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# **PUGET SOUND CHEMIST**

BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

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**Volume 55, Number 4**

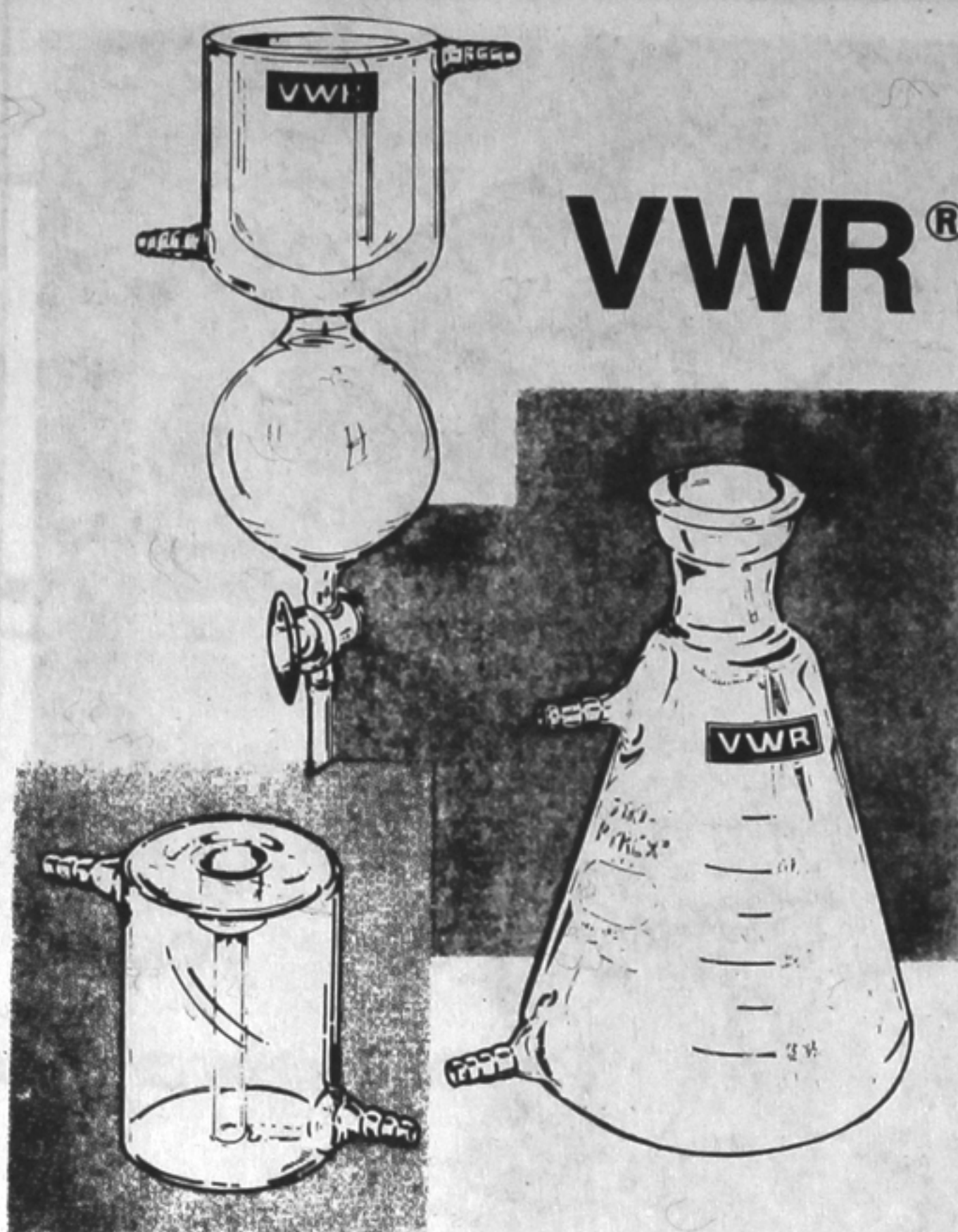


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**On the cover: Linus C. Pauling, one of the most influential scientists of this century. See related article on page 3.**



## **LINUS C. PAULING 1901 - 1994**

Linus C. Pauling passed away August 19 at his home in Big Sur, California. Born on February 28, 1901, in Portland, Oregon, he died of cancer at the age of 93. He was the most distinguished chemist from the northwest and he remained active until recently when prostrate cancer, diagnosed in 1991, began to take its toll.

Pauling's career spanned more than seven decades. He graduated from Oregon Agricultural College (now Oregon State University) in 1922 with a degree in chemical engineering and, in 1925, he received his doctorate from California Institute of Technology where he was chemistry professor and spent the most productive years as a chemist.

