



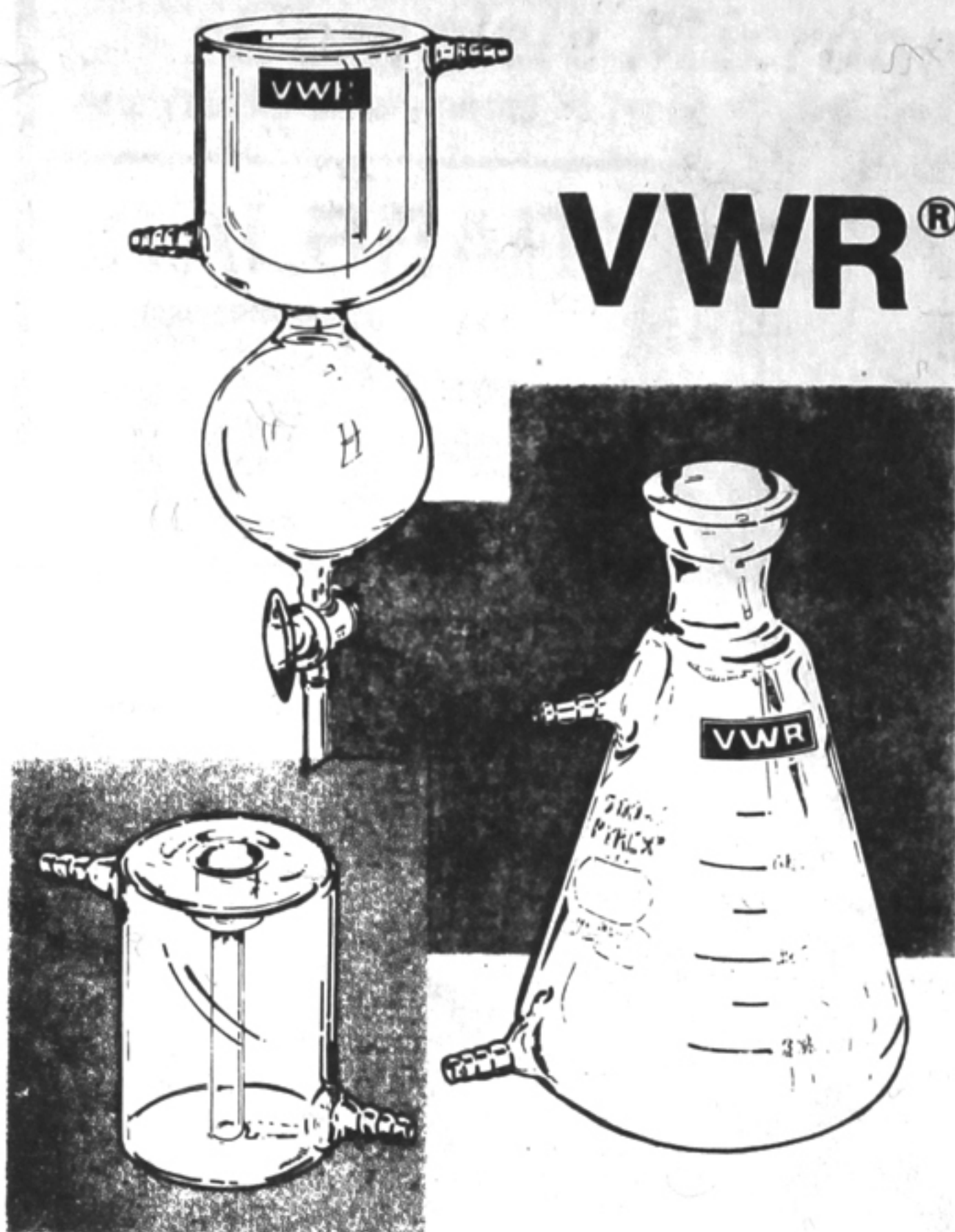
PUGET SOUND CHEMIST

BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

Volume 55, Number 1



February 1994



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On the cover: Dr. Joseph Nagyvary, professor of Biochemistry at Texas A & M University, College Station, Texas, will be the featured speaker at the February 1994 meeting of the Puget Sound Section of the American Chemical Society (see related articles in this issue).

FEBRUARY MEETING

- DATE:** Monday, February 21, 1994
- FEATURED SPEAKER:** Dr. Joseph Nagyvary
Professor, Department of Biochemistry
Texas A & M University, College Station, TX
- PROGRAM:** "Renaissance Chemistry and Violin Making in Cremona, Italy"
- LOCATION:** Rodeside Broiler
12531 Aurora Avenue North
Seattle, WA
- SCHEDULE:** 6:00 pm - No host bar
6:30 pm - Dinner Buffet
7:30 pm - Speaker and program
Please join us for the program even if you are unable to join us for the dinner.
- COST:** \$15 per person for dinner
The Rodeside Broiler has a cover charge of \$3.50 per person, even if you are attending just the program.
- 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, Monday, February 14, 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.

