



NEWSLETTER

Published by the American Society for Photobiology /

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

Editor: Thomas P. Coohill, Depts. of Biology & Physics
Western Kentucky University, Bowling Green, KY 42101 tel:(502)745-6005

No. 102 June 1986

ASP - Newsletter



Dr. Barry Rosenstein
First Recipient
American Society for Photobiology
Research Award

Barry Rosenstein was recently selected as the first recipient of the American Society for Photobiology Research Award. Dr. Rosenstein's interest in photobiology began as a graduate student at the University of Rochester. At that point his work primarily focused on DNA repair and 254 nm UV essentially served as a convenient tool to cause the induction of a well-characterized DNA damage, the cyclobutane pyrimidine dimer.

It was only when Dr. Rosenstein joined Dick Setlow's group at the Brookhaven National Laboratory as a postdoctoral fellow that a real interest in photobiology was awakened. At that time, 1978, the attention of many photobiologists interested in UV radiation was shifting to the 290-320 nm region which represents the wavelength component of sunlight that appears to be responsible for the induction of most skin cancers. This attention was stimulated to a great extent over concern about depletion of stratospheric ozone and the biological consequences of the resulting increased intensity of 290-320 nm UV in sunlight. As Dr. Setlow was a participant on panels formed by the National Academy of Sciences to examine this issue, discussions concerning this question took place at Brookhaven. From these conversations, Dr. Rosenstein developed an appreciation of the importance of the 290-320 nm region and became particularly interested in whether pyrimidine dimers are the critical lesions induced by these solar UV wavelengths. He realized that a cell line, ICR 2A, which he had used as a graduate student could be helpful in addressing this question due to its ability to photoreactivate dimers.

Dr. Rosenstein then initiated a series of photoreactivation experiments at Brookhaven that continued at the University of Texas Health Science Center at Dallas where he has been an Assistant Professor in the Radiation Biology Section of the Radiology Department since 1980. Through this

work, Dr. Rosenstein demonstrated that DNA damages other than pyrimidine dimers also play an important biological role in cells exposed to solar UV wavelengths. He then went on to spend the next few years investigating the repair of these non-dimer photoproducts. As a result of these experiments, Dr. Rosenstein has obtained evidence that the responses of cells to the solar UV-induced non-dimer DNA damages, in terms of excision repair and perturbations to DNA synthesis, more closely resemble the responses of cells to ionizing radiation than to the pyrimidine dimers produced in 254 nm-irradiated cells.

Currently, the research being performed in Dr. Rosenstein's laboratory primarily involves an investigation of the repair of specific DNA damages that appear to be of significance in cells exposed to solar UV radiation.

New Center

Bowling Green State University in Ohio announced the establishment of the CENTER FOR PHOTOCHEMICAL SCIENCES: a Research Center dedicated to the interdisciplinary education of photoscientists. For further information contact: Dr. D.C. Neckers, Executive Director or Dr. J.C. Dalton, Administrative Director.

Wanted

Working Bulbs for air-cooled kromayer units. If anyone has one or more of these, we are eager to purchase them, as they are no longer made. Please contact: Howard Maibach, Dermatology Box 0122, University of California Medical School, San Francisco, CA 94143-0122.

Note from the Editor

This issue marks my demise as ASP Newsletter Editor. Although I am sure to forget someone, let me please thank the following: Ms. Jackie Everhard, chief secretary, Biology Department, Western Kentucky University for typing all of the Newsletters from an unreadable pile of submissions by the editor; Becky Conner for proof-reading all issues; and Western Kentucky University for supporting this work throughout. The editor has frequently pestered all members of the ASP Council and Committees for the past five years and from them I ask forgiveness. While I am on forgiveness, the Secretariat, especially, Ms. Diane Taub, has tirelessly corrected my mistakes, provided support, and kept the presses rolling. My successor will learn to rely on her. But ultimately the Membership makes the Newsletter and your submissions, photos, corrections, yes and even complaints, were most welcome and helpful. But don't relax. Although my phone calls will cease, the new editor is practicing his dialing. Regards to all. T. Coohill

From FASEB

U.S. Research and Development Support Rising

U.S. support for research and development has been on the rise since 1980, the National Science Board says in a new report, "Science Indicators: the 1985 Report." Between 1980 and 1985, the report notes, total national support, coming from both federal and private sources, grew at an average annual rate of 5.4 percent.

