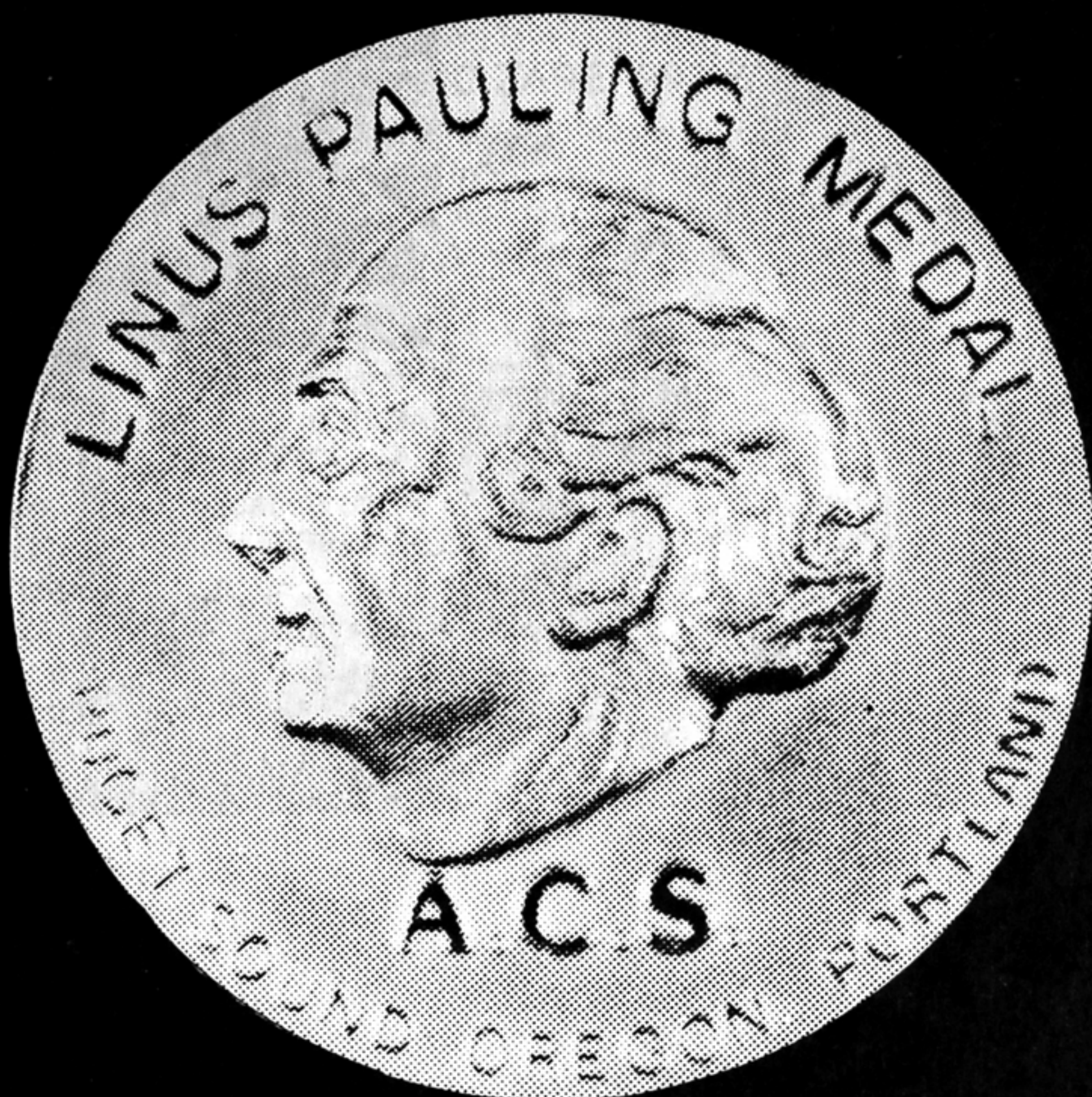


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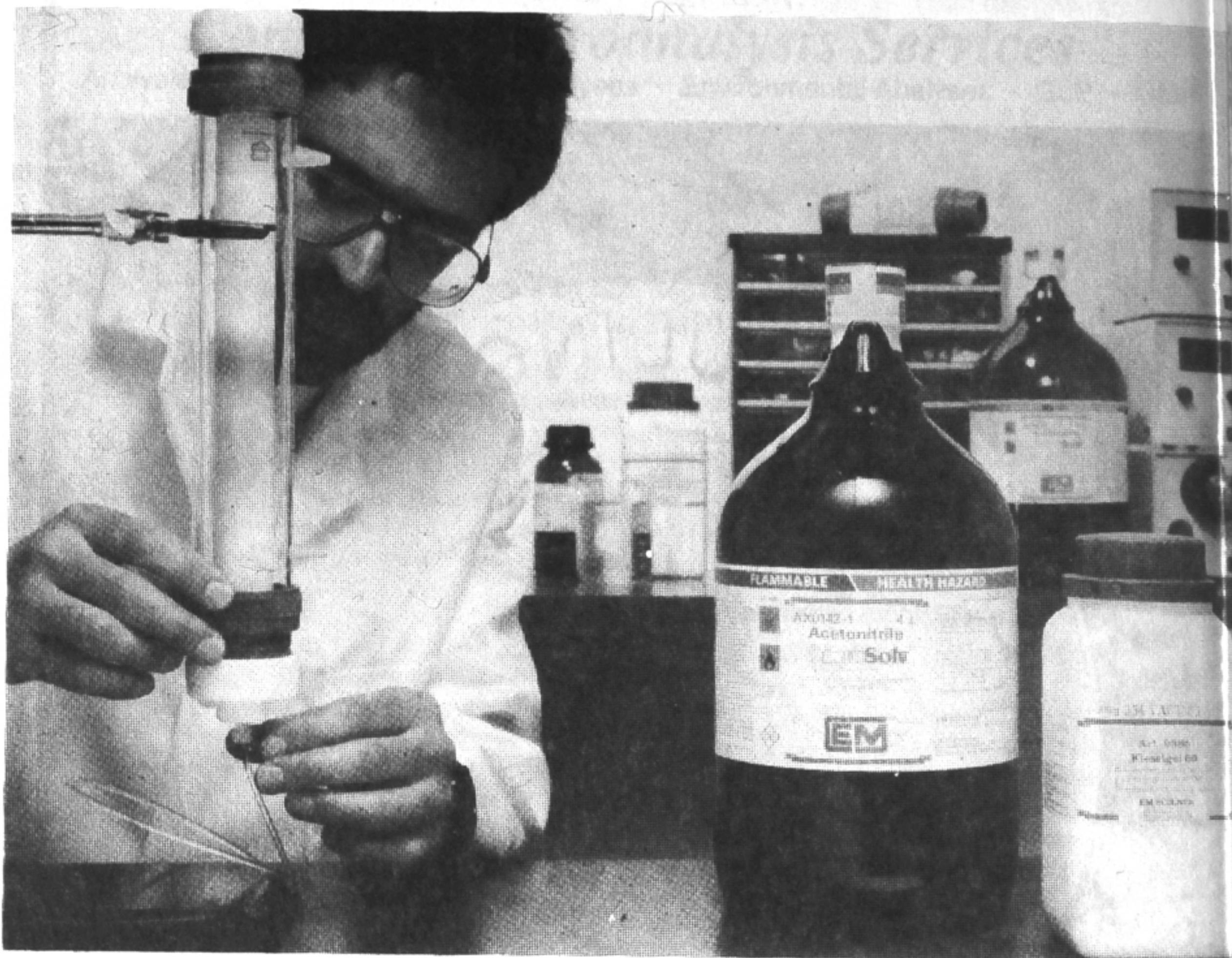
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BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

Volume 54, Number 6



October 1993



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On the cover: The Pauling Award Medal (see related articles in this issue).



1993 PAULING MEDAL AWARD LEWIS AND CLARK COLLEGE PORTLAND, OREGON OCTOBER 23, 1993

PROFESSOR RICHARD ZARE 1993 PAULING MEDALIST

The 1993 Pauling Medal Award ceremonies will be held on October 23, 1993, on the campus of Lewis and Clark College in Portland, Oregon. The 1993 recipient is Professor Richard Zare of Stanford University. A symposium will be held in the afternoon, followed by a social hour and the Award Banquet featuring the Pauling Award Address by Professor Zare.

The Pauling Medal Award, cosponsored by the Oregon, Portland and Puget Sound Sections of the American Chemical Society, annually acknowledges outstanding achievement in chemistry and contributions to the field that have merited national and international recognition. The award is named after Dr. Linus Pauling, a native of the Pacific Northwest, because of the inspiration of his example. The 1993 event is being organized by the Portland Section of the ACS.

Richard Zare has made outstanding contributions in Physical Chemistry, both in his theoretical and experimental studies of molecular collision processes and molecular spectroscopy. His development of laser-induced fluorescence as a method for studying reaction dynamics has been adopted in many laboratories around the world. Applications of various laser techniques in trace analysis and the application of ionization technique in molecular dynamics are all part of Professor Zare's contributions. His willingness to serve in the scientific community, inspire fellow chemists, and career contributions, clearly make him an outstanding choice as recipient of the Pauling Medal.