Pauling's wide-ranging scientific work has had enormous influence on almost every field of chemistry. His earlier work on the use of x-ray crystallography to determine the structures of molecules, his work on the nature of chemical bonds, the concepts of resonance and hybridization became the foundation to modern molecular biology. His discovery of the structure of proteins, including the alpha-helix, led to his 1954 Nobel Prize in Chemistry. He was the recipient of numerous other prizes and medals, including the ACS Priestley Medal, and held honorary degrees from numerous distinguished universities around the world.

Science was not Pauling's sole interest. He was no stranger to controversy either. His passionate belief in subjects, such as nuclear weapons, disarmament and peace was controversial. But his tireless campaign on behalf of these subjects and his public disclosure of the danger of fallout from tests of nuclear weapons in the atmosphere played a major role in the subsequent international agreement banning such tests. For these efforts on behalf of peace, he received the 1962 Nobel Peace Prize. Thus, he became the only person to receive two unshared Nobel Prizes.

Pauling's ideas about orthomolecular medicine—the determination of the optimal amounts of substances for maintenance of good health—created some controversy during the later years of his life. Among these was his notion about the use of large doses of ascorbic acid—taking mega doses himself, as much as 10 grams or more per day—to ward off common colds and cancer. He established the Linus Pauling Institute of Science and Medicine in Palo Alto in 1973.

Pauling served as ACS president in 1949 and was a member of the board of directors from 1948-1950. The ACS Board of Directors adopted a resolution expressing a deep sense of loss at the passing of Linus Pauling, a true giant among chemists. He was certainly one of the most influential scientists of this century.

## **ABOUT OUR 50 YEAR MEMBERS . . . . ., 1994**

### **JOHN F. MILLER**

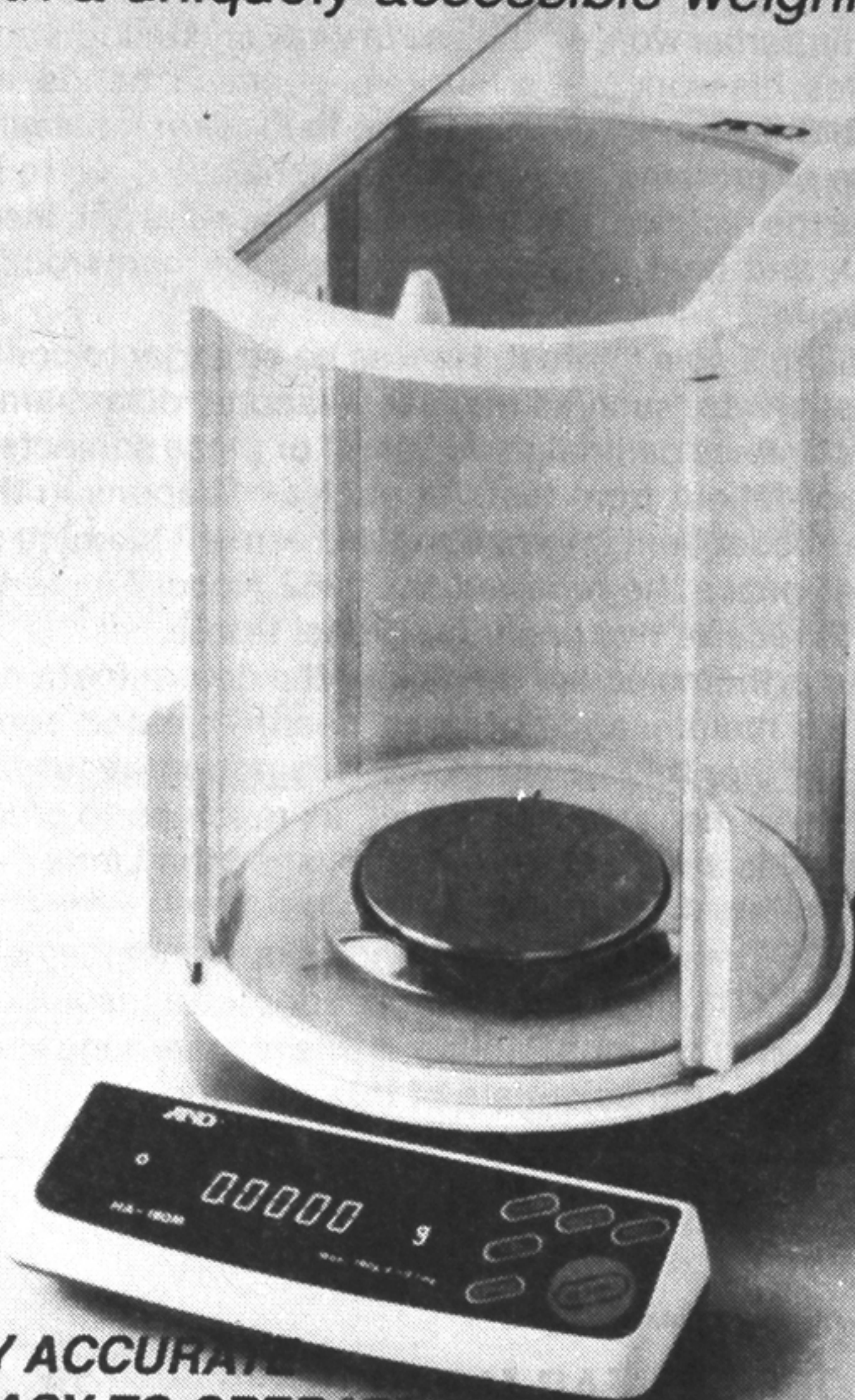
After receiving his Bachelor's degree from the University of Buffalo, now SUNY at Buffalo, in 1943, Mr. Miller was with the Manhattan Project in Tonawanda, NY (1943-46); research chemist with Durez Plastics & Chemicals, now Occidental Petroleum, (1946-52); chief chemist with Loven Chemical, Ltd., Los Angeles, CA (1952-54); and R & D chemist with The Borden Co., Seattle, WA (1954-57). He was then with Balfour, Guthrie, of Tacoma as chief chemist (1957-65); Hercules, Inc., of Tacoma as R & D chemist (1965-70); Pacific Resins & Chemicals, Inc., of Tacoma as R & D chemist (1970-80); and with Georgia-Pacific, Inc., of Tacoma as R & D Chemist (1980-91) before retiring at the end of 1991.



