



NEWSLETTER

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ASP - Newsletter



Walt Shropshire
ASP President 1984-85

Walt Shropshire, installed as the 12th President of the American Society for Photobiology in Philadelphia on July 5, 1984, is Assistant Director of the Environmental Research Center of the Smithsonian Institution. At the Smithsonian he pursues his research interest in action spectroscopy, especially as applied to the areas of photomovements (phototropism and light-growth responses of fungi) and photomorphogenesis (phytochrome control of seed germination and pigment synthesis). As Assistant Director he shares in the administration of the newly formed Environmental Research Center, a Bureau within the Smithsonian, which emphasizes several research areas including photobiology, plant physiology, environmental biology and radiocarbon dating. The center has two facilities, a laboratory in Rockville, Maryland and a 2600 acre watershed surrounding an estuary of the Chesapeake Bay, located just south of Annapolis, Maryland.

Dr. Shropshire was educated at the George Washington University in Washington, D.C. and received degrees in Physics, Botany and Plant Physiology (Photobiology). His thesis research, an action spectrum of phototropism of oat seedlings to blue and ultraviolet light, was carried out at the Smithsonian under the direction of Dr. Robert Withrow. In 1957-59 he was awarded a research fellowship in Biophysics at the California Institute of Technology and worked in the laboratory of Prof. Max Delbruck. In 1959 he returned to the Smithsonian Institution as a Biophysicist, where in 1963 he became the Assistant Director of the Smithsonian Radiation Biology Laboratory.

As a Guest-Professor of Biophysics (1968-69) at the University of Freiburg, Germany, he pursued his interest in red/far-red reversible responses of flowering plants in collaboration with Prof. Hans Mohr. Recently (1983) he and Professor Mohr edited a two volume summary of current research in Photomorphogenesis for the Encyclopedia of Plant Physiology.

During his career he has written numerous research papers in biophysics and photobiology. In addition, during the past twenty-five years he has assisted in expanding the breadth of the research activities of a small unit within the Smithsonian to its current position as one of the largest and most diverse research centers in the world in photobiology and environmental biology. Dr. Shropshire has also been active in teaching, and since 1960 has held an adjunct Professorial appointment at George Washington University where he has taught a wide range of courses including Botany and Cell Physiology up to a present graduate seminar in Radiation Biology. He has directed the research of doctoral candidates and postdoctoral students, and was awarded the Smithsonian Outstanding Performance Award for organizing and directing a cooperative graduate level program in Biology between six Washington area universities and the Smithsonian between 1960 and 1970. In 1981 he edited a small book, "The Joys of Research," in honor of the celebration of the 100th birthday of Albert Einstein.

He has also been active in the International Solar Energy Society and was Chairman of the American Section in 1975 and served several terms as an elected Director of the International Society. He is a Fellow of the American Association for the Advancement of Science and a charter member of the Biophysical Society. In January of 1978 he was elected chairman of the Gordon Conference on Sensory Transduction in Microorganisms at Santa Barbara, California. At the IXth International Congress on Photobiology in Philadelphia he was elected a Vice-President of the Association Internationale de Photobiologie.

Dr. Shropshire is married and has three adult children. For many years he has had an interest in the interaction between science and religion, and in 1977 he was ordained a United Methodist Pastor. As the husband of Audrey Shropshire, a physical education teacher, he participates with her in leading small groups aimed at understanding and generating personal creativity. For recreation they enjoy tennis and sailing.

Student Travel Awards to July 1984 Annual Meeting

Chuck C.K. Chao
Department of Radiology
University of Texas Health Science Center
at Dallas

Rabi K. Prusti
Department of Chemistry
Texas Tech University

William J. Coleman
Department of Plant Biology
University of Illinois

Lauri J. Sammartano
Department of Genetics and Development
University of Illinois

Jae-Wook Huh
Department of Chemistry
Texas Tech University

Bennett Van Houten
Oak Ridge Graduate School of Biomedical Sciences

Bernhard Ortel
Vienna University
Austria

Bruce Paul Wittmershaus
University of Rochester

Pamela S. Parkes
Chemistry Department
Northwestern University

Membership Directory

The 1984 Membership Directory will be mailed to the membership sometime this month (October).

New Mirror Available

A concave mirror for highly concentrated pinpoint focusing of light has now been put on the market. Its high-grade finish ensures an almost full preservation of energy to permit the formation of bright spots of light. Numerous variants in the configuration of light can be produced in combination with spotlights and other light sources.