According to the report, increased industrial funding accounted for about 52 percent of this increase, with another 45 percent representing expanded federal funding. The growth in federal funding was primarily for defense R&D and non-defense basic research.

The report notes that the Office of Management and Budget divides the federal budget into 16 "functional categories." Of these groups, national defense receives the largest share of federal investments for research and development. Health research accounts for the next largest share, followed by space research and technology and energy R&D.

"Significant gains" have been made in national support for basic research in the past two-and-a-half decades, the report says. It adds that less than nine percent of total national R&D support was directed to basic research in 1960. By 1985, the share stood at just over 12 percent, a level which has remained constant since 1976.

In 1985, federal obligations for basic research were estimated to have reached \$7.6 billion, a 6 percent increment in constant dollars from their 1984 level. Five agencies provided almost 90 percent of total federal support for basic research in 1985. Those agencies, ranked from highest support to lowest, were the National Institutes of Health, the National Science Foundation, Department of Energy, the Department of Defense, and the National Aeronautics and Space Administration.

The report finds that while federal agencies have increased their support for basic research, "little change has occurred in their choice of research performers." Just as they did in 1976, the report says, NIH and NSF directed the vast majority of their basic research support in 1985 to the university sector.

Copies of the report are available from the Superintendent of Documents, US Government Printing Office, Washington, DC, 20402. Request stock number 038-000-00563-4.

Meetings

1986

June 22-26 AMERICAN SOCIETY FOR PHOTOBIOLOGY - Fourteenth Annual Scientific Meeting. Los Angeles, California.

HOTEL - The Sheraton Universal is located at 333 Universal Terrace Parkway, Universal City, CA 91608, overlooking Universal Studios and the San Fernando Valley. The hotel's phone number is (818) 980-1212. Further Information: Diane Taub, Executive Officer, ASP, 1340 Old Chain Bridge Road, Suite 300, McLean, 22101.

June 26-27 Porphyrin Workshop - This meeting will be held at the end of the ASP Annual Meeting (June 22-26) at Universal City in L.A. It will begin on Thursday afternoon, June 26th and continue all day Friday, the 27th. For information contact: Dr. David Kessel, Department of Medicine, Harper Hospital, 3990 John R. Street, Detroit, MI 48201.

June 16-20 INTERNATIONAL CONFERENCE ON HEALTH AND ENVIRONMENTAL EFFECTS OF OZONE MODIFICATION AND CLIMATE CHANGE sponsored by U.N. Environment Programme and U.S. Environmental Protection Agency. Tentative Conference Agenda: Monday - Reports by leading international scientists on global atmospheric change, Ozone Modification, Climate Change; Tuesday - Presentations on possible human health effects from increased exposure to UV-B radiation, Skin Cancer and Cataracts, Suppression of the Immune Response System. Discussions on ecological effects from increased exposure to UV-B radiation, Effects on Plants and Marine Organisms; Wednesday - Reports on UV-B effects on smog formation and degradation of materials, Poster Session; Thursday - Discussions on potential effects related to climate change, Sea Level Rise Impacts, Agricultural and Forestry Effects, Water Resources Impacts; Friday - Key Areas for Future Research. Keynote speeches by leading decision makers from UNEP, United States and other nations throughout the week.
Conference Site - The conference will be held at the Hyatt Regency Crystal City, 2799 Jefferson Davis Highway, Arlington, Virginia 22202, (703) 486-1234, just outside of Washington, D.C.
Registration - For additional information, please contact: Ms. Judy Salmon, Conference Coordinator, Technology Applications, Inc., 6101 Stevenson Avenue, Alexandria, Virginia 22304, (703) 461-2000. The registration fee for the conference is \$125 in U.S. dollars, or \$45 for each day. This fee includes conference materials and admission to conference sessions and meal functions.

Aug 10-14 37th AIBS Annual Meeting. The University of Massachusetts, Amherst. General Chairman for the meeting will be Dr. Margaret Barr Bigelow, Professor of Botany at the university. Registration fees before June 20: \$55.00 regular, \$25.00 student; after June 20: \$75.00 regular, \$40.00 student. To register and for more information see the February issue of BioScience or contact the Meetings Department, AIBS, 730 11th Street N.W., Washington, D.C. 20001, Tel: (202) 628-1500.

