

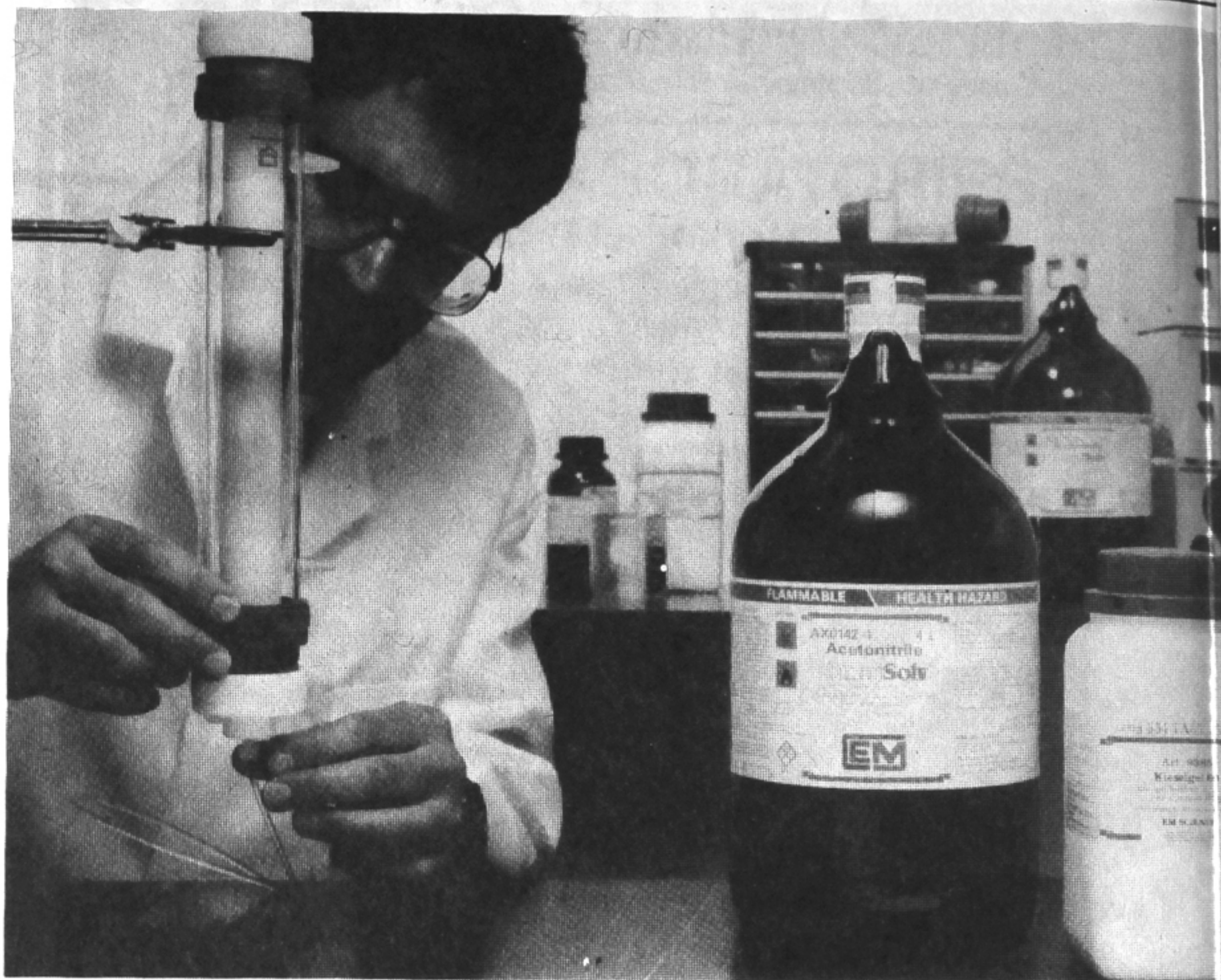
PUGET SOUND CHEMIST

BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

Volume 54, Number 5



September 1993



VWR Scientific

A VWR COMPANY

*Your complete source for
all your chromatography needs.*

KONTES

Chromatography
Columns

VWR Scientific
P.O. Box 3551
Seattle, WA 98124
(206) 575-1500
1-800-333-6336

EM[®]
EM SCIENCE

Chromatography
Sorbents / Solvents

On the cover: Snoqualmie Falls in the summer.

SEPTEMBER MEETING

- DATE:** Tuesday, September 28, 1993
- FEATURED SPEAKER:** Dr. Dean F. Martin
Professor of Chemistry
University of South Florida
- PROGRAM:** Why Don't We Live Longer? (please refer to the August issue of *Puget Sound Chemist* for further description)
- LOCATION:** Rodeside Broiler
12531 Aurora Avenue North
Seattle
- 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 \$3.00 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, Friday, September 24. Please call: Seattle: 543-1610
Bellingham: 676-3070 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.