The concave mirror is made of crystal and provided with a rubber edge guard. The diameter is 46 cm. Fitting is made easy thanks to a special mounting attachment. Suppliers are Messrs. F. LAMMERTZ KG of Dusseldorf. Address: 4000 Dusseldorf 1, Postfach 5111, Schirmersstrabe 29, Telefon 0211/36 58 18 u. 36 59 19, Telex 858 8590 ladf d

Porphyrin Workshop

There are available a limited number of copies of the Abstracts from the 1984 Porphyrin Photosensitization Workshop which was held in conjunction with the 9th Photobiology Congress in Philadelphia. For details, write to David Kessel, Department of Medicine, Harper-Grace Hospitals, Detroit, MI 48201.

Tapes are also available:

1. Recent Developments in Phototherapy - T.J. Dougherty, Buffalo, NY 8.00
Delivery Systems and Dosimetry in PDT - D. Doiron, Santa Barbara, CA
Phototherapy of Bladder Tumors - R. Benson, Rochester, MN
2. Binding of HP and Photofrin II To Serum - J. Moan, Oslo 8.00
Liposomes and Lipoproteins as Porphyrin Carriers, G. Jori, Padova
Photodynamic Therapy in Lung Cancer - Y. Hayata, Tokyo
3. Chemical Manipulation of Vinyl Groups in Protoporphyrin - K. Smith, Davis, CA 8.00
Aggregation of Porphyrins and Photosensitization - S. Brown, Leeds UK
Biophysical Properties of HPD Components - D. Kessel, Detroit, MI
Thermodynamic and Kinetic Studies on Porphyrin Aggregation - R. Marqalit, Tel-Aviv

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| 4/4A. Excited-State Properties of Photofrin II - A. Andreoni, Milano | 16.00 |
| Cell and Tissue Effects Related to Porphrin PRT - C. Gomer, Los Angeles, CA | |
| Synergism: Hyperthermia and Photochemotherapy - L. Svaasand, Trondheim | |
| Photoradiation Therapy of Obstructive Lung Cancer - O. Balchun, Los Angeles, CA | |
| 5. Recent Progress in the Chemistry and Analysis of HPD - A.D. Ward, Adelaide | 8.00 |
| Update on the Photosensitizing by Porphyrins in Organized Systems - J. Spikes, U of Utah | |
| Photophysics and Photochemistry of HPD and URO X - L. Grossweiner, Chicago, IL | |
| 6/6A. Photosensitization of Mitochondria by HPD - R. Hilf, Rochester, NY | 16.00 |
| Effect of Hyperthermia on Cells Photosensitized with HPD - T. Christensen, Oslo | |
| Fluorescence Bronchoscopy for Tumor Localization - A.E. Profio, Santa Barbara, CA | |
| Recent Progress in Phototherapy - J. Kennedy, Kingston, Ontario | |
| 7. Discussion of Posters and Summary - T. Dougherty and J. Moan | 8.00 |
| TT-12. Twelve-Tape Vinyl Storage Album | 6.00 |
| Entire Series Special (Includes all tapes in storage albums) | 64.00 |

Tape recordings of the sessions can be obtained from Satellite Broadcasting, 4714 Mercury Drive, Rockville, MD 20853.

Conference Report

Brian Stevens

Conference on Singlet Molecular Oxygen, Cosmo 84, held January 3-7th, 1984, Clearwater Beach, Florida.

Some 80 scientists from 12 countries attended the Conference at which 47 papers were presented in the following sessions: Sources and Yields (B. Stevens), Relaxation and Quenching (M.A.J. Rodgers), Reaction Mechanisms (C.S. Foote), Biological/Biomedical Implications (R.W. Murray), Gas Phase and Atmospheric Manifestations (R.P. Wayne), Synthetic and Other Applications (A.P. Schaap).

The sessions organizers indicated, together with A.M. Trozzolo, formed the planning committee.

Sponsors included: The Office of Naval Research, The National Science Foundation, The American Society for Photobiology, The Inter-American Photochemical Society, Jacobs-Fendig, Inc., Mr. Robert Dressler, The University of South Florida.

The proceedings will be published in a dedicated issue (3 volumes) of the Journal of Photochemistry later this year.