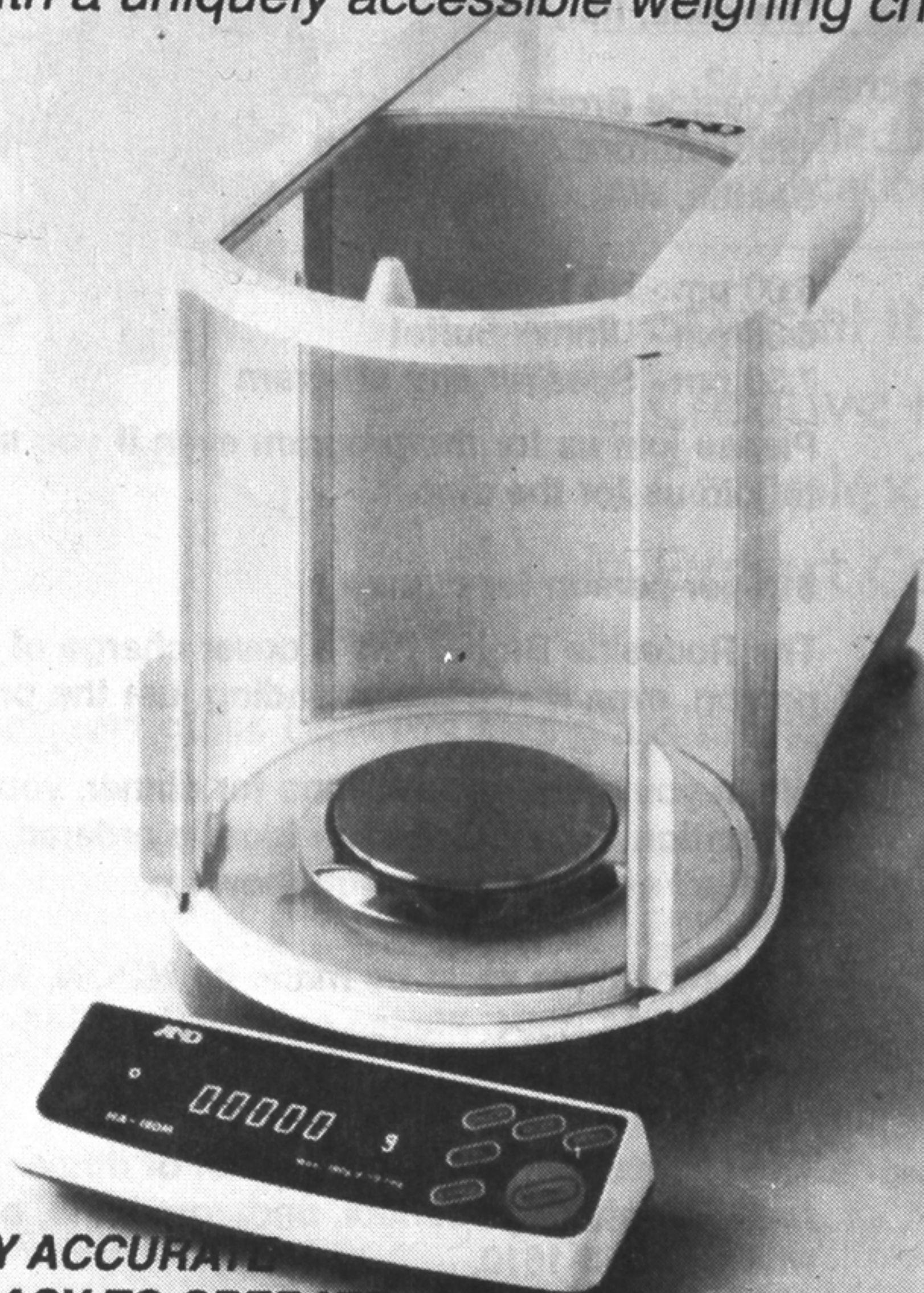
FUTURE MEETINGS 1994

- Monday, April 11 Dr. Natalie Foster on "*Strong Poison: Chemistry in the Mysteries of Dorothy L. Sayers.*"
- June (date to be announced) Tour
- Thursday, October 13 Mr. Patrick J. Hannan on "*Serendipity as the Ultimate Research Tool*"
- October Pauling Award
- Thursday, November 10 Dr. Walter C. McCrone on "*Judgement Day for the Shroud of Turin*"

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DR. JOSEPH NAGYVARY WILL BE FEATURED SPEAKER AT THE FEBRUARY MEETING OF PUGET SOUND SECTION

Dr. Nagyvary is professor of Biochemistry at Texas A&M University, College Station, Texas. Among his major achievements are the structure elucidation of curarine, the synthesis of cyclocytidine and 2'-thiocytidine as potential cancer drugs, prebiotic chemistry in micelles, lipid-pectin interactions, and oral treatment of jaundice with chitosan. He has published over 39 papers and holds 4 patents. Chemistry of wood and violin is his hobby.

Born in Szeged, Hungary, Dr. Nagyvary did his undergraduate work at the University of Budapest, and his graduate work at the University of Zurich. He earned his Ph.D. in Organic Chemistry in 1962, studying under Karrer and Schmid and writing his thesis on the study of Curare Alkaloids. He did his postdoctoral work on peptide synthesis with R. Schwyzler at Ciba, Ltd., (1962) and on nucleic acid chemistry with Lord Todd at University of Cambridge (1963).

He was research assistant professor at the University of Connecticut (1964-65) and assistant professor at Creighton University (1965-67) before joining the Biochemistry Department at Texas A&M University as associate professor in 1968 and where he has been a professor since 1973. His professional interest includes nucleic acids chemistry and origin of life chemistry. His honors include the Swiss Federal Fellowship (1963), the USPH Career Development Award (1967) and the National Academy of Sciences Fellowship (1972).

The subject of his talk at the meeting is the by-product of his hobby.

ABSTRACT RENAISSANCE CHEMISTRY AND VIOLIN MAKING IN CREMONA, ITALY

The highly priced tonal qualities of old Italian violins could not be reproduced by the physicists who studied the problem. It appeared logical to this chemist to seek the secret ingredient of the Cremona violins among the writings of Renaissance chemists. Particularly relevant is the work of Libavius who strongly emphasized the fact that "the musical tone is greatly modified by the chymical artist." Following a discussion of papers by Paracelsus and Valentine, analytical data will be provided of a specimen taken from a cello of Andrea Guarneri (ca. 1660). These data suggest that the peculiar tone of the classical Italian instruments was a natural consequence of their understanding of wood preservation and latex varnishing. After subjecting the mass of data to a critical screening according to modern chemical and acoustical criteria, the likely method of reconstructing the Guarneri sound can be proposed. The audience will be challenged to discern the difference between the old and new violins.

1994 DUES BILL REMINDER

If you have not received your 1994 dues bill, please contact the ACS Department of Member and Subscriber Services at (800) 333-9511. If you have questions concerning your membership benefits and programs, please call Jean Parr, Manager, Office of Membership Development at (202) 872-4414.