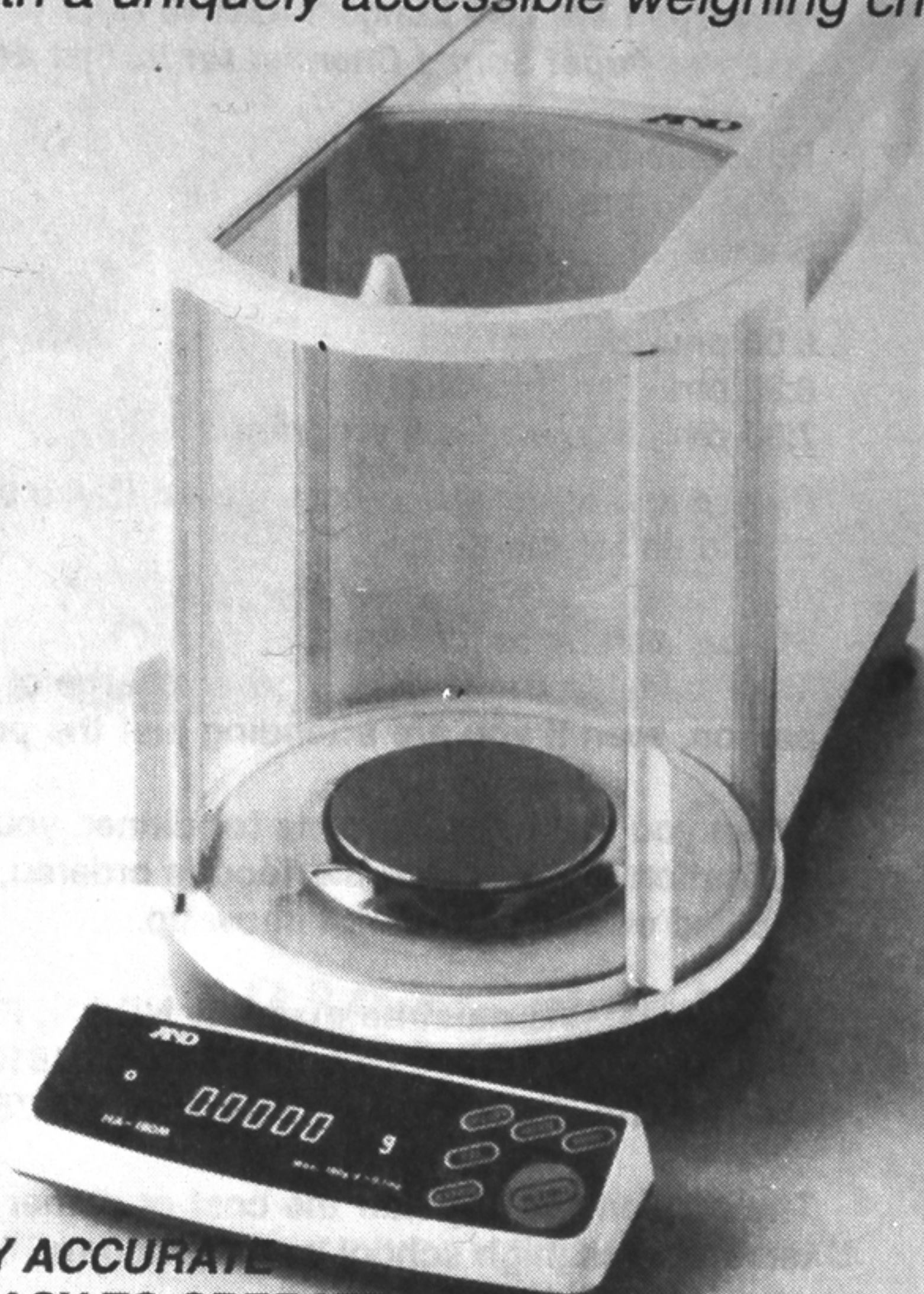
FUTURE MEETINGS 1993

- October 23 (Saturday) 1993 Pauling Award
Portland Section
Host: Lewis and Clark College, Portland, OR
- November 9 Dr. Ralph Blomster will speak on Folk Medicine
-

A&D

A&D WEIGHING DIVISION

*Featuring the new **HA-M** series analytical balances with a uniquely accessible weighing chamber.*



- **HIGHLY ACCURATE**
- **EASY TO OPERATE**
- **WITH ADVANCED STABILIZATION SOFTWARE**

All-World Scientific is your Puget Sound source for the full A&D line of toploading, analytical, and moisture balances, now with a **3 year** warranty!

Call us to find out just how affordable a quality balance can be.



5515 - 186th Pl SW, Lynnwood, WA 98037
(206) 672-4228 • FAX (206) 776-1530
Toll Free 1-800-28WORLD (289-6753)

DIVISION OF CHEMICAL TECHNICIANS (PROBATIONARY) 1994

NATIONAL TECHNICIAN OF THE YEAR AWARD

The National Technician of the Year Award will be presented to a chemical technician who has demonstrated an extremely high degree of professionalism as a chemical technician. Criteria used to judge the award include job skills, safety and housekeeping, relationship with coworkers, publications and presentations, reliability, communication skills, and additional professional and community activities. The award will consist of a trip to the 207th ACS National Meeting in San Diego, California, for the winner and their spouse. A plaque commemorating the award will be presented at the CTA/TECH National Technician of the Year Award Banquet in San Diego on Monday, March 14, 1994.

The ACS defines a chemical technician as a person whose training includes successful completion of a two-year post-high school level chemistry curriculum leading to an Associate Degree, or the equivalent course work in a Baccalaureate Program, or the equivalent knowledge gained by experience. The primary work of a chemical technician is conducting experimentation and/or correlating information to help solve chemical problems and/or discover new chemical knowledge.

Letters of nomination must be received by Theresa Brown, Hercules Incorporated, Research Center, 500 Hercule Road, Wilmington, DE 19808-1599, no later than November 1, 1993. Nominations, including seconding letters, **must not** exceed six pages. The nominating letters should address each of the criteria listed above. A current work address must be provided for each nominee.

Chemical technicians need not be a Technician Affiliate or ACS member to be eligible for this award. This award is sponsored by the Council on Technician Activities (CTA) of the American Chemical Society and the Division of Chemical Technicians (probationary).

For more information contact Theresa Brown at (302) 995-3257, FAX (302) 995-4117.

SUMMER ACTIVITIES OF PUGET SOUND SECTION OFFICERS

Professor Lingafelter represented the Puget Sound Section at the NOR Board Meeting held on the Campus of the University of Wyoming on June 18, 1993.

Clarita C. Bhat represented the Oxygen Chapter (Puget Sound) at the 24th National Triennial Convention of the IOTA SIGMA PI, the Women Chemists Honorary Society, held in Cleveland, Ohio, in June 1993. She also participated in the review panel for the National Science Foundation Course and Curriculum Development Proposals in July 1993, in Washington, D.C.

The **summer executive meeting** was held on the 26th of August at the home of the chair.

FOR SCIENTISTS, ENGINEERS, HEALTH CARE PROFESSIONALS

If you have "*made it*" and are thinking about your life, here is an opportunity to focus your search. Find new perspectives with other talented professionals who share the challenge of creating satisfying lives in a complex world. Tuesdays, 5:30-7:00 p.m., fall quarter. Call Virginia Stout for details, 322-8786.

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.

Move up to higher levels of confidence, with HP's powerful new UV-Vis system.