Richard Zare was born on November 19, 1939, in Cleveland, Ohio. He and his wife, Susan Shively, have three children. He received a B.A. degree in chemistry and physics (1961) and a Ph.D. degree in chemical physics (1964) from Harvard University. He was a postdoctoral research associate at the Joint Institute for Laboratory Astrophysics (JILA) of the University of Colorado. Among his many honors and awards are the Earle K. Plyer Prize of the American Physical Society (1981), the National Medal of Science (1983), Irving Langmuir Prize of the American Physical Society (1985), the Kirkwood Award of the ACS New Haven Section (1986), Stanford University's Dean's Award for Excellence in Teaching (1987), the Willard Gibbs Medal of the ACS Chicago Section (1990), the Peter Debye Award in Physical Chemistry from the ACS (1991), and the National Academy of Sciences Award in Chemical Science (1991). Among his memberships, committees, etc., are the chair of the Commission on Physical Sciences, Mathematics, and Applications of the National Research Council (1992-), member of the National Science Board (appointed for a six-year term in 1992), member of the Government-University-Industry Research Roundtable of the National Academy of Sciences (1989-92).

FUTURE MEETINGS 1993

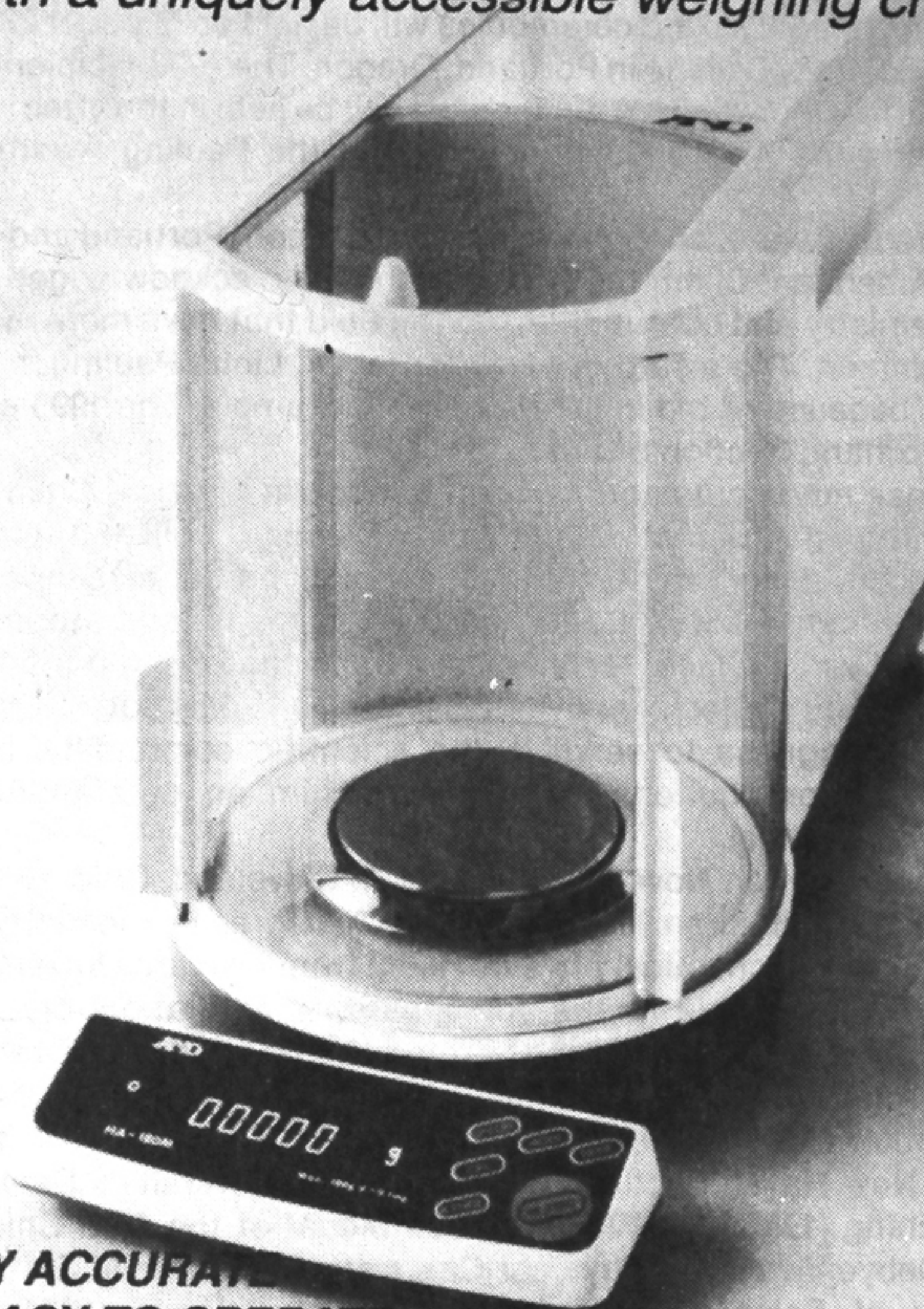
November 9

Dr. Ralph Blomster will speak on Folk Medicine

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PAULING AWARD SYMPOSIUM

The Pauling Award Symposium will begin at 1:30 p.m. in the Council Chambers of Templeton College Center. Speakers will include Dr. Carl Lineberger of the University of Colorado, Dr. Mark Johnson of Yale University, Dr. David Chandler of Sandia National Laboratories, and Dr. Zare. A social hour is scheduled for 5:30 p.m. in the Stamm Dining Room, also in Templeton Center. The symposium and the social hour are free and open to the public.