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# OCTOBER MEETING

- DATE:** Thursday, October 13, 1994
- FEATURED SPEAKER:** Patrick J. Hannon  
Retired, Naval Research Laboratory  
Washington, D.C.
- PROGRAM:** "Serendipity as the Ultimate Research Tool"
- LOCATION:** Shoreline Center  
18560 - 1st Avenue NE, Seattle, WA
- DIRECTIONS:** Take the NE 175th St. exit (Exit #176) from I-5 and go west (from south, turn left; from north, turn right) to Meridian Ave. NE. Turn right on Meridian Ave. NE and go to NE 185th St. Take a right and go to 1st Ave. NE and take a left; the Shoreline Center is on your immediate right.
- SCHEDULE:** 6:30 pm - Dinner Buffet  
7:30 pm - Program  
Please feel free to join us for the program even if you are unable to join us for the dinner.
- COST:** \$12 per person for buffet dinner
- NOTE:** When you make reservations for dinner, you have an obligation to pay. Once the food is ordered, the section is billed even if you do not show up.
- RESERVATIONS:** All reservations must be made by NOON, Friday, October 7, 1994. Please call: Seattle: 543-1610  
Bellingham: 650-3070 Tacoma: 535-7530
- OFFER TO STUDENTS:** The section will pay half the cost of dinner for the first ten students (high school, undergraduate, or graduate) who call 543-1610.