Comprehensive support for GLP



HP's diode-array technology



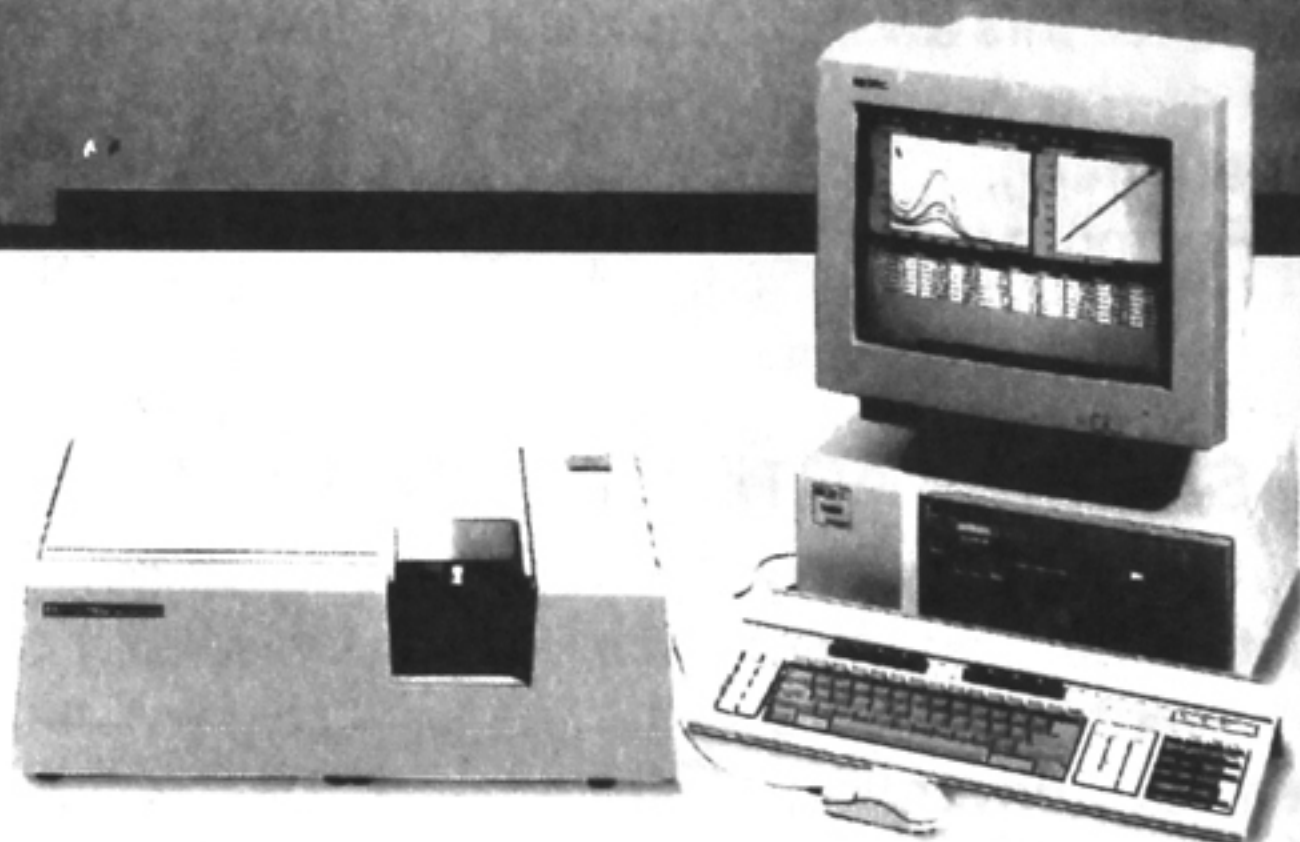
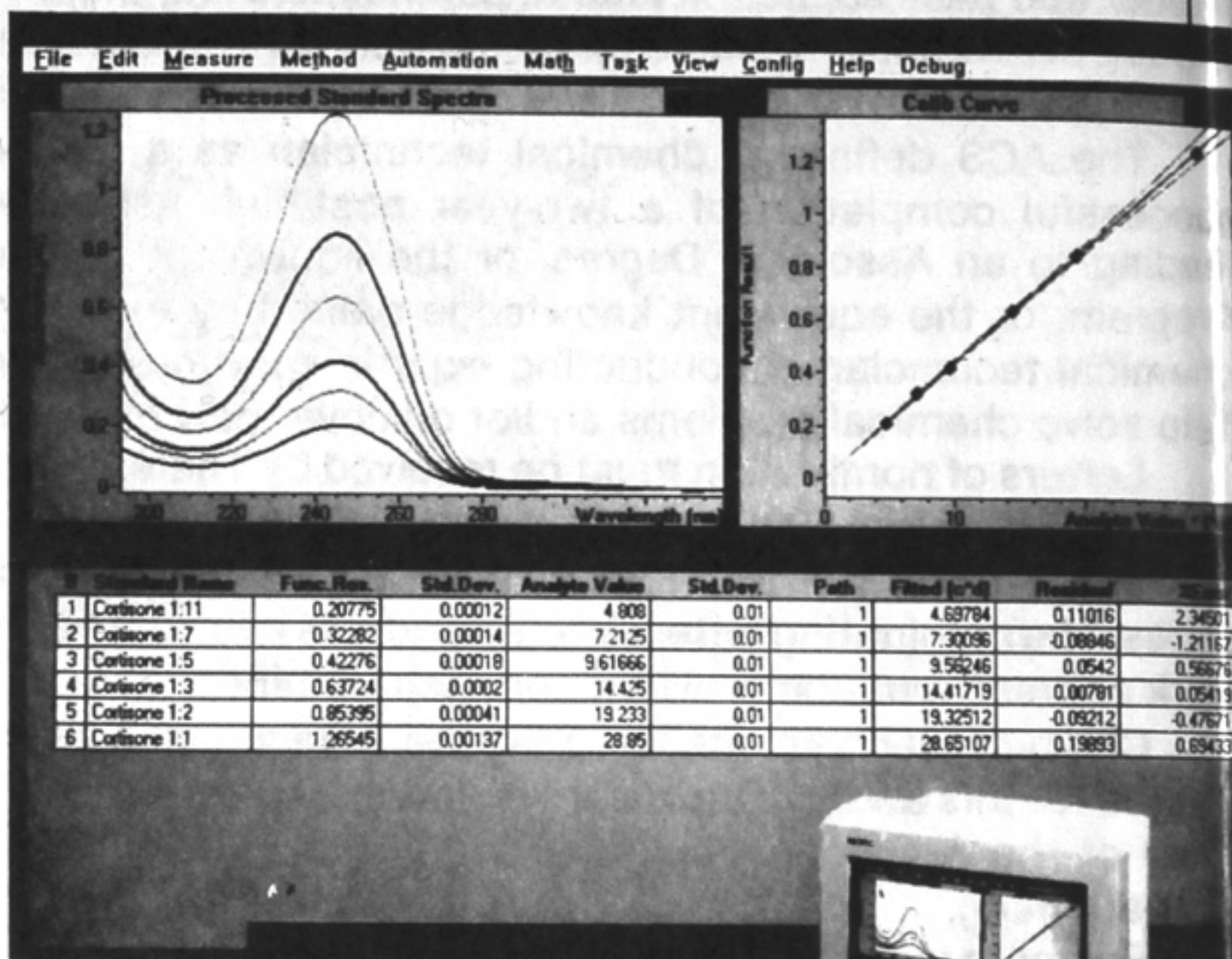
Table-driven automation of analyses



Tools to help customize solutions.