The Award Banquet, also in Stamm Dining Room, will follow the social hour at 7:00 p.m. The program will conclude with the Pauling Award Address following the dinner. The charge for the banquet is \$25.00 and with a choice of entree: vegetarian (vegan), fillet of beef, or poached salmon.

Reservation for the banquet may be made by sending \$25.00 for each dinner and choice of entree(s) to Dr. William Randall, Lewis and Clark College, Portland, OR, 97219 (503-768-7598). Please make your check payable to Lewis and Clark College (or L & C C) - Pauling Symposium. Deadline for receipt of payment is October 12, 1993. Dinner tickets may be picked up at the social hour.

Lewis and Clark College is located south of downtown Portland, off Interstate 5. Going north on I-5, take the Terwilliger Blvd., Exit 297, and go east following the signs to Lewis and Clark College. Coming south on I-5, take the Barber Blvd., Exit 296A, and go north on Barber 1.7 miles to Terwilliger Blvd. (if exit 297 is open you may take the Terwilliger Blvd exit also); go east over I-5 on Terwilliger and follow the signs to Lewis and Clark College.

Please note that the correct date for the 1993 Pauling Award and Symposium is **October 23, 1993**, and not October 12, as reported in *C & E News*, Sept. 13, 1993 (p. 58).

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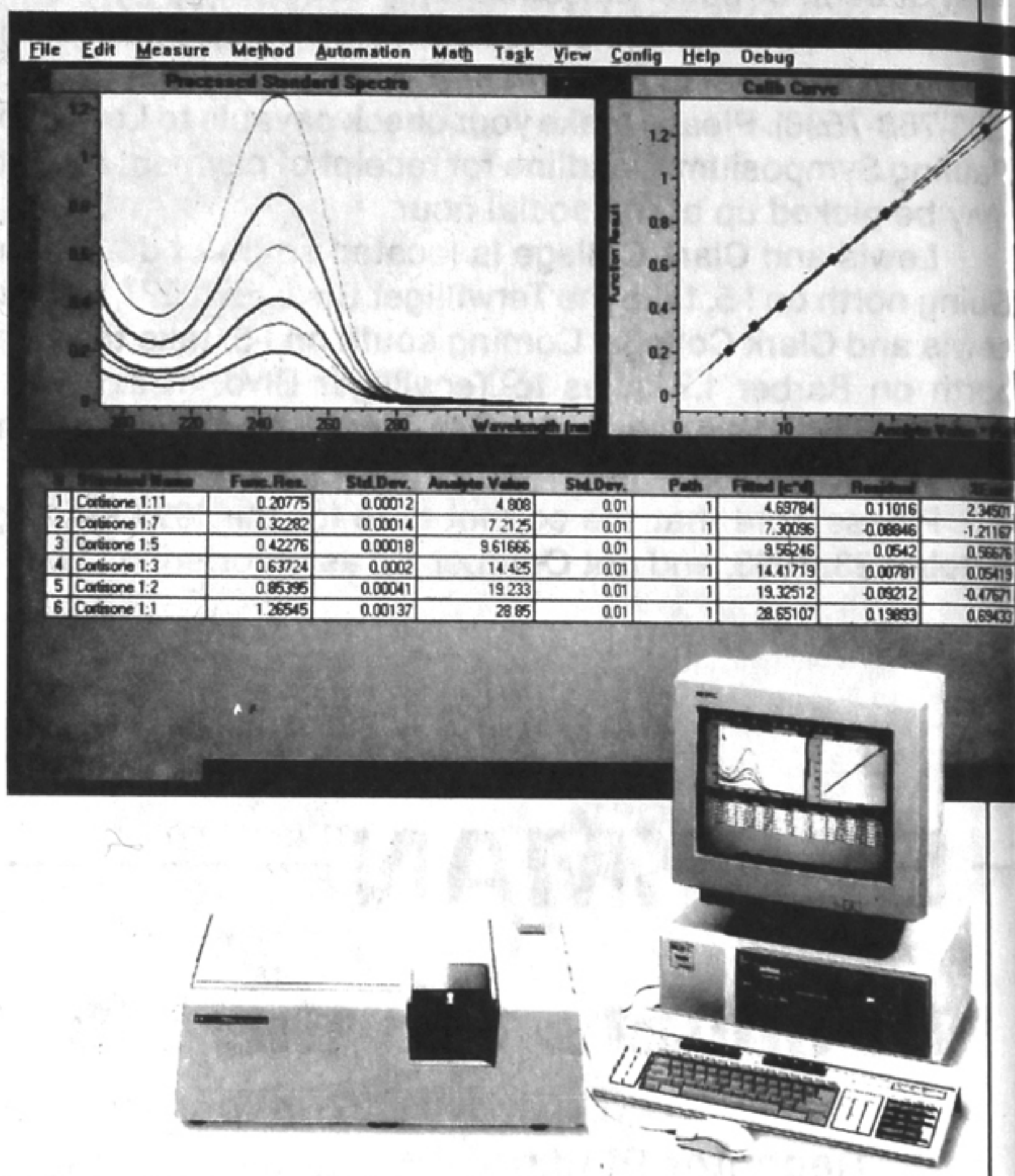
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PAULING MEDAL AWARD SPONSORED BY OREGON, PORTLAND AND PUGET SOUND SECTIONS OF THE AMERICAN CHEMICAL SOCIETY RECOGNIZING OUTSTANDING ACHIEVEMENT IN CHEMISTRY