Additional reminder: In accordance with an ACS policy on a grace period for unrenewed ACS journals and *C&EN*, ACS cannot continue to send *C&EN* and journals after February 28 to those members whose 1994 dues and subscription payments are not received by February 1. If you have questions about your dues bill or wish to charge your payment by phone, call (800) 333-9511 or (614) 447-3600. Be sure to have your credit card handy for ready reference.

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AMERICAN ASSOCIATION FOR CLINICAL CHEMISTRY PACIFIC NORTHWEST SECTION

PNW-AACC's 5th SPRING SYMPOSIUM: "TUMORS, HUMORS AND RUMORS"

**April 28-29, 1994
Seattle, WA**

The Pacific Northwest Section of AACC has scheduled an instrumentation and technical symposium, "Tumors, Humors and Rumors" for the above dates at the Washington State Convention and Trade Center in Seattle, WA. Three half-day sessions for the symposium will focus on the general topics of tumor markers, current issues in immunoassays and endocrinology, and point-of-care testing. There will also be an extensive exhibit show accompanying the technical presentations.

Featured speakers will be Dr. Morton Schwartz, Memorial Sloan-Kettering Cancer Center (on tumor markers); Dr. Daniel Chan, Johns-Hopkins Hospital (on immunoassay systems), and Dr. Margaret Kenny, University of Washington (on point-of-care testing).

Please set aside these dates to visit the beautiful Pacific Northwest, and update your knowledge of these very relevant topics. Member registration for both days (including all sessions, exhibits, two lunches and a wine/cheese reception) is just \$125 when received prior to April 15.

For registration information, please contact Kathy Dugaw at 206-526-2565.

MORE ABOUT 50 YEAR MEMBERS (1993) . . .

T. LLOYD FLETCHER

Attended Clark University earning an A.B. (chemistry) and M.A. (Organic Chemistry) and subsequently held successive laboratory positions at Lever Bros. Co. (soap) and at Colonial-Beacon Oil Co. (aviation fuel), running low-temperature fractionation of C_1 to C_8 hydrocarbons on an early Podbielniak column. There followed a chemistry and mathematics teaching position at the prep school level. By this time our involvement in war lead to a defense-related position at the U.S. Forest Products Laboratory, Madison, testing and improving noncorrosive, antifungal wrappings for military equipment shipped to the South Pacific, an environment in which molds grew on just about anything. This was accompanied by graduate work at the University of Wisconsin. At the end of the war, work at Forest Products Laboratory, with co-sponsorship by the University, on various aspects of the destructive distillation of lignin, culminated in a doctoral dissertation and a degree in Bio- and Organic Chemistry. The post-war cut in the government laboratory necessitated the search for new opportunities which lead to the University of Washington, School of Medicine, as the head of the Chemistry Research Laboratory in the Department of Surgery, with "half of the time devoted to doing or directing research projects of interest to members of the department, and the other half available for personal research." The latter required research grants and these were largely in the area of synthetic organic chemistry related to chemical carcinogenesis and cancer chemotherapy. This proved to be a felicitous arrangement for more than 20 years. During one period the laboratory staff, for all projects, had risen to a total of 17 people, including student help. With the aid of a 10-year N.I.H. Career Development Award, successive promotions led to full professor rank. Budgetary constraints at the University resulted in a move of the remaining research team to the Hutchinson Cancer Center in 1971-1972. After 12 years, retirement was taken in 1985, with well over 100 publications in Organic Chemistry, and in collaborative areas (e.g., gastrin, the gastric secretory hormone, and chemical preservation of vascular homo- and heterografts) with members of the Surgery department.

SPECTROMETRIC METHODS COURSE

The sixth biennial special course on spectrometric methods of identification for industrial scientists and teachers covers theory and application of IR, NMR & MS, but the major focus is on practical interpretation of IR & MS spectra. All instrumentation is also available. The course will be presented on eleven Tuesday evenings starting March 29, all for a bargain \$112.50. For information and a brochure, contact Bruce Richardson, Highline Community College, at (206) 878-3710, Ext. 509, voice mailbox 1509. Think SPECTROPOWER!

'CHEMISTRY IN CONTEXT' PROGRAM FOR COLLEGE STUDENTS EXPOSES NON-SCIENCE MAJORS TO CHEMISTRY

College students who aren't majoring in science still can benefit from a grounding in the subject. *Chemistry in Context: Applying Chemistry to Society*, a new textbook and accompanying laboratory manual making its commercial debut on Nov. 19, fills this need by showing undergraduates how science affects them and their environment. The program is designed to enhance their understanding of science that have an impact on their lives as consumers and citizens.

The 432-page, four-color text is broken into 13 chapters, with titles such as "The Chemistry of Global Warming," "Nutrition: Food for Thought," "The Fires of Nuclear Fission" and "Protecting the Ozone Layer." These and other current social, political and economic issues are used to introduce students to serious chemistry on a "need-to-know" basis.

"We start with an issue non-specialists are going to be drawn to—like acid rain—and then show them the power of chemistry to explain it," says Dr. Diane Bunce, a member of the editorial board and associate professor of chemistry at The Catholic University of America in Washington, D.C. This approach encourages students to actively participate through discussions, and group and lab work, applying their own expertise to the issues raised. For example, an international affairs major could discuss the implications of acid rain for Canada.

While *Chemistry in Context* exposes students to the underlying science, it does not overwhelm them with technical details. The intent of the program is to create science-literate adults by giving students the skills to make important life decisions—whether in the grocery store or at the ballot box. And it encourages them to analyze information presented by the media, scientists or even the authors themselves, with a degree of skepticism.

In addition to the textbook, *Chemistry in Context* includes an extensive instructor's guide, a lab manual and a set of 100 color transparencies. The one-semester program has been tested in preliminary form by 1,500 students at 19 universities, colleges and community colleges around the country, including Lehigh University, Bethlehem, PA; Johnson C. Smith University, Charlotte, NC; and Lakewood Community College, White Bear Lake, MN.

Chemistry in Context is being published by the American Chemical Society and Wm. C. Brown Publishers. ACS had previously created a similar program for high school students known as Chemistry in the Community. More than 170,000 of those texts already have been sold.