Aug 11-15 Non-Ionizing Radiations: Biophysical and Biological Basis, Applications, and Hazards in Medicine and Industry. Massachusetts Institute of Technology, Cambridge, MA. The course will emphasize practical considerations in safe and effective use of these modalities in Medical and Industrial practice, e.g. methods and instrumentation for power measurement, calibration, dosimetry, compliance with Federal and State regulations, etc. For further information, please contact: Director of Summer Sessions, Room E19-356, M.I.T., Cambridge, MA 02139.

Aug 17-21 Illuminating Engineering Society of North America. Boston, MA. The conference will feature the latest developments in the field of illumination. Sessions and exhibits will feature lighting design, sources, luminaires, light and vision, roadway lighting, and award-winning lighting applications. A special one-day educational seminar will be held concurrently on commercial lighting design, and participants will earn IES-CEU credits. Details on the program and registration information are available. For more information contact: Elizabeth Downs, (202) 705-7926.

Sept 7-12 First European Congress of Photobiology. Grenoble, France. Provisional list of invited speakers: E. Ben-Hur, N. Boens, R. Bonnett, R. Cogdell, F. Dall'Acqua, J. Deseinhoffer, E.C. Friedberg, C. Helene, J.E. Hearst, J. Hoeijmakers, E. Holzle, G. Jori, P. Mathis, W.L. Morison, R. Paulsen, M. Radman, A. Sarasin, S. Sedgwick, T.G. Truscott, K. Vogt, D.A. Walker, K. Wolff, R. Wood, R. Worrest, A. Young. Contact: Secretariat 1st ECP, DRF/Documentation Chimie, Centre d'Etudes Nucleaires, 85X, 38041 Grenoble Cedex, France.

BOOKS

From CRC - For information on these books from CRC contact CRC Press, Inc., 2000 Corporate Blvd. N.W., Boca Raton, FL 33431.

CRC Handbook of Chromatography: Amino Acids and Amines. Edited by Stanley Blackburn, Ph.D., Wool Industries Research Association, Leeds, England. ISBN-0-8493-3064-5. Price: U.S. \$70.50.

Bioluminescence and Chemiluminescence: Instruments and Applications. Edited by Knox Van Dyke, Ph.D., Professor of Biochemistry, Department of Pharmacology and Toxicology. West Virginia University Medical Center, Morgantown, West Virginia. Volume I: ISBN-0-8493-5863-9. Price U.S. \$105.00. Volume II: ISBN-0-8493-5864-7. Price: U.S. \$118.00.

Singlet O₂. Edited by Aryeh A. Frimer, Ph.D., Senior Lecturer, Department of Chemistry, Bar-Ilan University, Ramat-Gan, Israel. Volume I: Physical-Chemical Aspects; Volume II: Reaction Modes and Products - Part I; Volume III: Reaction Modes and Products - Part II; Volume IV: Polymers and Biomolecules. Four-volume set - U.S. \$434.50.

Spectroscopy in the Biomedical Sciences. Edited by R. Michael Gendreau, M.D., Project Manager, Biological Sciences Department, Battelle's Columbus Laboratories, Ohio. ISBN-0-8493-5740-3. Price: U.S. \$99.00

From Taylor & Francis

Radiation and Skin, C.S. Potten, Paterson Laboratories, Manchester UK

This book introduces radiation physics, basic radiobiological principal and skin cell biology in a comprehensive manner. The basic description of cell and tissue biology is based on current research and hence the radiobiological responses of each of the many cellular constituents are reviewed and interpreted, individually and collectively, with modern views in mind. The recent advances in skin biology are also reviewed and the book includes many tables summarising the skin radiological literature to date. Contents: Radiations; Cells; Radiation and cells; Skin Parts I and II; Radiation effects on keratoblasts; Radiation effects on the dermis: connective, vascular and nervous tissue; The skin appendages and their radiation response; Melanocytes and radiation-induced changes in pigmentation; Langerhans cells and their radiation response; General Summary; Index. \$42.00

International Journal of Radiation Biology, and related studies in Physics, Chemistry and Medicine. Research Papers, Rapid Communications, Reviews, Letters, Meeting Reports, Abstracts, Book Reviews on Ionizing Radiation, Ultraviolet, Visible Light, Microwaves, Ultrasound, Hyperthermia. For information on the above contact: Taylor & Francis Inc., 242 Cherry Street, Philadelphia, PA 19106-1906, Tel: (215) 238-0939.

AMERICAN SOCIETY FOR PHOTOBIOLOGY

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

Non-Profit Org.
U. S. POSTAGE
PAID
Bethesda, Md
Permit No. 45126