

November 1, 1991

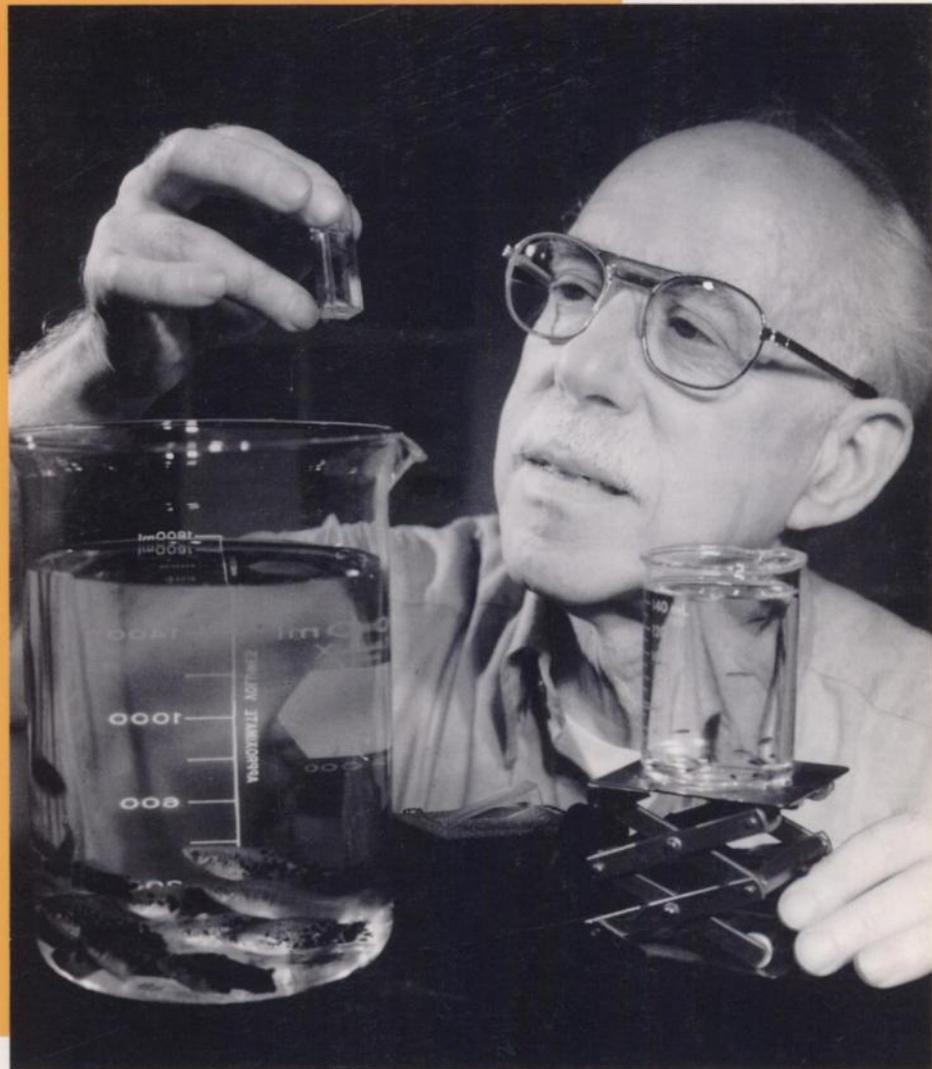


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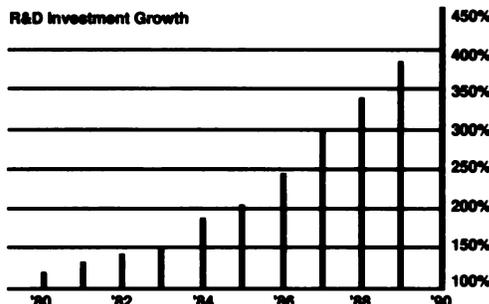
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RESEARCH SCIENTIST POSITION