LINUS PAULING

Linus Pauling graduated from Oregon Agricultural College in 1922 with a degree in chemical engineering. He went on to the California Institute of Technology where, in 1925, he received a doctorate in chemistry. After a year abroad, he joined Caltech as a faculty member and remained there for over three decades. He is presently director of the Linus Pauling Institute for Science and Medicine in Menlo Park, California.

Pauling's wide-ranging scientific work has had enormous influence on almost every field of chemistry. Among his interests have been the structure of molecules and crystals, the nature of chemical bonding, immunochemistry and disease and, more recently, orthomolecular medicine - the determination of the optimal amounts of substances, such as vitamin C, for maintenance of good health. His discovery of the structure of several proteins, including the famous alpha-helix, led to his 1954 Nobel Prize in Chemistry. He has been the recipient of numerous other prizes and medals and holds honorary degrees from numerous distinguished universities around the world. His scientific publications number several hundred and include several books.

Science has not been Linus Pauling's sole interest. With his wife Ava Helen, whom he met while they were students at Oregon Agricultural College, he was an implacable foe of the spread of nuclear weapons, and he campaigned tirelessly on behalf of this issue. Pauling's public disclosure of the danger to human life from fallout resulting from tests of nuclear weapons in the atmosphere played a major role in the subsequent international agreement banning such tests. For his efforts on behalf of peace, he was awarded the 1962 Nobel Peace Prize.

Linus Pauling is the most distinguished chemist from the Northwest. Even at his age, this remarkable man is as active and enthusiastic as ever in his pursuit of new scientific truths.