The Conference objective was to promote interdisciplinary awareness and communication by assembling research workers in such diverse fields as photochemistry, photophysics, synthetic chemistry, photobiology, photomedicine, laser and atmospheric physics, to present their recent findings with singlet molecular oxygen as the common theme. This was prompted by several recent developments, notably the direct observation of $O_2^1\Delta_g$ in emission at 1.27μ which now provides solvent-dependent lifetimes, reaction or quenching rate constants, and sensitized yields directly, the trapping of zwitterionic intermediates and the role of catalysts in electron transfer peroxidation, the feasibility of a single oxygen-iodine chemical laser, direct observation of $O_2^1\Delta_g$ in enzymic processes, the use of endoperoxides as actinometers, the phototherapy of malignant tumors, and prospects for $O_2^1\Delta_g$ as a solar energy storage intermediate. If attendance on the final morning (which equalled that at the opening session) is a criterion of success, then any failure to meet the stated objectives was not the fault of the participants. Since COSMO 84 does not represent the continuation of a Conference series, e.g. on Oxygen radicals (Pinawa 1977, Texas 1980, Munich 1983), on Polymers (Stockholm 1976) or the role of singlet oxygen in environmental sciences (New York 1970) more objective criteria of its success will be provided by the reception of the Conference Proceedings and the planning of COSMO 8? (i.e. the next COSMO meeting).

BOOKS

Chloroplast Development
Structure, Function and Regulation of the Photosynthetic Apparatus
Israel Journal of Botany
Vol. 33, Nos. 2-4, 1984

This special issue of the Israel Journal of Botany is dedicated to the memory of Professor Shimon Klein. It consists of invited papers and contains review articles and reports on recent progress in the study of the development, regulation, structure and function of the photosynthetic apparatus.

Contents

- A Akoyunoglou & G. Akoyunoglou: Mechanism of thylakoid reorganization during chloroplast development in higher plants.
- J H Argyroudi-Akoyunoglou, A Castorinis & G Akoyunoglou: Biogenesis and organization of the pigment-protein complexes: relation to the low temperature fluorescence characteristics of developing thylakoids.
- E Dujardin: Protochlorophyllide photoreduction in plants. Some comments on recent data.
- T Fejerabend, S Biekmann, R Hoinghaus & U Kosmac: Investigation of chloroplast membrane formation and its control with the aid of heat-bleached 70S ribosome-deficient leaves.
- G Freyssinet & D E Buetow: Regulation and expression of genes for chloroplast proteins.
- K Humbeck, G Akoyunoglou & H Senger: The effect of intermittent light on chloroplast development in a greening pigment mutant of the green alga *Scenedesmus obliquus*.
- B Klockare and H I Virgin: Chlorophyll b formation in darkness after phototransformation of protochlorophyllide and during a period of intermittent light.
- H K Lichtenthaler, D Meier & C Buschmann: Development of chloroplasts at high and low light quanta fluence rates.
- C Lutz & H Tonissen: Effects of enzymatic cleavage on prolamellar bodies and prothylakoids prepared from etioplasts.
- H Oelze-Karow and H Mohr: Stability of chlorophyll during greening.
- C A Rebeiz, A Montazer-Zonhoor & H Daniell: Chloroplast culture X: thylakoid assembly in vitro.
- M E Ruffer-Turner, J W. Bradbeer, C R Stocking, G Montes & O Wara-Aswapati: Chloroplast development in *Zea mays*.
- R J Strasser: How excitation energy distribution indicates the complexity of a developing photosynthetic apparatus.
- F A M Wellburn, I Gounaris & A R Wellburn: Carbohydrate reserves and plant growth substance sensitivity in plastids, stomata and statocytes during shoot development.
- M Wettern & I Ohad; Light-induced turnover of thylakoid polypeptides in *Chlamydomonas reinhardtii*.
- Price per volume: \$36 + \$3 postage and handling.
- Prepaid orders should be sent to: The Weizmann Science Press of Israel, P.O. Box 801, Jerusalem 91 007 Israel.

PHOTOMORPHOGENESIS IN PLANTS. Proceedings of the European Symposium held at Frostavallen, Sweden, 19-23 July, 1983. 89 pp., \$6.00. Physiologia Plantarum, Department of Plant Physiology, University of Lund, Box 7007, S-220 07 Lund, Sweden.

RADIATION & LIFE. Eric J. Hall. New expanded and Updated Second Edition! This book describes, in terms readily understood by the non-specialist, what radiation is and how it effects living things. Attention is focused on a comparison of medical and industrial uses of radiation and an attempt is made to introduce the concept of risk versus benefit. \$19.50, Pergamon Press Maxwell House, Fairview Park, Elmsford, N.Y. 10523.

1985 ANNUAL MEETING - AMERICAN SOCIETY FOR PHOTOBIOLOGY

The 13th Annual Meeting of the Society will be held June 23-28, 1985, at the Monteleone Hotel in New Orleans, Louisiana. Be on the lookout for the Call-for-Papers as it will be mailed to all Members of the Society later this month (October). For additional packets contact the Secretariat at (703)790-1745.

AMERICAN SOCIETY FOR PHOTOBIOLOGY

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