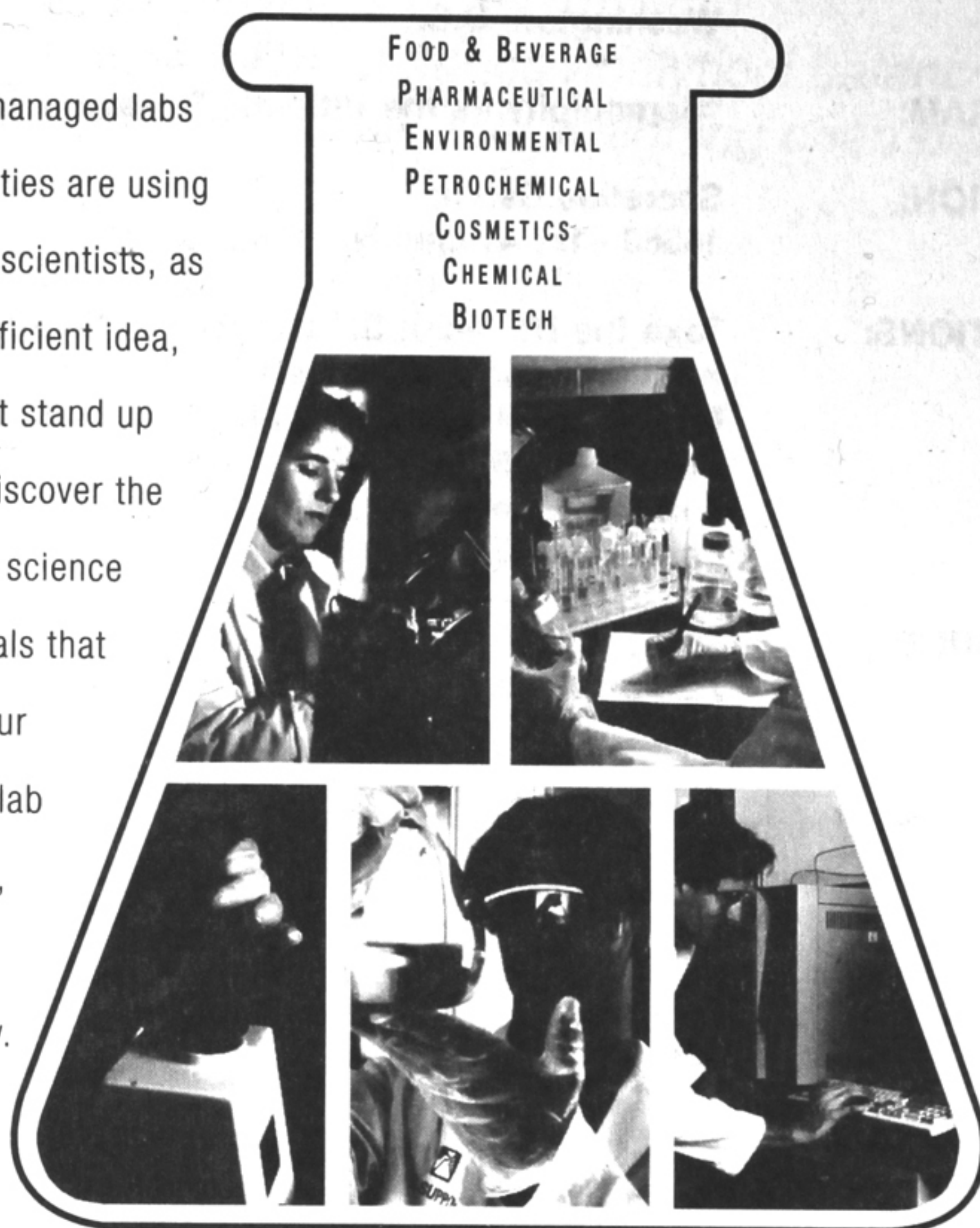
## **FUTURE MEETINGS 1994**

- Thursday, November 5 Pauling Award, at Western Washington University  
Bellingham, WA
- Thursday, November 10 Dr. Walter C. McCrone on "*Judgement Day for the Shroud of Turin*"



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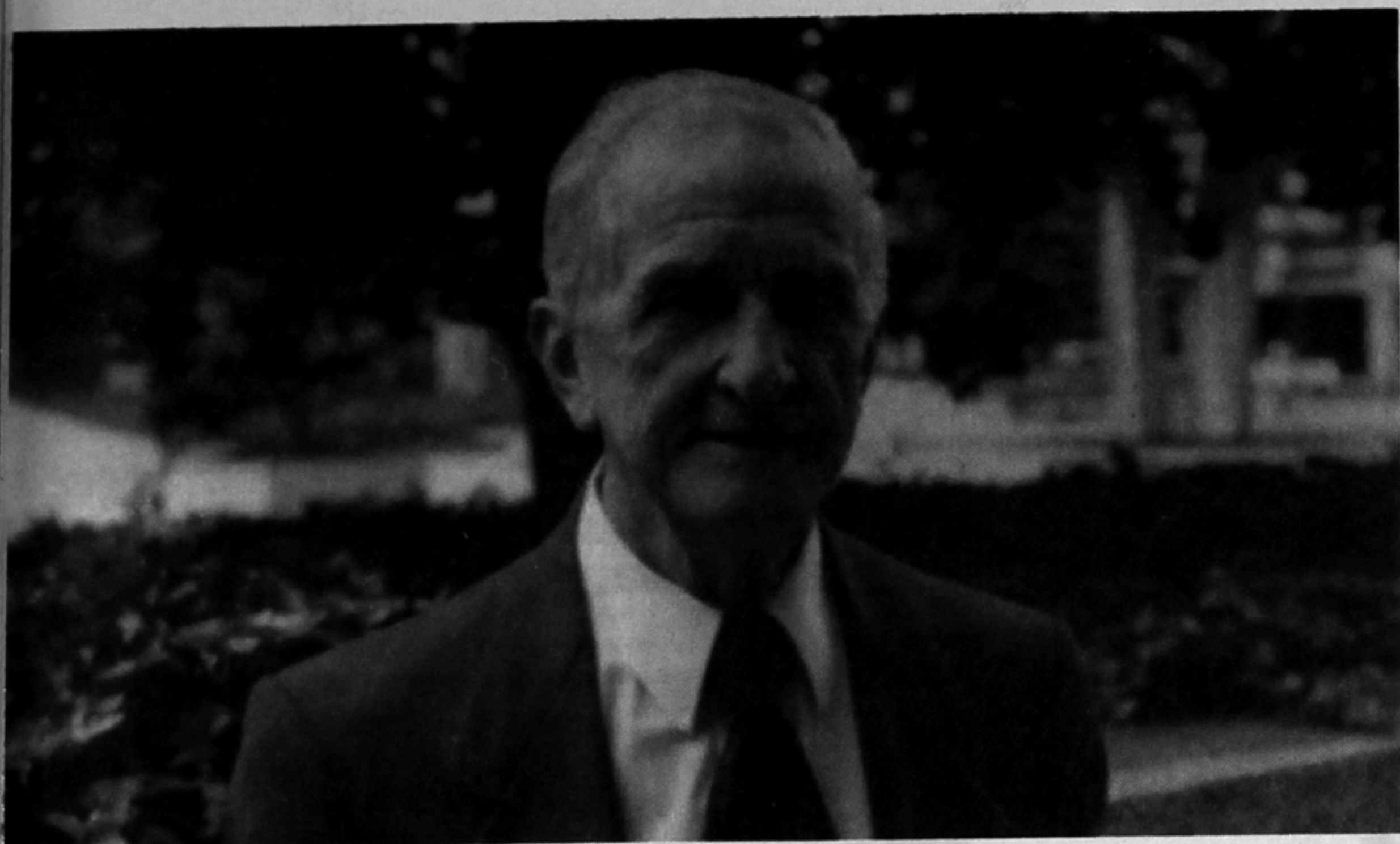
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## **MR. PATRICK J. HANNON WILL BE THE FEATURED SPEAKER AT THE OCTOBER MEETING OF PUGET SOUND SECTION**