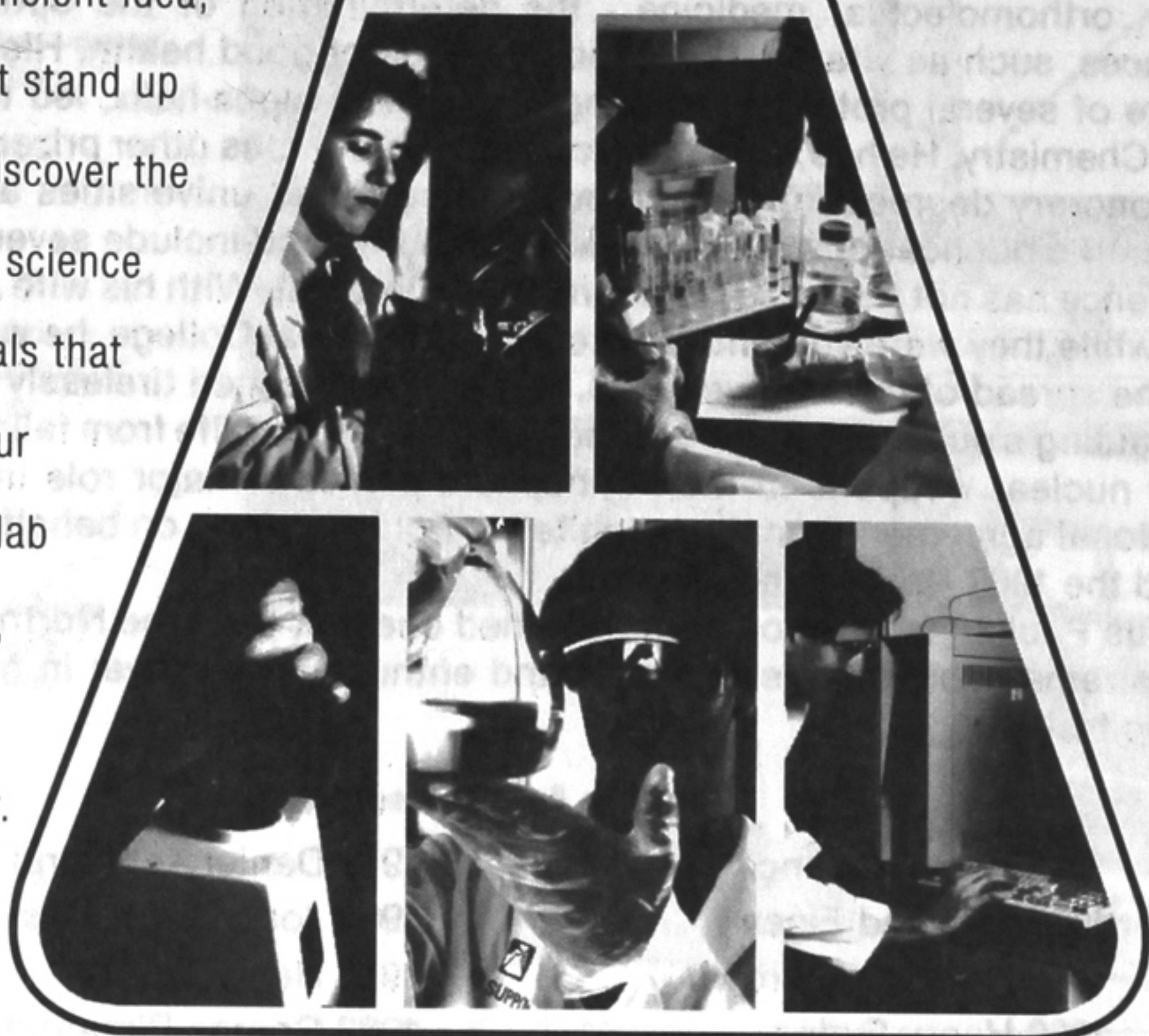
Pauling Award Recipients

1966 Linus Pauling	1979 Daniel Koshland
1967 Manfred Eigen	1980 John D. Roberts
1968 Herbert C. Brown	1981 Henry Taube
1969 Henry Eyring	1982 George Pimental
1970 Harold C. Urey	1983 Gilbert Stork
1971 Gerhard Herzberg	1984 John S. Waugh
1972 E. Bright Wilson	1985 Harold Scheraga
1973 E. J. Corey	1986 Harry B. Gray
1974 Roald Hoffman	1987 Harden M. McConnell
1975 Paul Bartlett	1988 Keith Ingold
1976 F. Albert Cotton	1989 Neil Bartlett
1977 John A. Pople	1990 James P. Collman
1978 Dudley Herschbach	1991 Rudolf Marcus
	1992 Kenneth Wiberg

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WESTERN WASHINGTON SHOWS OFF NEW CHEMISTRY BUILDING

Western Washington University officially opens its new \$22 million, 65,000-square-foot chemistry building with ceremonies on October 29 and 30. The building features state-of-the-art facilities for laboratory work and instruction including, for example, computers at every general chemistry