

PUGET SOUND CHEMIST


BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

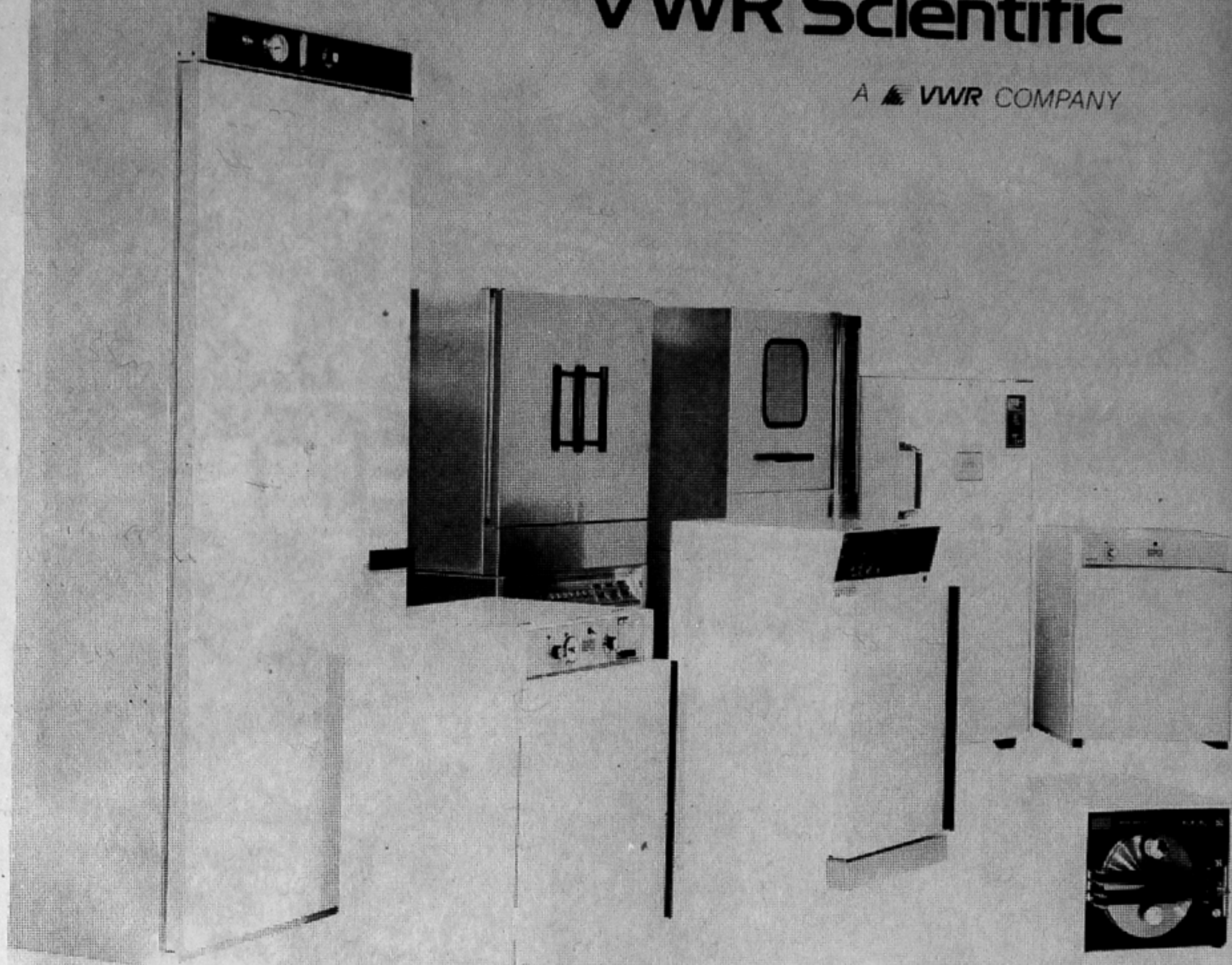
Volume 53, Number 4



June 1992

VWR Scientific

A  VWR COMPANY



NAPCO[®]

Constantly Better

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

 **Precision Scientific**

On the cover: Battelle Marine Science Laboratory in Sequim, WA, site of the June meeting of the Puget Sound Section of the American Chemical Society (see related articles in this issue).

JUNE MEETING

- DATE:** Saturday, June 27, 1992
- PROGRAM:** Tour of Battelle Marine Sciences Laboratory, Sequim, conducted by local Section member Eric Crecelius.
- LOCATION:** Battelle Marine Sciences Laboratory
439 West Sequim Bay Road, Sequim, WA
(206) 683-4151
- SCHEDULE:** 12 noon — Tour of Battelle to last about one hour.
2 pm — Picnic and Tour at Lost Mountain Winery, owned by Romeo Conca, retired chemist from Rainier. (Directions to Winery will be given at Battelle.)
- LUNCH:** Boxed lunches provided for \$10.00, or bring your own.
- NOTE:** When you reserve your box lunch, you have an obligation to pay. Once the food is ordered, the section is billed even if you do not show up.
- DIRECTIONS:** To Battelle: Take Edmonds-Kingston Ferry to Kingston. Take Hwy 104 to Hood Canal Bridge (about 8 miles). Follow signs to Port Angeles, but **DO NOT GO TO PORT ANGELES**. Just before Sequim, turn to the right on West Sequim Bay Rd. and follow road 1½-2 miles. Gates to Battelle are to the left. Go through security gates to the main bldg. on the circle drive. Throughout this whole drive there will be no turnoffs. Directions to the winery will be given at the Battelle tour.
- RESERVATIONS:** Please specify tour and/or boxed lunch.
All reservations must be made by **NOON, Monday, June 22.**
Seattle: 543-1610 Bellingham: 676-3070
Tacoma: 535-7530