The *Chemistry in Context* program took four years to develop. Dr. A. Truman Schwartz of Macalester College, St. Paul, MN, led the project as editor-in-chief. The editorial board also included Drs. Diane Bunce; Robert G. Silberman and Arden Zipp, State University of New York, College at Cortland; Conrad L. Stanitski, University of Central Arkansas, Conway; and Wilmer J. Stratton, Earlham College, Richmond, IN.

The textbook is available to students for \$49.30, and the lab manual for \$21.38.

To order a copy of *Chemistry in Context*, please contact Wm. C. Brown's Educational Services Department at 800-228-0459.

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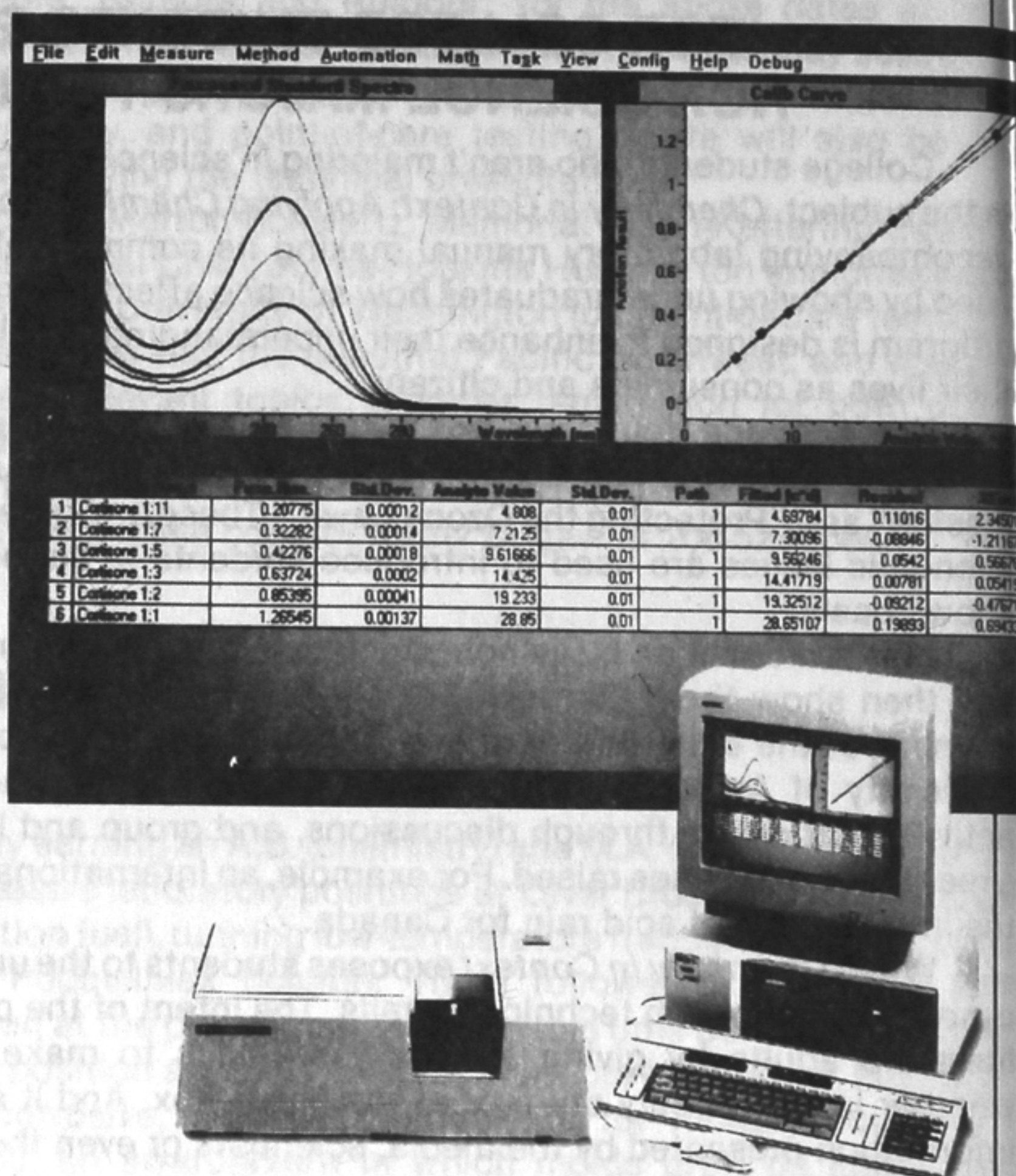
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RESULTS OF THE ELECTION FOR 1994 PUGET SOUND SECTION OFFICERS

Mark Buchli of Shoreline Community College was chosen Chair-Elect for the year 1994. The rest of the slate of candidates were all elected as presented. Diane Davis of Metro Environmental Laboratory was elected Secretary; David Munch, Seattle Central Community College, was reelected Treasurer; Mark Wicholas, Western Washington University, was reelected Councilor (1996), and Deborah Wiegand, University of Washington, was also reelected Alternate Councilor (1996).

CALL FOR NOMINATIONS FOR THE 1994 PAULING AWARD

Nominations are being solicited for the 1994 Linus Pauling Award. Sponsored by the ACS Oregon, Portland, and the Puget Sound Sections, the award is presented annually in recognition of outstanding achievement in chemistry. Nominations should consist of a concise curriculum vitae that includes truly significant publications and a list of honors and awards, and a summary (400 to 1000 words) of scientific achievements including explanations that clearly outline the importance of the work. Letters seconding the nominations are encouraged.

Send seven copies of the nominating documents by March 1, 1994, to Professor Michael Heinekey, Department of Chemistry, BG-10, University of Washington, Seattle, WA 98195.

CHEMICAL SCIENCES BENEFITED FROM NIH SUPPORT, REPORT SAYS

How did the growth in NIH programs during the last decade affect funding of the chemical sciences? An ACS report finds that "the chemical sciences were direct beneficiaries of NIH's dramatic growth during the 1980s." The report—for the first time—quantifies NIH's support for the chemical sciences as a percentage of all federal support.