laboratory station for interfacing and data collection. It will also have a 24-station computer instructional classroom with interactive video and multimedia capabilities. The external design is the work of Arthur Erickson of Vancouver, BC, a world renowned architect. His prior works include the Anthropology Museum at the University of British Columbia and the Canadian Embassy in Washington, DC.

A symposium is scheduled for Friday, October 29, beginning at 2:00 p.m. Featured speakers are Prof. Harry Gray (Cal. Tech.), Dr. Deborah Schindele (ICOS Corp.) and Lynne Parr-Galligan (Dow-Corning). Activities continue on Saturday with a luncheon at noon for friends and alumni followed by an open house for the building from 2:00-4:00 p.m. All events are open to the public. For further information, please call the Chemistry Department at (206) 650-3070.

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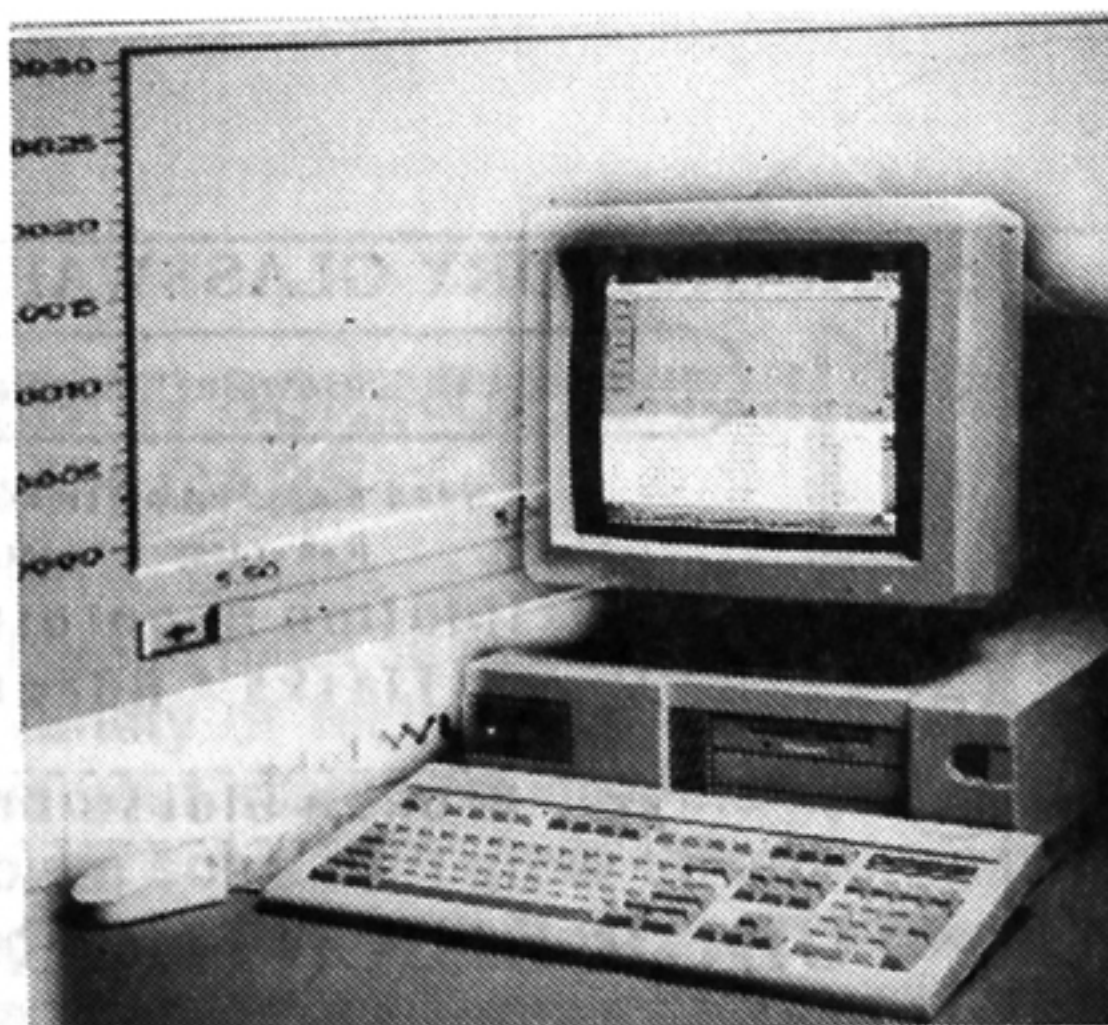
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1992