Easy-to-use Microsoft® Windows interface



The HP 8452Win diode-array UV-Visible spectroscopy system helps you meet GLP.

For sheer problem-solving power, nothing surpasses our new UV-Vis system's ChemStation capabilities.

To meet GLP, the ChemStation offers a comprehensive set of tools that ensure hardware/software security, and that document data integrity. And HP's diode-array

technology further assures you of reliable, reproducible results.

Customizing is easy too. Using work lists and macros, you can quickly automate complex research or routine testing tasks. An easy-to-use Microsoft® Windows-based interface lets you smoothly exchange data between applications. And you can share information throughout your organization, with the HP Unified Lab strategy.

Our exclusive single-vendor solution includes HP's industry-standard diode-array spectrophotometer, PC, peripherals, software and accessories. All backed by HP's reputation for reliability and service.



For More Information Call: Dave Randle at (503) 598-8283

MORE ABOUT OUR 50 YEAR MEMBERS

Reid G. Fordyce

After being awarded BAsC and MASc degrees in Chemical Engineering from the University of British Columbia (1935, 1936), he obtained his Ph.D. in 1939 under H. Hibbert at McGill University. He joined Monsanto Company the same year and, over a forty-year period, served in the following capacities: research chemist, research group leader, manager of commercial development, director of marketing technical service and product development (Plastics Division), director of research and development (Fome-Cor Corp), director of commercial development (Monsanto Research Corporation).

He authored 15 technical publications especially on the mechanism of emulsion copolymerization and has seven U.S. patents. He married Alice E. Martin in 1939 and they have four children.

Richard H. Coe

Dick Coe spent his early years in Connecticut and moved to Stanford University in 1942 after receiving his B.A. and M.A. degrees from Wesleyan University with high distinction in chemistry. He earned his Ph.D. from Stanford in 1947, being the first Ph. D. student of the late Dr. L. B. Rogers. During WW II, he also worked for the U.S. Government (OSRD) and California Research Corp. He went back to Wesleyan University in 1946 to teach analytical and inorganic chemistry for two years and then returned to California to join his wife, Marie Condee Coe, M.D., and two daughters, as well as work for Shell Oil Co. Except for a two-year stint in medical school at the University of Southern California after the death of his wife in 1953, he worked for Shell Oil Co. in California, Texas and the Netherlands until his retirement in 1982.

Most of his early career with Shell Oil Co. was in research on analytical methods and on gasoline manufacturing processes such as isomerization, alkylation and catalytic reforming. In the early '50s he demonstrated that refinery effluent could be purified by activated sludge treatment, a method that was used as the basis for effluent treatment at Shell's Anacortes refinery. He received a national award in 1953 for An Outstanding Contribution On Industrial Wastes Control. During the late '60s and early '70s his principal activities were the study of conversion of substances such as residue, coal and oil shale into gasoline and fuel oil. For the last 5 working years, he was Manager of Occupational Safety and Health Regulations for Shell Oil Co.

In 1985, he moved to Orcas Island with Jacquelyn Brooks Coe, his wife for 38 years now, and leads an active retirement life, not understanding how he found time to work for Shell those 32 years and help raise seven successful children. Congratulations Dick, you must be a proud father!

LABORATORY GLASSWARE & CUSTOM GLASSBLOWING

Standard Lab Glassware • Specialty Glassware • Glassware Components

Need a special piece made? We can make it for you!

(Call us TODAY for a FREE copy of our complete catalog.)

Distillation Apparatus • Vacuum Apparatus

Flasks • Adapters • Condensers

Broken Glassware? We can repair it!

TUDOR SCIENTIFIC GLASS COMPANY, INC.