It says that the chemical sciences enjoyed strong growth in the number of awards they received from NIH, and a higher than average growth rate in the dollar size of awards made. When considering chemistry both as a physical science and as a life science, the report estimates that NIH provides approximately one third of the support for academic research in the chemical sciences, roughly the same amount as provided by the National Science Foundation.

The report, "An Analysis of Funding for Academic R&D in the Chemical Sciences at the National Institutes of Health FY 1982 to FY 1991," published in November 1993 by the American Chemical Society, examines the extent of federal funding of the chemical sciences by NIH. Copies of the report can be obtained from the ACS Department of Government Relations and Science Policy, at 202-452-2127.

A second report (publication date unknown at this time) will examine other NIH funding trends relating to chemical sciences in greater detail.

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Treasurer's Report
PUGET SOUND SECTION
AMERICAN CHEMICAL SOCIETY
31-Dec-93

	1993 BUDGET	1993 Year-to-Date
INCOME		
Annual ACS Allotment	\$8,555	\$8,555.00
New Member Commissions	15	5.00
Local Section Dues	4,200	4,298.50
Publications (advertising)	5,000	614.00
Directory (advertising)	500	0.00
Meals (total revenue)	3,000	1,742.00
Receipts (Chem Demo Wkshop, ACS pins, etc.)	200	0.00
Interest, Dividends	1,000	947.36
Donations, Contributions (for minting PA medals)	1,500	0.00
Rebate from ACS for councilor travel expenses	1,000	1,347.13
Other	0	100.00
TOTAL:	\$24,970	\$17,608.99
EXPENSES		
Administration	\$100	\$87.00
Education Committee	6,000	1128.91
(National Chemistry Week		0.00
(Donations: Wash College Chem Teachers Assn		0.00
(Expanding Your Horizons		200.00
(W Jr Sci-Hum Symp & W Sci Teachers		0.00
(Precollege Program		
(Chem Olympiad		44.00
(Chemistry for Kids		487.03
(Chem Workshops for students/teachers K-12		0.00
(Recognition awards for HS students		36.00
(Grants to HS groups for K-9 chem demos		0.00
(Matching grants to HS for publications		276.88
(Scholarships K-12 teachers / chem classes		0.00
(HS Chem teachers group		85.00
Public Affairs Committee	0	0.00
Professional Relations and Status Committee	100	0.00
Public Relations Committee	0	0.00
Safety Committee	100	16.68
Local Meetings (includes speakers' expenses)	1,500	1,230.00
Pauling Medal Symposium	500	400.00
Pauling Medal - minting	1,500	0.00
Meals (total expenses)	3,000	1,979.50
Publications (printing, mailing, etc.)	10,400	8,268.34
Directory	2,000	0.00
Awards Other (50yr member dinners)	0	84.00
Pauling Award (1992 - 1993)	1,500	0.00
High School Teacher Award	200	100.00
Student Affiliate Award	200	362.75
Travel Subsidies for Councilors	2,500	2,245.51
Travel Subsidy and Fee for LSO Conference	500	411.00
Other	500	0.00
TOTAL:	\$30,600	\$16,313.69
NET GAIN (LOSS)	(\$5,630)	\$1,295.30
ASSETS AND CAPITAL		
Washington State Employees Credit Union Checking account	\$7,141.97	
Account number 156176-0 Share account	124.32	
1 year WStECU CD No.58648 @ 4.25% due 06/26/94	2,000.00	
1 year WStECU CD No.63259 @ 4.25% due 11/19/94	7,500.00	
1 year WStECU CD No.64971 @ 4.00% due 03/19/94	7,500.00	
Pauling Award Medals 1 @ \$542	542.00	
A/V Equipment for Safety Talk (@ 40% of cost 10/90)	340.00	
BALANCE	\$25,148.29	

PROPOSED 1994 BUDGET

NOTE: In the absence of any input from the committees, the treasurer and the board has proposed the following budget for the year 1994. The board will be glad to entertain any suggestions or amendments from the various committees before the next board meeting on February 9, 1994. The board is required to adopt the budget at this date so the treasurer can pay any bills that come due.

**PUGET SOUND SECTION
AMERICAN CHEMICAL SOCIETY
Jan. 12, 1994**

**Proposed
1994 BUDGET**

INCOME

Annual ACS Allotment	\$9,021
New Member Commissions	15
Local Section Dues	4300
Publications (advertising)	4200
Directory (advertising)	500
Meals (total revenue)	2000
Receipts (short courses, etc.)	200
Interest, Dividends	1000
Donations, Contributions (for minting PA medals)	1500
Rebate from ACS for councilor travel expenses	1000
Other (Reimbursement for Pauling Award expenses)	500
TOTAL:	\$24,236

EXPENSES

Administration	\$100
Education Committee (includes short courses, A/V Tapes, Precollege Program, Young Chemists Activities, National Chemistry Week, Donations, and Scholarships)	2000
Public Affairs Committee	0
Professional Relations and Status Committee	100
Public Relations Committee	0
Safety Committee	100
Local Meetings (speakers' expenses & facilities)	1500
Pauling Medal Symposium	2500
Pauling Medal - Minting	1500
Meals (total expenses)	2000
Publications (printing, mailing, etc.)	8400
Directory	2000
Awards: Dinners 50-yr Members	50
Pauling Award (1993 & 1994)	1500
High School Teacher Award	200
Student Affiliate Award	200
Travel Subsidies for Councilors	2500
Travel Subsidy and Fee for LSO Conference	500
Other	500
TOTAL:	\$25,650

NET GAIN (LOSS)

(\$1,414)

NORM 1994 CALL FOR PAPERS

ACS NORTHWEST REGIONAL MEETING

The 49th American Chemical Society Northwest Regional Meeting will be held June 16-June 18, 1994, at The University of Alaska Anchorage, Anchorage, Alaska. Persons interested in submitting papers should contact: Larry Duffy, Ph.D., Department of Chemistry, University of Alaska Fairbanks, Fairbanks, AK 99775; phone: 907-474-7525, fax: 907-474-5101. The deadline for submitting papers is March 15, 1994.