Patrick J. Hannon (Jerry) retired from the Naval Research Laboratory, Washington, D.C., in 1987 after 31 years. Previously his research career included several years each at the Geophysical Laboratory of the Carnegie Institution, the Beltsville, MD, Laboratories of USDA, and the Engineering Research and Development Laboratories at Fort Belvoir, VA. He received his training in chemistry, B.S. in 1942 and M.S. in 1948, at The Catholic University, Washington, D.C. The main thrust of his research at NRL was the development of gas exchange techniques for detecting transient changes in the growth rates of algae and yeasts resulting from the introduction of pollutants or toxicants.

In 1986 he organized and co-chaired a symposium on the role of serendipity in research at the annual meeting of the American Association for the Advancement of Science (AAAS) and has partially completed a book on the great importance of that subject.

### **ABSTRACT**

### **SERENDIPITY, THE ULTIMATE RESEARCH TOOL**

In many instances, serendipity (or luck, as some would have it!) has played an essential role in research, e.g., in at least 19 Nobel Prize awards it has been a major factor. Medicine has probably benefited more from serendipity than other sciences. An example would be the discovery and development of penicillin which resulted from a succession of improbable circumstances (it was not simply the accident of an air-borne contaminant falling on an agar plate). A sloppy synthesis of a heroin-like drug was responsible for an insight into the mechanism for Parkinson's disease. An understanding of a fundamental process of vision came about because a 2 x 2 slide became caught in a projector.

Among the important chemical happenings was the discovery of Teflon which had its roots in the search for a new refrigerant gas. Both of the major synthetic sweeteners were discovered by accident, as was LSD. A listing of serendipitous events in chemistry laboratories prompts several thoughts: 1) Those conducting research should not pre-judge the results of an experiment and, 2) They should always be alert for the unexpected development which might overshadow the intended goal of the research.