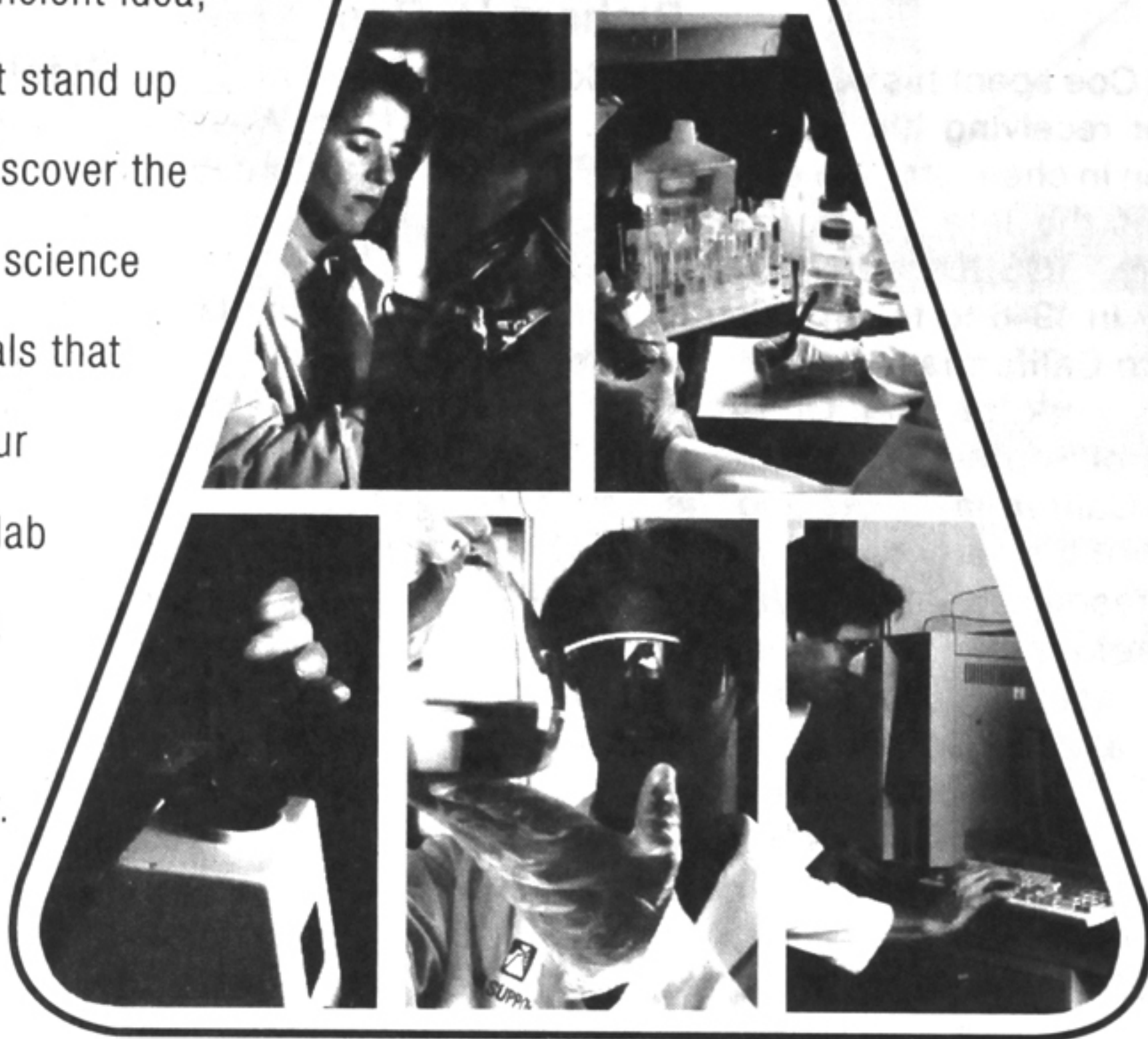
555 EDGEFIELD RD., BELVEDERE, SC 29841 • PHONE: (803) 279-4666 FAX: (803) 279-4690

since
1956

Who Do You Call When You're Short-Handed in the Lab?

The best managed labs of the nineties are using temporary scientists, as needed. Efficient idea, but it won't stand up until you discover the service for science professionals that delivers your temporary lab staff easily, accurately, and quickly.

FOOD & BEVERAGE
PHARMACEUTICAL
ENVIRONMENTAL
PETROCHEMICAL
COSMETICS
CHEMICAL
BIOTECH



- All our Account Managers are degreed scientists with lab experience who'll understand your needs in one short phone call.
- Pre-interviewed, pre-screened selection of temporary lab employees are ready to work when you need them.
- The personnel you need in as short as 24 hours after your initial call.

**Call your Lab Support Account Manager at
206-455-5025**



LAB SUPPORT®

Science Professionals on Assignment

ACS CONGRESSIONAL FELLOWSHIP PROGRAM

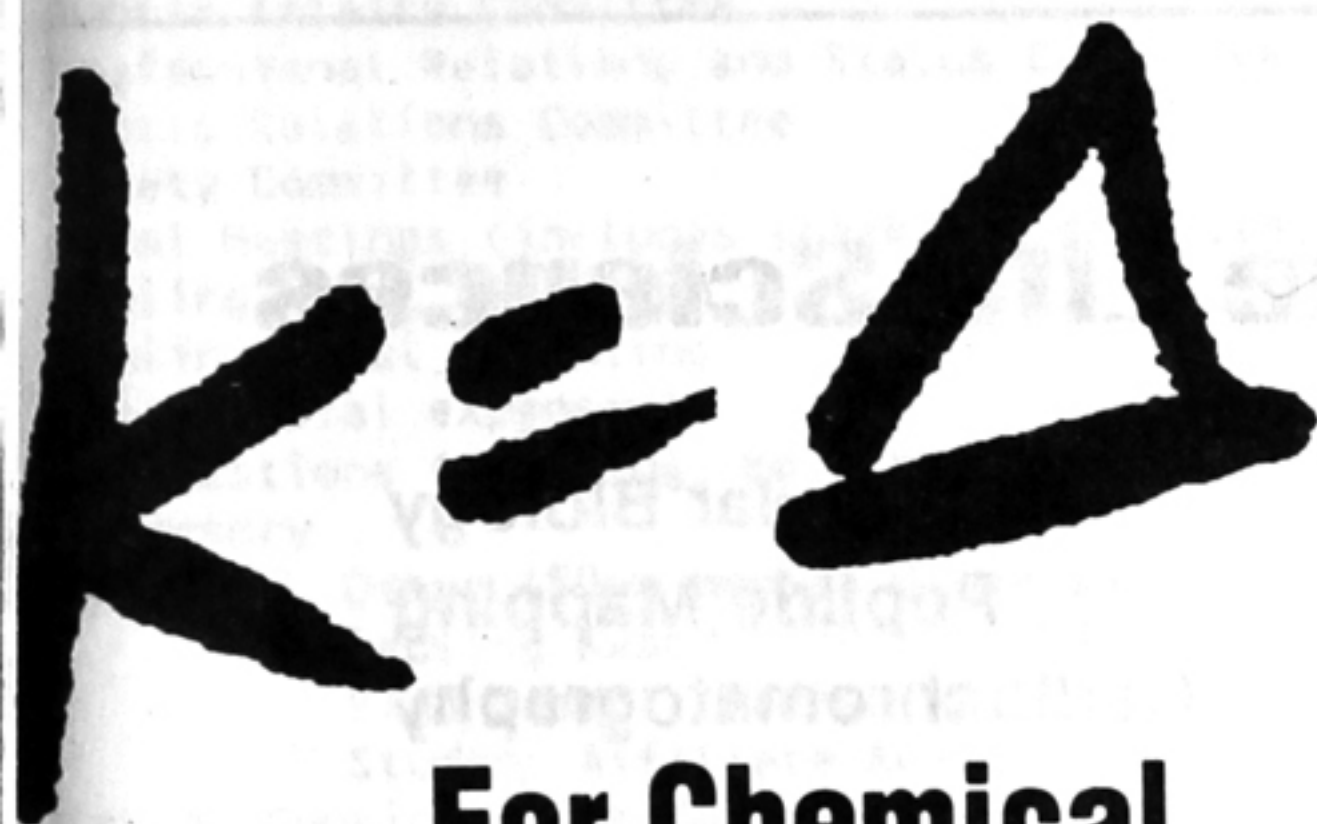
The American Chemical Society's Congressional Fellowship Program places a person with a background in science and public policy in the office of a U.S. Senator, Representative, congressional committee or subcommittee. During the year-long fellowship, this person is responsible for providing the office in which they serve with a sound, objective scientific basis for policy decisions, increasing ACS visibility on Capitol Hill, and providing the Society's membership with insights that they have gained from their service.