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. Therefore, any changes of address should be sent to: Manager, Member & Subscriber Services, ACS, P.O. Box 3337, Columbus, Ohio 43210, so they can correct the labels for all their mailings including our mailing labels.



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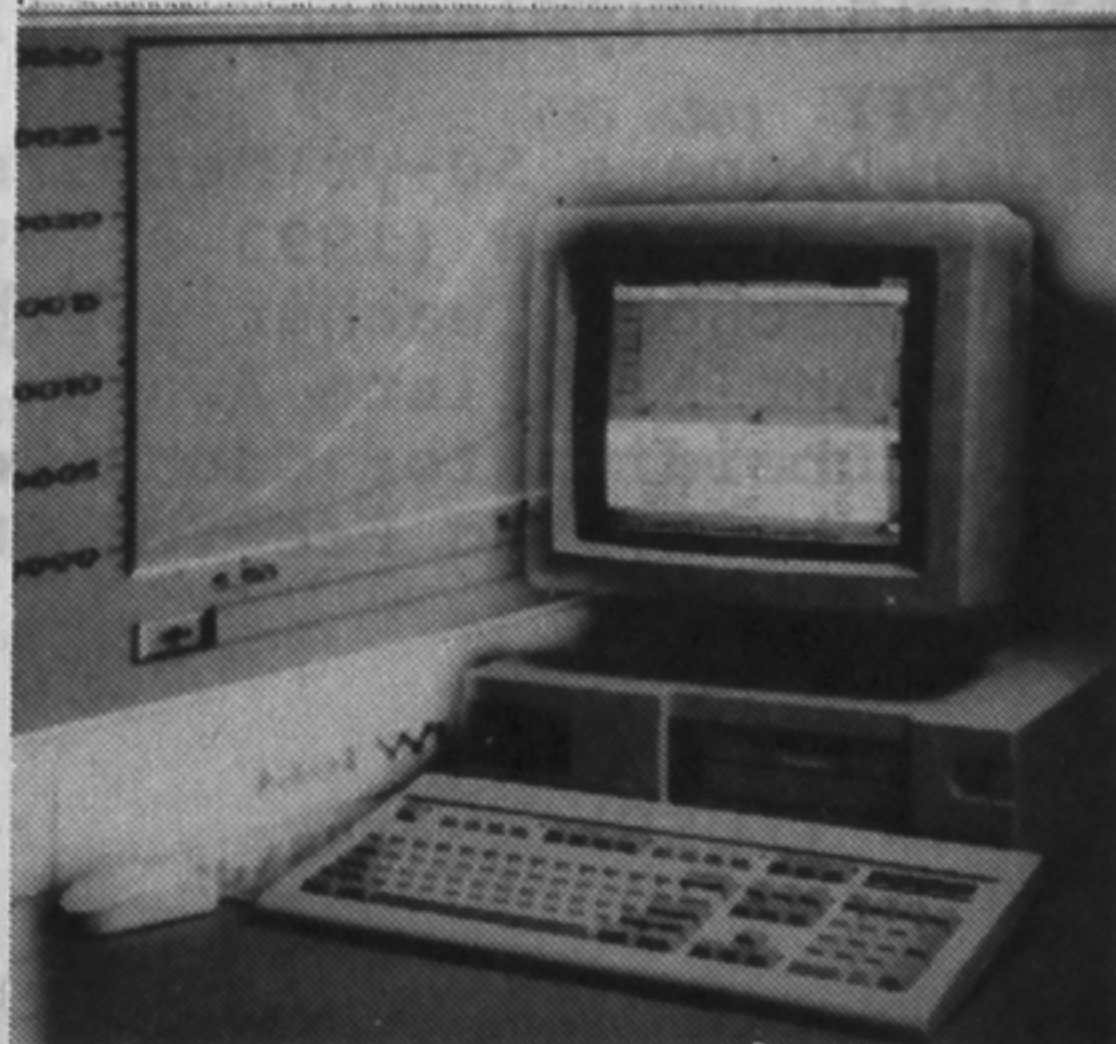
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ACS STRENGTHENS EFFORTS FOR MINORITIES IN CHEMISTRY

Although ACS has been active in its programming directed toward minorities in chemistry, efforts are being strengthened significantly to meet the changing needs of our Society and country.

The ACS Blue Ribbon Advisory Panel on Minority Affairs advises the Society on its efforts to improve access to chemistry for minorities. The primary tasks of the panel are to review current programs, to evaluate progress from an external perspective, and to help form linkages with other organizations concerned with minority participation in the sciences. Chaired by ACS Executive Director John Crum, the Advisory Panel consists of Carlos Gutierrez (California State University - Los Angeles), Shirley Malcom (American Association for the Advancement of Science), Norbert Hill (American Indian Science and Engineering Society), Antonio Navarro (former director of Radio and TV Marti), and Allen Heininger (former president of ACS).

Another aspect of this strengthened effort consists of the recently formed Joint Board-Council Committee on Minority Affairs. This committee, chaired by Carlos Gutierrez, has met twice and is vigorously pursuing ideas for new and improved programming for minority chemists.

The third group focusing on this issue is the Internal Coordinating Committee for Minority Affairs. Chaired by John Crum, the Internal Coordinating Committee consists of several senior staff members and is responsible for implementing the recommendations of the Advisory Panel and the Joint Board-Council Committee.

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AMERICAN CHEMICAL SOCIETY PARTICIPATES IN LARGE GRANT-MAKING EFFORT TO AID FORMER SOVIET UNION SCIENTISTS

Grant-making history was made in Washington, DC, last month. More than 9,000 proposals originating in former Soviet Union (FSU) countries were to be judged during December in a large peer review exercise involving the American Chemical Society (ACS), the International Science Foundation (ISF) and other major scientific societies.

ISF—the main force behind this unique effort—invited research proposals from FSU scientists for about 900 large research grants and then asked for assistance in the peer review process from several major scientific societies, including the ACS, the world's largest scientific organization.