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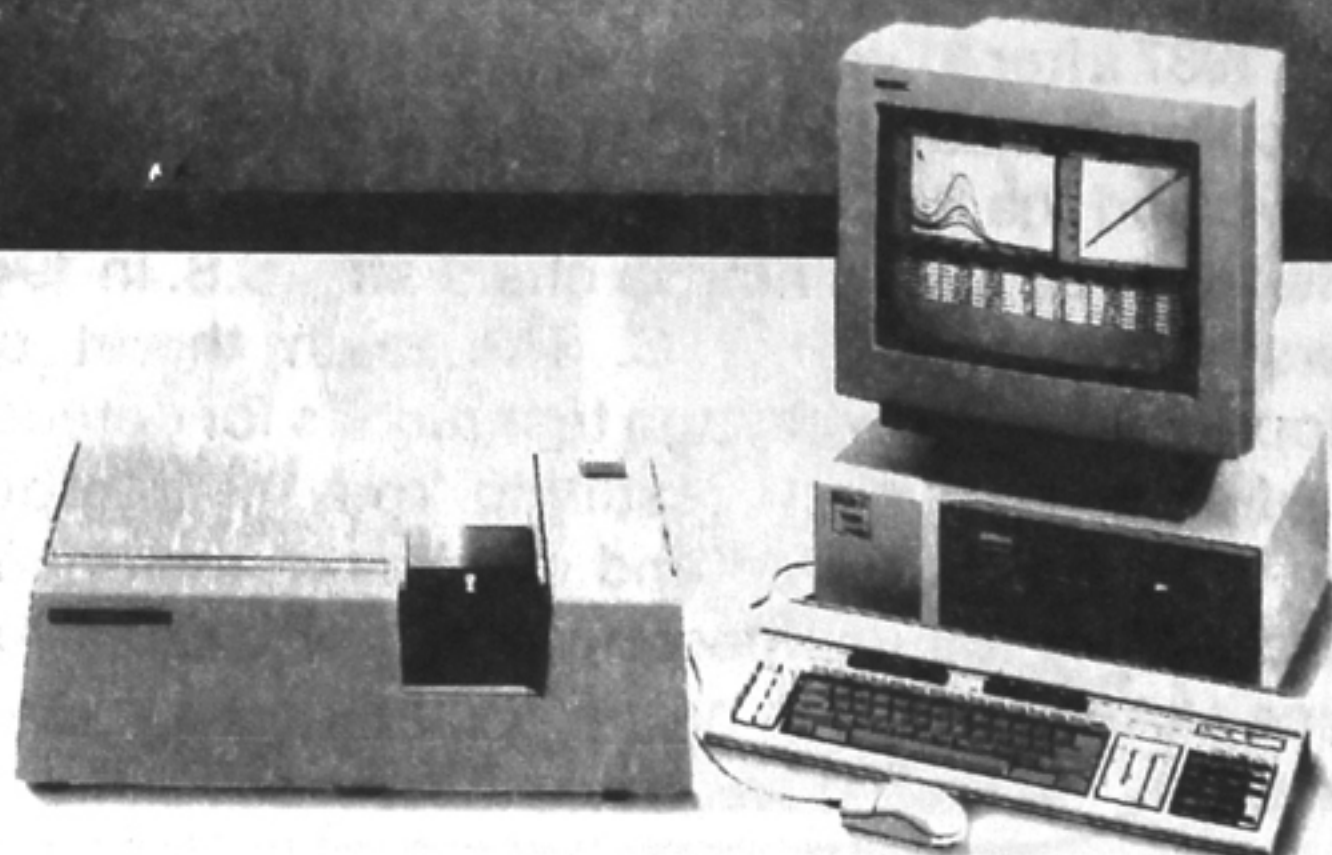
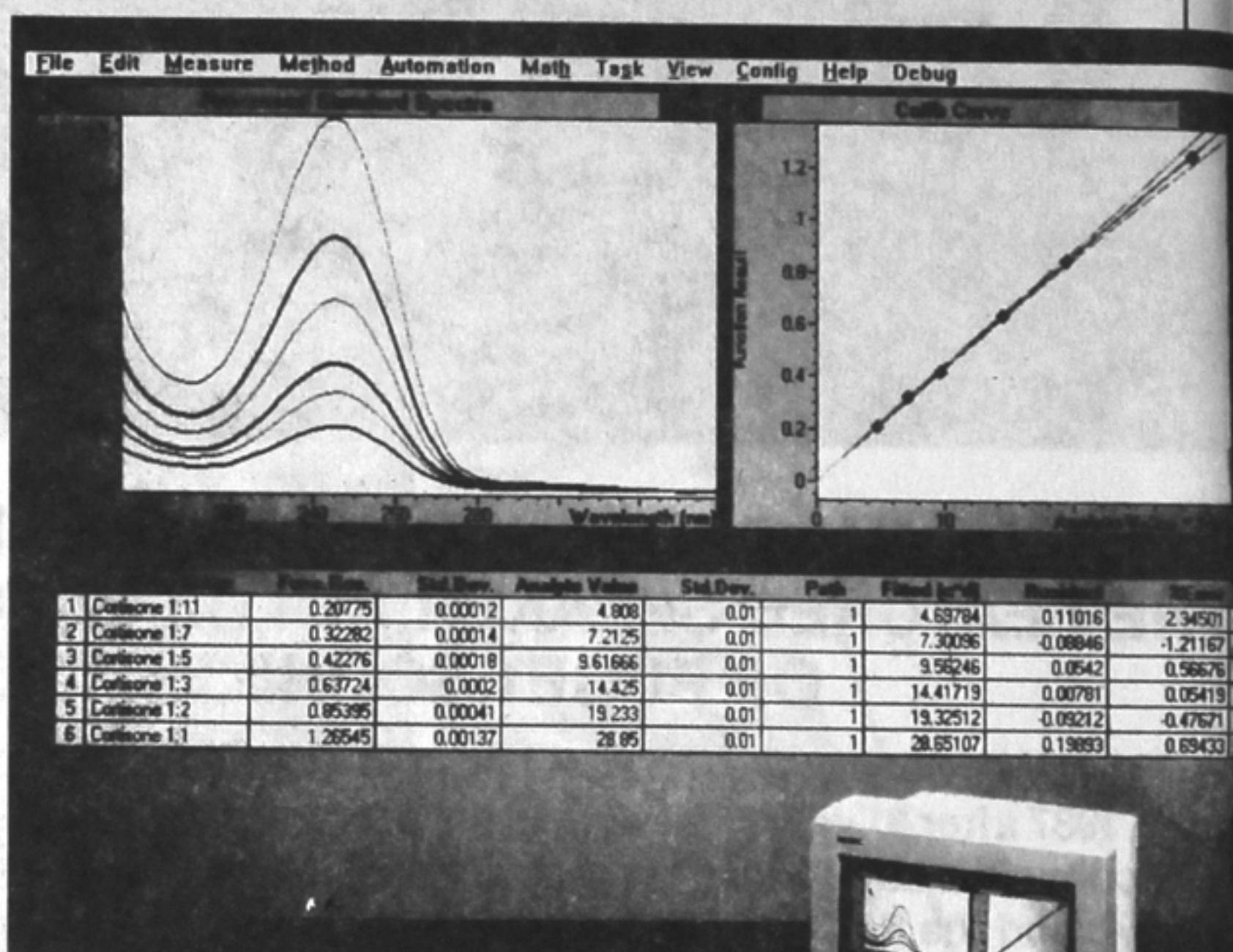
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## DEREK BARTON WINS 1995 PRIESTLEY MEDAL, NATION'S HIGHEST HONOR IN CHEMISTRY