The Tumor Biology and Biophysics Division of the Dept. of Radiation Oncology at the Fox Chase Cancer Center requires a Research Scientist with training in molecular biology techniques to initiate his/her independent research program. Applicants should hold a Ph.D or M.D./Ph.D degree from a recognized university and have 3-10 additional years of laboratory research experience. Appointment can be made at levels equivalent to assistant or associate professorships in a university setting. Preference will be given to applicants with research experience in molecular mechanisms of 1). radiation sensitive/resistant mutants, 2). radiation induction of DNA lesions, 3). radiation mutagenesis and/or 4). cellular repair processes. The tumor biology and biophysics research program at the Fox Chase Cancer Center is housed within new laboratory space commissioned in 1990. It is well equipped and supported by several core facilities including a macromolecular synthesis and analysis facility, a spectroscopy facility, two Cesium-137 irradiators and a state of the art laser light source. The Dept. of Radiation Oncology has academic affiliation with the University of Pennsylvania. Applications including curriculum vitae and names of 3 references should be sent to: Research Scientist Search Committee, c/o Personnel Dept., Dr. J.D. Chapman, Director, Tumor Biology and Biophysics, Dept. of Radiation Oncology, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111. EOE.

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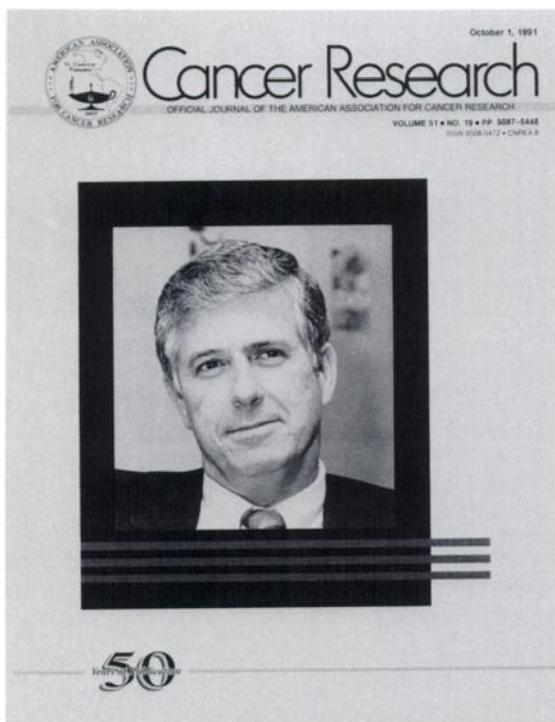


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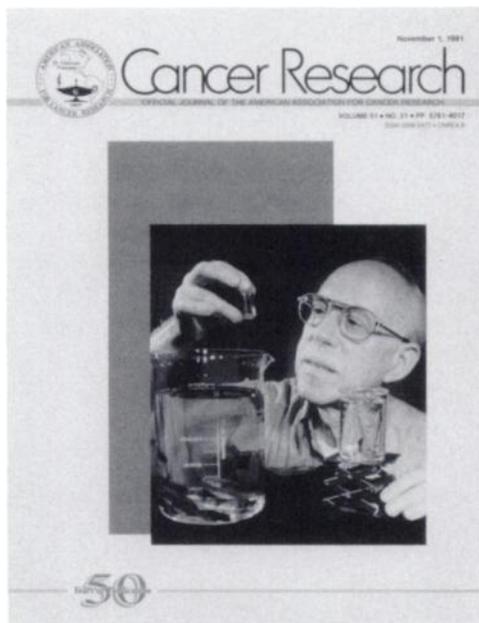
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COVER LEGEND



An AACR-sponsored Special Conference in Cancer Research, entitled "Cellular Responses to Environmental DNA Damage," to be held December 1-6, 1991 in Banff, Alberta, Canada, will mark the 70th birthday of Richard B. Setlow, Ph.D. It will provide an opportunity for colleagues and former students to acknowledge his considerable achievements in a long career of leadership in the biology of radiation damage to DNA and repair of this damage.