ACS is administering the review of more than 1,500 of the 9,000 proposals. "This [review process] means the ACS's office of international activities will handle during a six-week period, a proposal load that is equal to that administered each year by the entire Chemistry Division of the National Science Foundation," says Dr. John M. Malin, international activities administrator at the ACS.

"Never before in grants administration has such an intense effort been organized and completed in so short a time," Malin notes. "ACS is proud to be playing an important and highly visible role in this historic endeavor."

The help in peer reviewing chemistry-related proposals is part of ACS's continuing efforts to assist FSU scientists in various ways. ACS also is helping FSU scientists by sending chemicals and chemical apparatus, providing travel grants for them to attend conferences and granting more than 500 ACS journal subscriptions.

In addition to chemistry, disciplines represented in the research proposals are astronomy, biology, earth sciences, mathematics and physics. Announcements of grants by ISF are expected to be made early this year after completion of the review process.

ISF provided a grant to ACS to help defray expenses in managing the chemistry related peer review process.

ISF was created in 1993 when financier George Soros provided \$100 million to aid FSU scientists.

SITUATIONS WANTED

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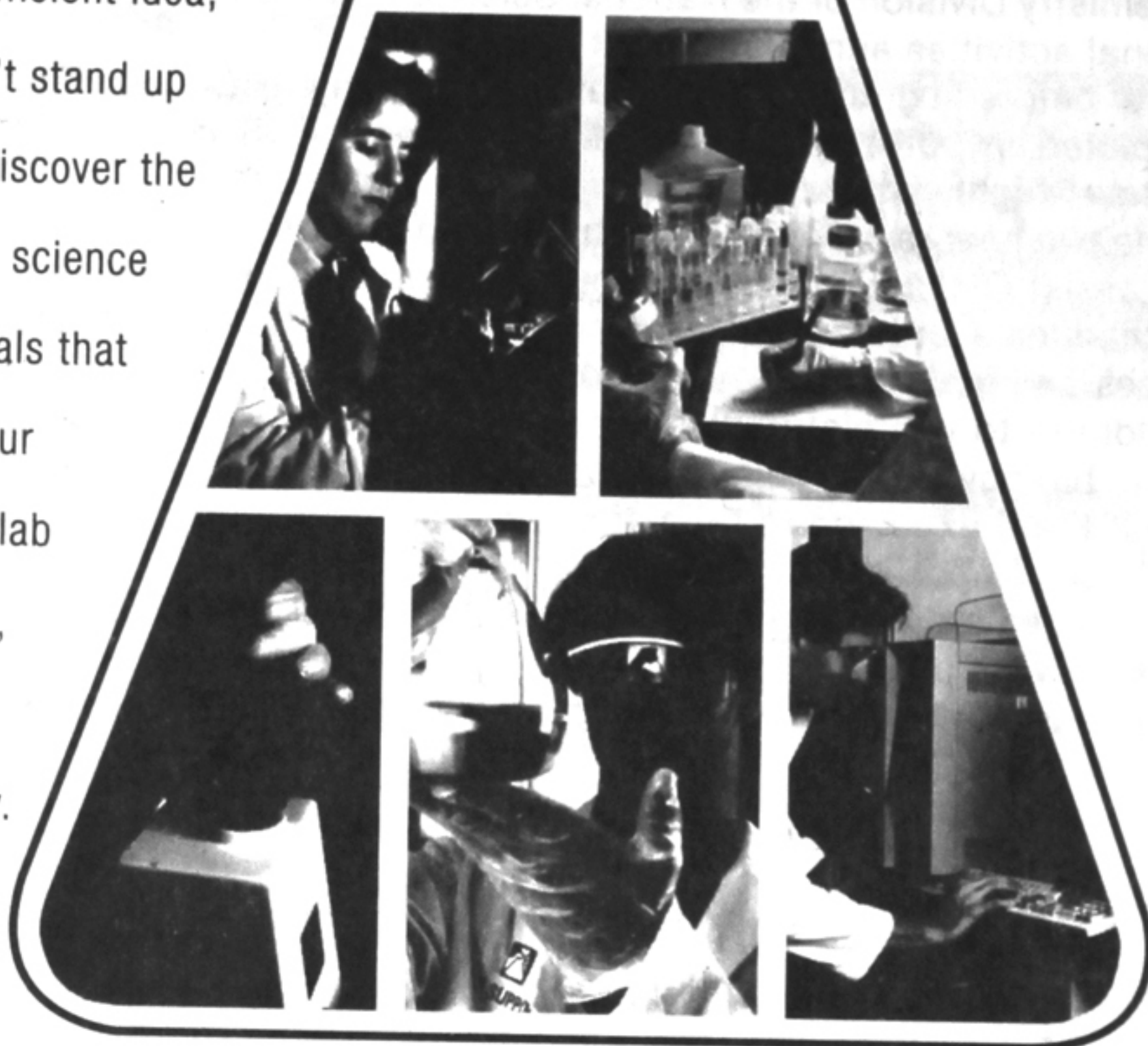
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AMERICAN CHEMICAL SOCIETY SWITCHES TO RECYCLED PLASTIC FOR JOURNAL WRAPPERS

Environmental concerns have prompted the American Chemical Society (ACS) to switch from virgin polyethylene film to recycled polyethylene to wrap and mail its journals, starting with issues mailed in January 1994, according to Robert H. Marks, Director of the ACS Publications Division. Recycled polywrap containing recycled post-consumer plastic is a fairly specialized but growing product.

"Subscribers to the Society's 24 scientific journals tend to archive these publications, so it is important that they arrive in good shape in the mail," says Marks. For this reason, ACS began in 1990 to ship its journals in polyethylene wrapper. Although the wrappers reduced the cost of replacing damaged copies, some subscribers and ACS members felt the move was not environmentally sound.

Now, advances in plastic technology allow the Society to switch to a plastic wrapper made from recycled material. "Many of our publications cover the science underlying plastic recycling and cover the industry's 'Responsible Care' initiatives, so we were only practicing what we report," says Marks. Included among the two dozen ACS journals are the *Journal of the American Chemical Society*, *Environmental Science & Technology* and *Analytical Chemistry*.