Organic chemist Derek H.R. Barton has been awarded the 1995 Priestley Medal, the American Chemical Society's (ACS) highest honor. The ACS is the world's largest scientific society. The 75-year-old Barton, who won the 1969 Nobel Prize in Chemistry, spent most of his career in the U.K. and France, according to an article in May 23 issue of *Chemical & Engineering News (C&EN)*. He moved to Texas A&M University in College Station in 1986 as Distinguished Professor of Chemistry.

Barton will receive the gold medal, designed to commemorate the work of 18th century British scientist Joseph Priestley, at the ACS national meeting next April in Anaheim, CA.

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## NOMINATIONS ARE SOUGHT FOR THE GUSTAVUS JOHN ESSELEN AWARD FOR CHEMISTRY IN THE PUBLIC INTEREST

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The award consists of a medal and a check for \$5,000. Travel expenses incidental to the conferring of this award will be reimbursed. The award is normally given in Cambridge, Massachusetts, at the April meeting of the Northeastern Section of the American Chemical Society. The awardee will deliver an address on the subject of the work for which the honor is being conferred, or for the work in progress which is also directed to chemistry in the public interest.

To nominate a candidate, please provide the names of two co-sponsors as well as a biography of the candidate, a description of the work which has been recognized as communicating the positive values of the chemical profession, and copies of pertinent articles. Popular news and feature articles should also be included as an indication of public interest. Nominations and inquiries should be directed to Dr. Arthur Obermayer, 239 Chestnut Street, West Newton, MA 02165. Nominations should be posted no later than November 1, 1994. Joint nominations are acceptable. The Committee will review the nominations, and the award recipient will be notified by the first of February.