After receiving an A.B. degree from Swarthmore College in 1941, Dr. Setlow obtained a Ph.D. in physics from Yale in 1947. He continued conducting research and teaching at Yale until 1961, when increasing interest in the biophysics of the effects of radiation on proteins, DNA, and living cells drew him to Oak Ridge National Laboratory Biology Division. Starting as a group leader, he rose to Scientific Director in 1969 and, while holding a professorship of biomedical sciences at the University of Tennessee, he was appointed Director of the University's Graduate School of Biomedical Sciences. In 1974, he joined the Brookhaven National Laboratory as Senior Biophysicist with an adjunct professorship at the Stony Brook campus of the State University of New York. In 1986, he was made Associate Director for Life Sciences.

At Yale, Dr. Setlow undertook studies on the quantitative direct effects of ionizing and UV radiation on proteins and nucleic acids. Working with colleagues Richard Boyce, Reginald Deering, Philip Hanawalt, and Jane Setlow, he became intrigued by the effects of radiation on viruses, cell division, and macromolecular

synthesis. He was induced to move to Oak Ridge where he could spend all of his time on research.

Early in his career, he discovered that thymine dimers in oligo- and polynucleotides and DNA were formed by UV irradiation and, in collaboration with Paul Swenson and William Carrier, that dimers were responsible for profound effects of radiation on DNA synthesis in *Escherichia coli*. The inhibition was extreme in UV-sensitive mutants and the difference was found to be due to an inability to remove thymine dimers by nucleotide excision repair. Excision repair, a key to radiation resistance, was extended to a variety of biological systems: viruses; microorganisms; and cells in culture.

Among the outstanding accomplishments of his laboratory are the following. He constructed action spectra for UV damage to DNA due to stratospheric ozone depletion by supersonic planes or chlorofluorocarbons. With Ronald Hart, he found that the capacity of cells to repair DNA after UV irradiation was related to the life span of the species tested. To assess the role of thymine dimers in UV-induced tumorigenesis Dr. Setlow, together with Ronald Hart and Avril Woodhead, used as an experimental model a fish species, *Poecilia formosa*, known as Amazon mollies. This is an isogenic species which has a high level of photoreactivating activity. By irradiating single cell suspensions of thyroid tissue at 254 nm and subjecting some of these to photoreactivating conditions followed by injection into isogenic recipients, they showed that, while tumors developed by UV radiation alone, tumors did not develop after UV radiation followed by photoreactivation.

In experiments now under way at Brookhaven, he is measuring variations in biochemical and cytogenetic end points to assess how DNA repair differs among normal human populations and whether repair activity is constant over time. He is also studying another fish model, a hybrid cross of platyfish and swordtails of known genetic composition that is highly susceptible to UV-induced melanoma, to assess the role of melanoma susceptibility genes and tumor suppressor genes in melanoma formation.

Dr. Setlow is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and numerous professional societies, including the AACR. He was president of the Biophysical Society, 1969-1970; the Fifth International Congress on Photobiology, 1968; and the Comité International de Photobiologie, 1972-1976, and is Honorary President of the 11th International Congress on Photobiology, Kyoto, Japan, to be held September 7-12, 1992. He served, and continues to serve, on a host of National

Research Council Committees; as an advisor to many agencies dealing with photobiology and cancer; and on many editorial boards, including that of *Cancer Research*. He has received honors from the Radiation Research Society and has been awarded the Finsen Medal at the 8th International Congress on Photobiology, Strasbourg, France, 1980, and the Enrico Fermi Award of the United States Department of Energy, 1988. He has an honorary Doctor of Science degree from York University, Canada, 1985, and is a Fellow of the American Association for the

Advancement of Science, 1988. He is the author or coauthor of 246 papers; readers are referred to the following reviews: *Nature (Lond.)*, 271: 713-717, 1978; *Natl. Cancer Inst. Monogr.*, 60: 249-255, 1982; *Human Carcinogenesis*, C. C. Harris and H. N. Autrup (eds.), pp. 231-254, 1983; and *DNA Damage and Repair*, A. Castellani (ed.), pp. 1-9, 1989.

We are indebted to Dr. Setlow for the photograph and information.

Sidney Weinhouse