ACS Local Section Annual Financial Report

PUGET SOUND Section

Local Section Employee Identification Number (EIN): 916054074

Part I -- Statement of Revenues and Expenses

Operating Fund

REVENUES

1 Annual ACS allotment	1	8329.0
2 New member commissions	2	17.5
3 Local section dues, affiliate dues	3	4243.0
4 Newsletters (include subscriptions and advertising)	4	4324.8
5 Meals (include total meals revenue)	5	1262.0
6 Receipts from short courses, lecture series, etc.	6	0.0
7 Interests, dividends	7	1186.4
8 Donations, contributions	8	0.0
9 Rebate from ACS for Councilor Travel expenses	9	644.7
10 Other (itemize) {Safety tape copies, Chem for Kids book}	10	334.3
11 Total revenues	11	\$20,341.8

EXPENSES

12 Administrative expenses (include committee expenses)	12	43.2
13 Subsidies to subsections, topical groups, or affiliate groups	13	36.1
14 Short courses, special seminars (continuing education) {Chem for Kids (\$661.41), Pauling Symposium expenses (\$3168.75)}	14	3830.1
15 Local meetings (include speakers' expenses)	15	1198.0
16 Meals (include total meals expenses)	16	1119.3
17 Newsletter and meeting announcements -- printing, mailing, etc.	17	10391.3
18 Awards, scholarships, etc.	18	310.0
19 Travel subsidies to Councilors	19	2321.3
20 Travel subsidy and fee for Conference for Local Section Officers	20	453.0
21 Other (itemize) {Chem Olympiad (\$60.00); HS Rec Awards (\$38.23); Donations - Wash College Chem Teacher Assn (\$929.19), Expanding Horizons (\$200.00); Grants to HS's for: Demos (\$1024.24), Books (\$228.50); Safety Talk - copies of video (\$134.40)}	21	2614.5
22 Total Expenses	22	\$22,317.1
23 NET GAIN (LOSS) [Deduct line 22 from line 11]	23	(\$1,975.3)

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ACS Local Section Annual Financial ReportPUGET SOUND Section

Part II -- Statement of Assets and Capital as of 12/31/92

ASSETS

4 Investments (current market value)	24	0.00
5 Other investments (1 Pauling Award Medal, \$542; Safety A/V Equip, \$510)	25	1052.00
6 Total	26	1052.00
Of the total cited in line 26 how much is restricted by external donor stipulation for uses such as award funds, building funds, etc.		
List individual accounts if possible		
27a)		
27b)		
27c)		
27d)		
(28) Total restricted funds \$	0	
29 Cash on hand (PS checking, savings, & CDs; NOR checking, savings, & CDs)	29	47285.43
29a Average interest earned on assets	4.7%	
30 Total Assets [Add line 26 and line 29]	30	48337.43
31 Liabilities, if any (Northwest Regional Meeting Fund)	31	24314.44
32 Net Assets, 12/31/92 [Deduct line 31 from line 30]	32	24022.99
33 Net Assets, 12/31/91 [Value reported in Part II, line 32, 1991 report]	33	26710.37
34 NET GAIN/(LOSS) [Deduct line 33 from line 32]	34	(\$2,687.38)

EXPLAIN ANY DIFFERENCE IN THE AMOUNT ON LINE 34 AND THE AMOUNT SHOWN ON LINE 23.