ACS fully funds a stipend for the fellow, but other sources of funding may be acceptable (e.g., the fellow's employer, private foundations, etc.). The 1994-95 stipend is \$42,000. The next Fellow to be selected will begin work in September of 1994.

Fellows are selected on a competitive basis from among members of the ACS who have significant familiarity with one of the chemical sciences or engineering (e.g., a doctorate or equivalent work experience); a working understanding of the chemical community; and experience in civic activities or public affairs. Past involvement in ACS activities also is taken into account. A candidate for the Fellowship must submit a letter of intent and a resume directly to the ACS. In addition, two letters of recommendation are to be sent to the ACS by their authors.

The ACS Committee on Chemistry and Public Affairs (CCPA) Congressional Fellowship Subcommittee and the ACS Department of Government Relations and Science Policy maintain ongoing contact with the fellow and congressional offices. The fellow is required to report regularly to CCPA and meet with other Society groups as necessary to provide for an adequate flow of information.

The deadline for receipt of application materials for this Fellowship is January 1, 1994. For further information, contact Bill Gray at the ACS Department of Government Relations and Science Policy, 1155 Sixteenth St. NW, Washington, DC 20036; or phone him at (202) 872-4467.



**For Chemical
Careers in the '90s,
The Only Constant
is Change**

Prepare for change with ACS Career Services:

- ◆ Career Consultants
- ◆ Employment Clearing Houses
- ◆ Professional Data Bank
- ◆ Resume Review
- ◆ Job-Search Workshops
- ◆ Salary Surveys
- ◆ Classified Ad Discounts

and more!

Put ACS Career Services to work
for you . . . for your entire career.



ACS CAREER SERVICES

For more information call Erika at
800/227-5558 or 202/872-4432

The Millennium 2010 Chromatography Manager. It's not just a new product, it's a milestone.

The Millennium™ 2010 Chromatography Manager is the only chromatography data system that adapts to the way you do chromatography.

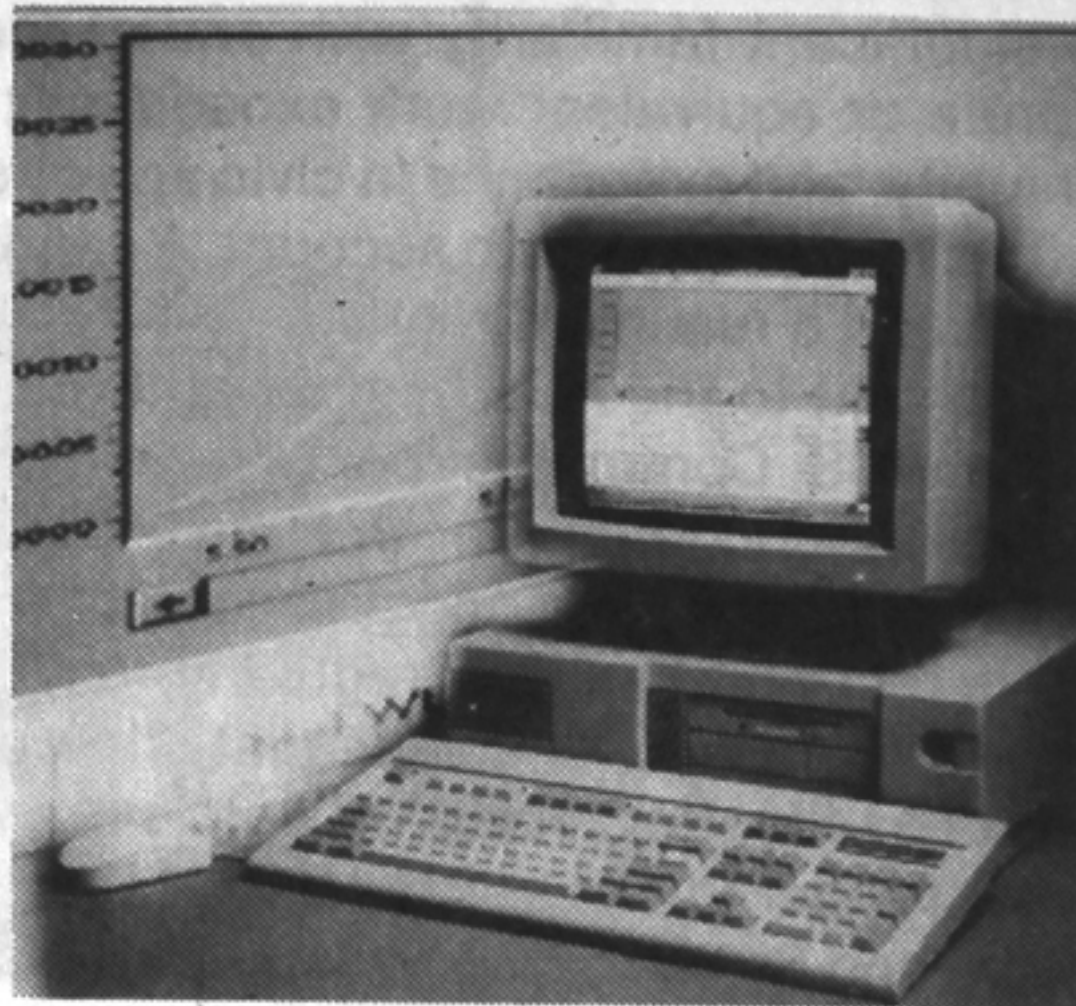
- Microsoft Windows™ 3.1 makes it easy to learn and easy to use.
- Unique tracking and managing of chromatographic methods and results so you can:
 - Develop customized reports with the Report Publisher.
 - Search and review specific samples based on your unique parameters (i.e., lot number, operator ID, sample name).
- System Suitability option that establishes and verifies operating parameters.

