E. Houghton
	GTE Laboratories	William F. Nelson		
	GTE Sylvania, Inc.	Robert B. Reid		
	Pergamon Press	Robert Maxwell		
	Plenum Publishing Corporation	Robert N. Ubell		
1976	Duro-Test Corporation	Luke Thorington	Frito-Lay, Inc.	Barney Hilton
	General Electric Company	Philip C. Hughes	Westwood Pharmaceuticals, Inc.	Fred E. Houghton
	GTE Laboratories	William F. Nelson		
	GTE Sylvania, Inc.	Robert D. Reid		
	Pergamon Press	Robert Maxwell		
	Plenum Publishing Corporation	Robert N. Ubell		
1977	Duro-Test Corporation	Luke Thorington	Frito-Lay, Inc.	Barney Hilton
	General Electric Company	Philip C. Hughes	Westwood Pharmaceuticals, Inc.	Fred E. Houghton
	GTE Laboratories	Charles R. Botticelli		
	GTE Sylvania, Inc.	Robert B. Reid		
	Pergamon Press	Robert Maxwell		
	Plenum Publishing Corporation	Robert N. Ubell		

1978	Duro-Test Corporation	Luke Thorington	Frito-Lay, Inc.	Barney Hilton
	General Electric Company	Philip C. Hughes	Westwood Pharmaceuticals, Inc.	Fred E. Houghton
	GTE Sylvania, Inc.	Robert B. Reid		
	Pergamon Press	Robert Maxwell		
	Plenum Publishing Corporation	Robert N. Ubell		
1979	Duro-Test Corporation	Luke Thorington	Frito-Lay, Inc.	Barney Hilton
	GTE Sylvania, Inc.	Robert B. Reid	Westwood Pharmaceuticals, Inc.	Steven J. Knoop
	Pergamon Press	Robert Maxwell		
	Plenum Publishing Corporation	Robert Ubell		
1980	Duro-Test Corporation	Luke Thorington	Frito-Lay, Inc.	Barney Hilton
	GTE Sylvania, Inc.	Robert B. Reid	Plough, Inc.	Edward Marlowe
	Pergamon Press	Robert Maxwell	Westwood Pharmaceuticals, Inc.	Steven J. Knoop
	Plenum Publishing Corporation	Kirk Jensen		
1981	Duro-Test Corporation	Luke Thorington	Frito-Lay, Inc.	Barney Hilton
	GTE Sylvania, Inc.	Robert B. Reid	Packard Instruments Company, Inc.	L. J. Everett
	Pergamon Press	Robert Maxwell	Plough, Inc.	Edward Marlowe
	Photochemical Research Associates, Inc.	A. F. Janzen	Westwood Pharmaceuticals, Inc.	Thomas DiNicola
	Plenum Publishing Corporation	Kirk Jensen		
1982	Duro-Test Corporation	Luke Thorington	Frito-Lay, Inc.	Barney Hilton
	GTE Sylvania, Inc.	Robert B. Reid	Packard Instruments Company, Inc.	L. J. Everett
	Kratos Analytical Instruments, Inc.	Harry Beck	Plough, Inc.	Edward Marlowe
	Pergamon Press	Robert Maxwell	Westwood Pharmaceuticals, Inc.	Thomas DiNicola
	Photochemical Research Associates, inc.	A. F. Janzen		
	Plenum Publishing Corporation	Kirk Jensen		

funding was awarded the program. The ASP Council decided that the Society should both offer its guidance to EPA and work for more realistic funding. A large effort on the part of Angelo A. Lamola and Frederick Urbach, who spent hours on the phone or trudging around Washington speaking with EPA, all the other agencies involved (NSF, NIH, NASA, DOT, DOE), congressional committees, and the OST in the White House, revealed wide interest in the problem but little appreciation of what it would take to obtain relevant data upon which to base sensible regulatory action. To this day little has been accomplished in this important area, and the moderate funds that were made available were not spent wisely. ASP learned the valuable lesson that an early start in educating the proper people is necessary for any success in Washington. Once programs are partly in place, it is all but impossible to alter directions.

(2) The second major national problem that the ASP responded to, and perhaps with more success, is the problem of the hazards associated with the sudden proliferation of sun tanning booths throughout the USA. At the ASP meeting in Colorado Springs in 1980, Frederick Urbach organized a meeting to discuss what might be done about the hazards of the tanning booths. A statement of recommendations on this problem was subsequently approved by the Council of ASP, was forwarded to the Bureau of Radiological Health of the Food and Drug Administration, and was published in the ASP Newsletter (No. 43, December, 1980). The Bureau of Radiological Health is actively working on solving various problems related to making the radiation producing equipment and its use safer for customers of the tanning salons. It is expected that ASP will continue to monitor this problem.

Photobiology is as old as history, but the science of photobiology, as an organized discipline, is relatively new. There remain many exciting challenges for research in the science itself, but there also remain many opportunities for those with the insights and motivation to make photobiology a superior scientific field that is responsive to the needs of man. The next 10 years should be even more exciting than the first 10 years.

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*Many were asked, few responded. I wish to thank the following people for reviewing this manuscript: F. Daniels, Jr., Govindjee, J. Jagger, A. A. Lamola, J. Myers, J. D. Spikes and B. M. Sweeney.