The new polywrap contains a total of 45 percent (by weight) recycled plastic (15 percent post-consumer waste and 30 percent from industrial film waste). The remainder of the content is virgin plastic. The recycled material comes from sources such as plastic grocery bags and different forms of packaging recycled by consumers (all the reason to get your plastic grocery bags to recycling at the stores you shop!).

Innovative Packaging of Briarcliff Manor, NY, will supply the polywrap to ACS' printer, The Mack Printing Group, Easton, PA. Bruce Hollander, president of Innovative Packaging, says production of polywrap containing post-consumer material is "relatively new and growing." One problem that some suppliers have now overcome was low quality, Hollander explains, which prevented printers from using the recycled plastic because it couldn't be run through high-speed equipment to wrap publications.

The price for the recycled polywrap is about the same as the virgin wrap. The recycled polywrap could itself be recycled, though Hollander says that at this time appropriate community reclamation programs are not yet under way.

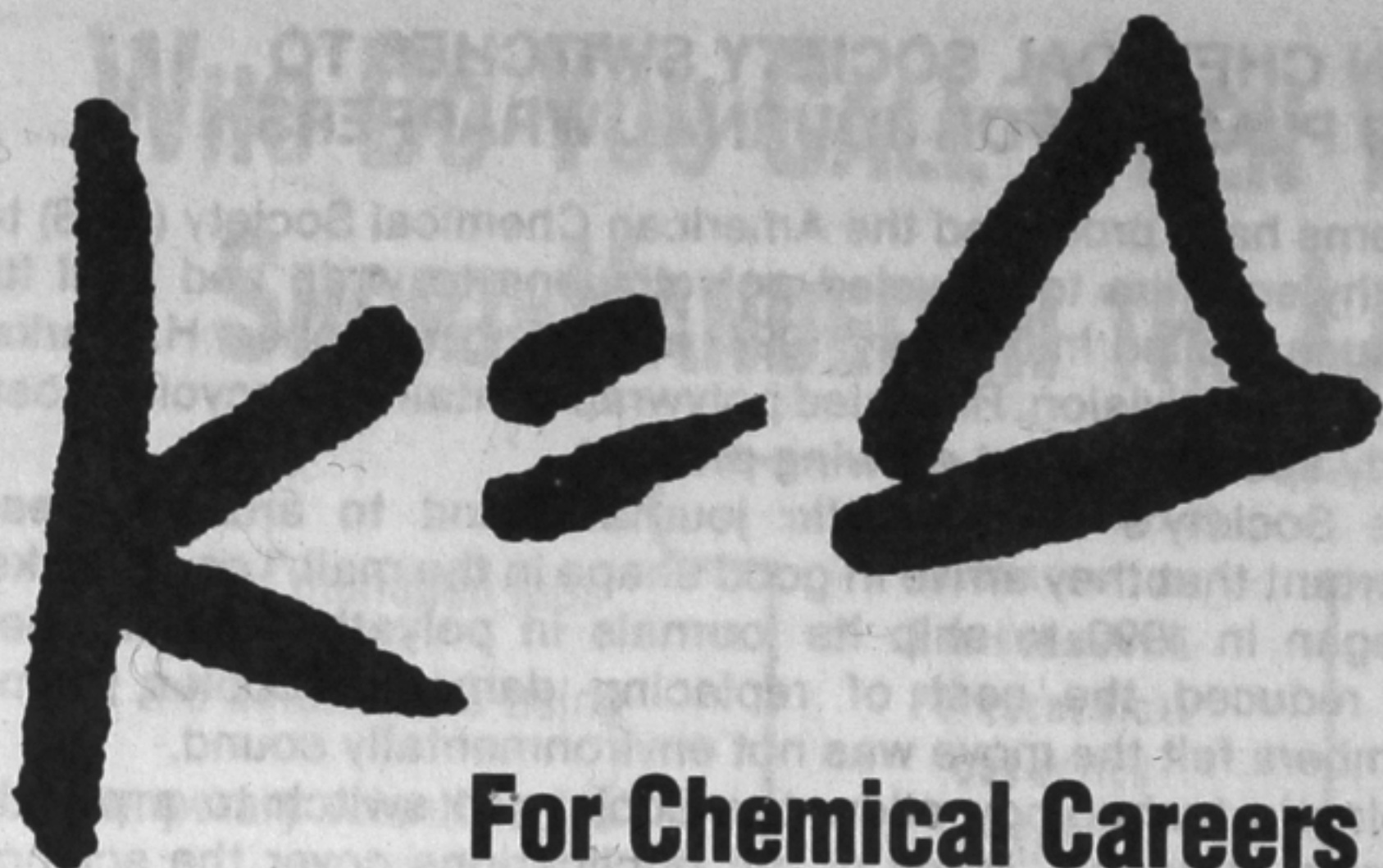
WHAT IS HAPPENING IN CHEMISTRY? CHEMISTRY-RELATED HIGHLIGHTS OF 1992

MAY—

- Insulin mimics, which can be taken orally for diabetes treatment, are developed by Canadian scientists. Insulin, a common diabetes remedy, cannot be used orally because it is broken down by the digestive system and, therefore, must be taken by injection. The mimics, made of vanadium compounds, were tested on diabetic rats.
- Microscopic amounts of the magnetic material "magnetite" are isolated for the first time from human brain tissue samples by Caltech scientists. This finding could explain anomalous results of brain magnetic resonance imaging (MRI) observed by some scientists. This could mean that magnetic fields from MRIs and some household appliances might have biological effects.

JUNE—

- Flexible or "plastic" light-emitting diodes (LEDs) are made from conducting, organic polymers. The plastic LEDs are mechanically strong and can be bent or curled without failure. The new LEDs are expected to find applications in multicolor electronic displays and for greater resolution in computer screens. Conventional LEDs, found in digital watches and cameras, do not have the flexibility of the new LEDs.



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Printing

G & H Printing
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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.

Feb. 9 March 9 April 13

Place: Seattle University

Dinner: 5:30 PM in Cafeteria (optional)

Meeting: 6:30 PM in Room 511,
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