The Millennium™ 2010 Chromatography Manager. So advanced, it will make history out of every other way of doing chromatography.

For more information, call Mike Leahy at 1-800-632-2708 ext: 2147

MILLIPORE

Waters Chromatography



BECKMAN

Products for the Life Sciences

Receptor Binding
DNA Sequencing
Pharmaceutical QA/QC

Molecular Biology
Peptide Mapping
Radiochromatography

System Gold HPLC
Capillary Electrophoresis
UV/VIS Spectrophotometers
Liquid Scintillation Counters
pH Meters

Centrifugation
Robotics
Lab Information Management Systems (LIMS)
Supplies
Field Service

Beckman Instruments, Inc., Western Sales

1050 Page Mill Road, P. O. Box 10015

Palo Alto, CA 94303

1-(800) 742-2345

Treasurer's Report
 PUGET SOUND SECTION
 AMERICAN CHEMICAL SOCIETY
 26-Aug-93

	1993 BUDGET	1993 Year-to-Date
INCOME		
Annual ACS Allotment	\$8,555	\$0.00
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	728.50
Receipts (Chem Demo Wkshop, ACS pins, etc.)	200	0.00
Interest, Dividends	1,000	528.97
Donations, Contributions (for minting PA medals)	1,500	0.00
Rebate from ACS for councilor travel expenses	1,000	718.69
Other	0	0.00
TOTAL:	\$24,970	\$6,893.66
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	640.00
Pauling Medal Symposium	500	400.00
Pauling Medal - minting	1,500	
Meals (total expenses)	3,000	916.85
Publications (printing, mailing, etc.)	10,400	3,372.47
Directory	2,000	0.00
Awards Other (50yr member dinners)		84.00
Pauling Award (1992 - 1993)	1,500	0.00
High School Teacher Award	200	100.00
Student Affiliate Award	200	50.00
Travel Subsidies for Councilors	2,500	855.38
Travel Subsidy and Fee for LSO Conference	500	271.00
Other	500	0.00
TOTAL:	\$30,600	\$7,922.29
NET GAIN (LOSS)	(\$5,630)	(\$1,028.63)
ASSETS AND CAPITAL		
Washington State Employees Credit Union Checking account	\$4,819.79	
Account number 156176-0 Share account	122.57	
1 year WStECU CD No.58648 @ 4.00% due 06/26/93	2,000.00	
1 year WStECU CD No.63259 @ 4.00% due 11/19/93	7,500.00	
1 year WStECU CD No.64971 @ 5.45% due 03/19/93	7,500.00	
Pauling Award Medals 1 @ \$542	542.00	
A/V Equipment for Safety Talk (@ 40% of cost 10/90)	340.00	
BALANCE	\$22,824.36	

PROTECT
**Your Expensive Lab Work with Research
and Development Record Books**

STOCK RECORD BOOKS

B50D — Fifty pages and fifty duplicates. ¼ inch sqs. on right pages.

B100P — 100 — ¼ inch sqs. on right pages.

100 — 10 sqs. per inch on left pages.

B200P — 208 ¼ inch sqs. on right and left pages.

B200PH — 208 horizontally lined right and left pages.

Books have instruction and TOC's. Page size 11 x 8½.

Hard extension brown cloth covers. Pages open flat.

\$10.50 each, FOB Chicago

CUSTOM MADE BOOKS TO ORDER

SCIENTIFIC BINDERY PRODUCTIONS

1255 S. Wabash Ave., Chicago, IL 60605

Phone: 312-939-3449

Fax: 312-939-3787

HUFFMAN

LABORATORIES, INC.

Quality Analytical Services Since 1936

Elemental Analysis

(C, H, O, N, S, P ■ Halogens ■ Ash ■ Metals)

TOC ■ TOX ■ BTU ■ Molecular Weights

ICP ■ Emission Spectroscopy

GC ■ IC

4630 Indiana Street • Golden, CO 80403

Phone: (303) 278-4455 • FAX: (303) 278-7011

POLYMER STANDARDS FOR GPC/SEC MOLECULAR WEIGHT ANALYSIS GPC/SEC COLUMN REPACKING

American Polymer Standards Corporation
8680 Tyler Boulevard, Mentor, OH 44060
Phone: 216-255-2211 Fax: 216-255-8397

206) 932-7698

Car: (206) 947-6599

KARDEN ASSOCIATES, INC. CONSULTANTS

Safety and Regulatory Compliance

Denis Sapiro, CSP, CHMM
Senior Consultant

3241 44th Ave. SW • Seattle, WA 98116



Christopher L. Getchell
Oceanographer / Biologist

BIOASSAY TESTING SERVICES

8455 S. 19th Suite 12A
Tacoma, WA 98465
206-565-5492

Acute and Chronic Toxicity Testing
Hazardous Waste Characterization
NPDES Permit Compliance



BYRNE SPECIALTY GASES, INC.

- Pure, Mixed & Rare Gases
- Gas Handling Equipment
- Engineered Systems
- Cryogenic Supplies
- Liquid N₂, Ar

Express Gas &
Emergency Delivery
(206) 764-4633

118 South Mead Street
Seattle, WA 98108

1 (800) 767-4601

FAX (206) 763-3753

spectron corporation

PHIL JOHNSON

SALES & SERVICE REPRESENTATIVE

We buy, rebuild and resell laboratory instrumentation

11025-118th Place N.E. • Kirkland, WA 98033 • (206) 827-9317

Dionex

Maintenance and Troubleshooting Seminar Theory of Ion Chromatography Seminar

September 14 & 15, 1993

The Red Lion Airport Inn at Sea-Tac, Washington

About the Seminars

The first day is devoted to lecture and discussions on **troubleshooting** for the Ion Chromatography and HPLC systems, eluents, pumps, valves, columns, suppressors, and detectors. Emphasis will be placed on individual component function and maintenance, leading to a systematic approach for troubleshooting. Attendees should have a familiarity with the basic operation of Dionex IC instruments. This is not a "hands on" course and is designed to reinforce basic principles of maintenance and troubleshooting. The second day will address the **Theory of Ion Chromatography**, with an emphasis on stationary phase characteristics. Separation, detection and data acquisition techniques will also be discussed.