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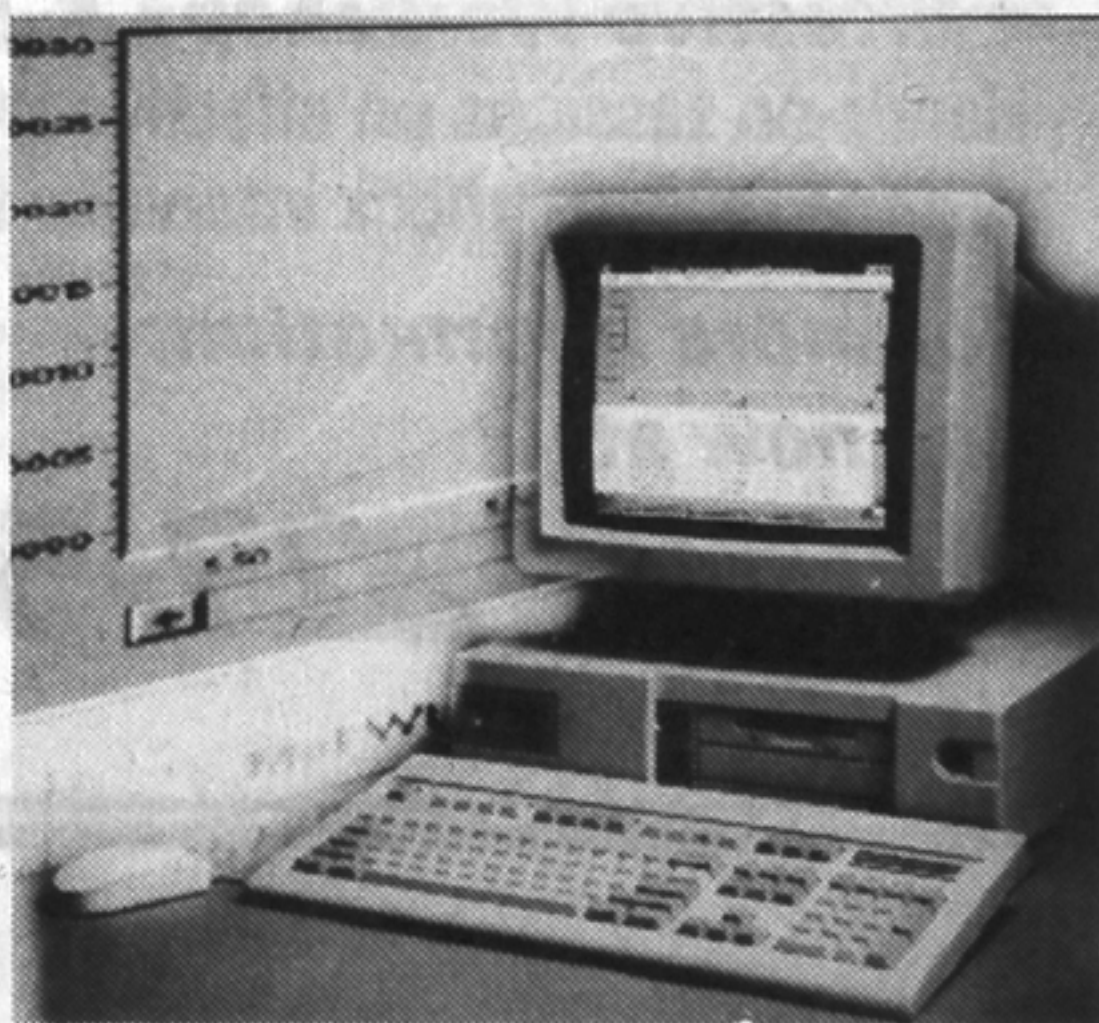
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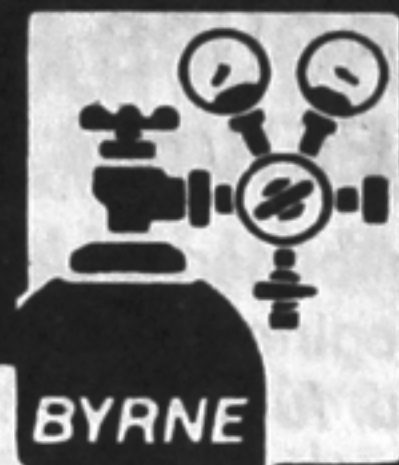
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## JOHN STEPHAN, NORTHWEST ENTREPRENEUR

John Thomas Stephan, 80, of East Wenatchee, WA, died May 24, 1994, in Central Washington Hospital following a brief illness. He was a scientist and an entrepreneur. He remained active throughout and was planning a new chemical enterprise for the Pacific Northwest during his final days. ACS members of the Puget Sound Section who knew him, know that was so typical of him.

John was active in the formation of the Puget Sound Section of the American Chemical Society and the local sections of the American Institute of Chemical Engineers. He was a mentor and counselor to chemistry and chemical engineering students during the late 1940's and the 1950's. He was a true entrepreneur and started one business after another. These businesses brought jobs to the Northwest based upon chemistry and contributed much to the growth of the forest products industry and reduction of waste products.

John was born on October 27, 1913 in St. Louis, MO. He attended Washington University in St. Louis and earned Bachelor's and Master's degrees in Chemical Engineering, the latter in 1938. He worked as chief chemist for I. F. Laucks, Inc., Seattle, from 1938 to 1944. He was director of Research for the Monsanto Chemical Co. in Seattle from 1944 to 1953.

John founded Westport Chemical Company in Seattle in 1953. At Westport he produced defoamers, provided consulting services to local industry on foaming problems and carried out research on wood adhesives and synthetic organic chemicals. He was actively involved in the management of related companies as well. He moved to Longview to a larger facility and continued his research work and added paper chemicals to his line. Mr. Stephan and three partners purchased the Monsanto Canada operations in the Vancouver, B.C., area in 1970 in addition to his activities in Washington State. In 1981 he moved to East Wenatchee and started a plant to produce an animal feed adjuvant. He was part of the group that purchased the Dow Canada phenol plant near Vancouver, B.C., in 1983. His continuing research efforts resulted in 19 United States patents in which he was the inventor or co-inventor.

John was a member of the American Chemical Society and the American Institute of Chemical Engineers. He loved chemistry and chemical engineering.

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## CALL FOR NOMINATIONS FOR 1995 SECTION OFFICERS

Suggestions for nominations for 1995 officers of the Puget Sound Section of the American Chemical Society should be made to Dr. Randy Eatherton, Chair, Puget Sound Section, P.O. Box 24032, Seattle, WA 98124-0032.

## SITUATIONS WANTED

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## Puget Sound Section, ACS Executive Committee Future Meetings in 1994

Meetings are open to all members and are held on the second Wednesday each month.

October 12 November 9

Place: Seattle University  
Dinner: 5:30 PM in Cafeteria (optional)  
Meeting: 6:30 PM in Room 511,  
Engineering Building.

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