The difference is \$712 (the depreciation of A/V equipment for Safety Talk (\$170) plus the asset value of the Pauling Medal awarded in 1992 (\$542))

Have Federal Information Tax Forms been filed for 1991? NO 1992? NO

In accordance with existing Internal Revenue Service regulations governing 501C(3) organizations, this section/division has authorized that it be included in the Group Exemption Letter issued to the American Chemical Society under Group Exemption Number 0945.

Name: David Munch Councilor: Herb Bryce

Section Office: Treasurer

Herb Bryce
Date JULY 26, 1993

David Munch

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About 90 years ago, in Yonkers, NY, a Belgian-born chemist, Dr. Leo H. Baekland, made the world's first plastic. It was called "bakelite." Two years ago, more than \$100 billion of bakelite and its plastic spinoffs were shipped in the U.S.

The American Chemical Society will commemorate Baekland's serendipitous discovery with the first National Historic Chemical Landmark designation on November 9, 1993. The ACS, the world's largest scientific society, will mark the occasion at the Smithsonian Institution's National Museum of American History in Washington, DC, where Baekland's "bakelizer" is housed. The bakelizer is the device he used to form bakelite.

"Old Faithful," as the bakelizer was called, opened the age of plastics when the General Bakelite Company plant in Perth Amboy, NJ, came on line in 1910.

Plastic gained in popularity in the 1930s when color was added and new processing was introduced.

At \$100 billion plus per year, it is difficult to imagine anything the ubiquitous plastic offspring of bakelite hasn't affected: Clothing that is fire-resistant, bullet-proof and requires no ironing; aircraft that can circle the globe without refueling or slip undetected past radar; computers, televisions and telephones that are increasingly portable and less expensive; and batteries and fiber optics that help us keep in touch with the rest of the world.

From the 1920s - 1940s, couturiers Coco Chanel and Elsa Schiaparelli, with artists like Jean Schlumberger and Salvador Dali, introduced lines of phenolic resin jewelry. A July 1985 *Chicago Tribune* article, and several others since, noted a continuing craze. Demand has been rising since 1981. Collectors paying \$25 - \$200 for baubles in 1985 found prices for these same trinkets as high as \$2,000 just last year.

But the craze for "dime-store" jewelry may be topped by another hot item—old plastic radios. Nathan Cobb reported in the February 14, 1988, *Boston Globe* that many mid-1930s to mid-1940s bakelite radios, even those that wouldn't work, exceeded \$1,000. One collector paid \$10,000 in 1988, a price that doubled from the previous year, according to the *Globe*.

CHANGE OF ADDRESS

Please note that the local section does not prepare its own labels, but gets them from the Local Section Activities division of the National Office of the American Chemical Society in Washington, D.C. Therefore, any changes of address should be sent to the ACS National Office at 1155 - 16th Street N.W., Washington, D.C. 20036, so they can correct the labels for all their mailings.

CALL FOR NOMINATIONS FOR 1994 SECTION OFFICERS

Suggestions for nominations for 1994 officers of the Puget Sound Section of the American Chemical Society should be made to Dr. Despina Strong, Chair, Nominating Committee, at Metro, 206-684-2322. We need more members taking part in the activities of the Section. Please call.

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WHAT IS HAPPENING IN CHEMISTRY? CHEMISTRY-RELATED HIGHLIGHTS OF 1992

JANUARY—

- A chemical reaction between iodine and xenon atoms is controlled for the first time by Caltech scientists using a timed sequence of laser pulses. Formation of the final reaction product can be turned on and off by manipulation of the laser pulses.
- Researchers find a method to convert porous silicon wafers into colloidal suspensions that luminesce. The luminescent silicon-wafer films might find future applications in optical computers and silicon-based optoelectronic devices.
- A transparent and electrically conductive composite is created at the AT&T Bell Labs. Such composites could find applications in making electronic writing pads, touch-sensitive screens, sensors, and alarm devices.
- Contrary to previous expectations, man-made aerosols (e.g., sulfate particulates generated from fossil-fuel combustion) are implicated as contributors to global cooling, a process which may have canceled some of the warming effects of the greenhouse gases.

FEBRUARY—

- Scientists identify the genetic defect linked to myotonic muscular dystrophy, a muscle-stiffening disorder and the most common form of muscular dystrophy. The discovery could lead to better diagnostics for the disease.
- Synthetic, self-replicating molecules show further signs of life, according to MIT scientists. These signs include the molecules' ability to compete and cooperate with each other and to mutate into other molecules that are better replicators. Scientists believe these findings represent a step toward artificially living systems.

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PUGET SOUND CHEMIST



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Puget Sound Section, ACS Executive Committee Future Meetings in 1993

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

October 13 November 10

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