Tuition for each:

\$350 (U.S.) includes continental breakfast, lunch, and all course materials. Attendance is limited, so register early.

For more information and to obtain registration materials contact:

**Dionex Corporation
470-D Lakeside Drive
Sunnyvale, CA 94086**

**Call Sandra LaLiberte
(408) 737-8522
(408) 737-8117 FAX**

*Dionex training is designed for problem solving,
efficient operation, and maximum uptime!*

MR. WIZARD WINS NATIONAL SCIENCE MEDIA AWARD

WASHINGTON, August 23 — Don Herbert, better known as Mr. Wizard of the children's cable channel Nickelodeon, has been named the winner of 1994 American Chemical Society's James T. Grady-James H. Stack Award for Interpreting Chemistry for the Public.

The \$3,000 award includes a gold medal and bronze replica and will be presented on March 15, 1994, in San Diego at the 207th national meeting of the American Chemical Society.

"Over the years, Don has been personally responsible for more people going into science than any other person in this country. . . . He has helped millions of people to understand what science is all about," according to George Tressel, former Director of Informal Science Education for the National Science Foundation.

Mr. Wizard has been America's science teacher for more than 40 years on commercial, public and cable television. Herbert is most recognized by today's generation for Nickelodeon's "Mr. Wizard's World" which aired from 1983-91. Reruns of these shows are still seen today.

Also in the 1980s, he produced 637 "How About" science shorts for public television. In 1987, "How About" tied with "Nova" for the AAAS/Westinghouse Science Journalism Award for best science reporting on television.

Herbert began his TV career with NBC in 1951. He performed more than 4,500 science demonstrations using common household items during 14 seasons on "Watch Mr. Wizard." From 1952-59, he also was the science reporter with Ronald Reagan on the weekly "General Electric Theater" series.

Herbert's other contributions to science education television were his 30-second "Mr. Wizard Closeups" on NBC's Saturday morning cartoon programming in the 1970s and his public television science personality show, "Experiment," which aired from 1965-66.

Herbert was born on July 10, 1917, and received his B.S. in Science and Drama from the University of Wisconsin, La Crosse in 1940. He resides in Bell Canyon, California.

COLOR PERIODIC TABLE WALL CHART AVAILABLE FREE

Galbraith Laboratories, Inc., a worldwide provider of analytical services, has announced availability of a color periodic table wall-chart (free of charge in reasonable quantities). The chart is designed to be a useful reference tool for laboratories and class rooms, as well as offices. To request a chart or other information, contact: Galbraith Laboratories, Inc., P. O. Box 51610, Knoxville, TN 37950-1610; Phone: (615) 546-1335.

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.

PUGET SOUND CHEMIST



**BULLETIN OF THE
PUGET SOUND SECTION
AMERICAN CHEMICAL SOCIETY**

Editor
V. K. Bhat 745-9550

Business Managers
Ron Ekdahl 672-4228
Bruce Tanke

Circulation Manager
Bob Smith 296-5502

Correspondent Staff
Betty Smith 363-3626

Printing
G & H Printing
2370 Eastlake Ave. E.
Seattle, WA 98102
329-9888
FAX 324-3705

EXECUTIVE COMMITTEE PUGET SOUND SECTION

Chairperson
Clarita Bhat wk 546-4575

Chairperson-elect
Randy Eatherton 767-2809

Past Chairperson
Despina Strong 684-2322

Secretary
Diane Davis 684-2300

Treasurer
David Munch 523-3763

Councilors
William J. Wasserman (1995) 587-5438
Mark Wicholas (1993) 676-3071
Herb Bryce (1994) 587-6921

Alternate Councilors
Deborah Wiegand (1993) 641-1553
Tim Hoyt (1994) 756-3833
John Westland (1995)

Typeset by Scarlet Letters Ltd., 2366 Eastlake Ave. E., #301, Seattle, WA 98102-3366
(206) 328-4616 • FAX (206) 328-6101

Puget Sound Chemist, P.O. Box 24032, Seattle, WA 98124-0032

Published eight times during the September-June portion of the year by the Puget Sound Section of the American Chemical Society. Direct all copy to the Editor and advertising correspondence to the Business Manager. The Secretary of the Section handles other business. All copy shall be **typed** and **double-spaced**!!

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

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

Hg - As - Se

**We can speciate
the hard ones**

Brooks Rand, Ltd.
phone: (206) 632-6206
fax: (206) 632-6017

Accuracy with speed

Complete Microanalysis Services

Analysis for all elements • Trace analyses • Environmental Analyses • GLP • GMP

GALBRAITH LABORATORIES, INC.



**Since
1950**

Tel: (615) 546-1335 • Fax: (615) 546-7209

P.O. Box 51610
Knoxville, TN 37950-1610

2323 Sycamore Drive
Knoxville, TN 37921-1750

Call or write for our information packet.

SPECIALTIES

- GPC, high temp, aqueous and all solvents
- FTIR, with Micro capabilities
- Tensile and Puncture, -40°F to 600°F
- Headspace, Pyrolysis GC
- Oxidation Studies, TGA, DSC, TMA
- USP XXII Testing EP Toxicity
- Thermoplastic and Thermoset Formulations
- Plastic Film, constructions, Ident
- Gas Permeation Rates, most gases
- Residual solvents, Monomers, qual and quant
- Outgassing, qual and quant
- Deformulations; Coating and Paints, Organics
- Aging; Thermal, Humidity, UV, Cold



444 W. County Rd. D
St. Paul, MN 55112
612-631-9412
FAX 612-631-8405

CHEMICAL ANALYSIS • PHYSICAL TESTING

- Spectroscopy; AA, FT-IR, Micro IR
- Chromatography; LC, GPC, GC, Ion
- Thermal Analysis; DSC, TGA, DMA, TMA
- Microscopy ESD Instrumentation
- CHNOS GC/MS
- Instron, ASTM-TAPPI Instrumentation
- Environmental Instrumentation

**American Chemical Society
Puget Sound Chemist
P.O. Box 24032
Seattle, WA 98124-0032**

**Dated Meeting Notice
Please Do Not Delay**

**Non-profit Org.
U.S. POSTAGE
PAID
Seattle, Wash.
Permit No. 12966**



024 80K 282C 621 93 N
DR YESHAYAU POCKER
DEPT OF CHEM
UNIV OF WASHINGTON
SEATTLE WA 98105