FUTURE MEETINGS

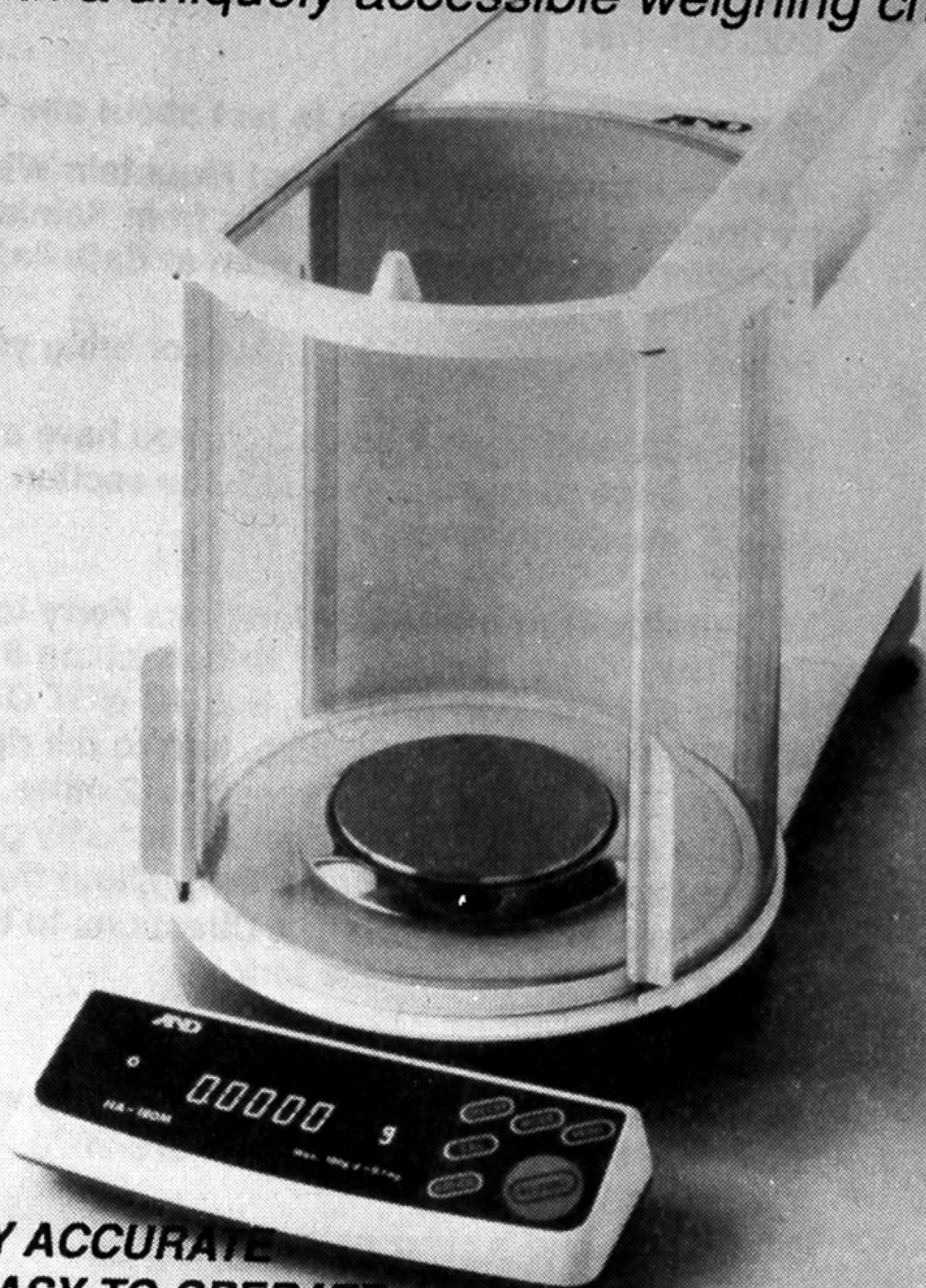
1992

- June 17-19 Northwest Regional Meeting (NORM)
University of Montana, Missoula
- September Section Meeting — Tour of PAN LABS, Bothell
- October (19-24) Dr. Ernest Simpson, California State Polytechnic University
"Chemistry of Wine"
Western Washington University, Bellingham
- November (16-21) Dr. Carleton B. Moore, Arizona State
"Chemistry of the Moon's Surface"
- Fall 1992 Pauling Award
Puget Sound Section, Host
University of British Columbia
Vancouver, B.C.

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)

BATTELLE MARINE SCIENCES LABORATORY

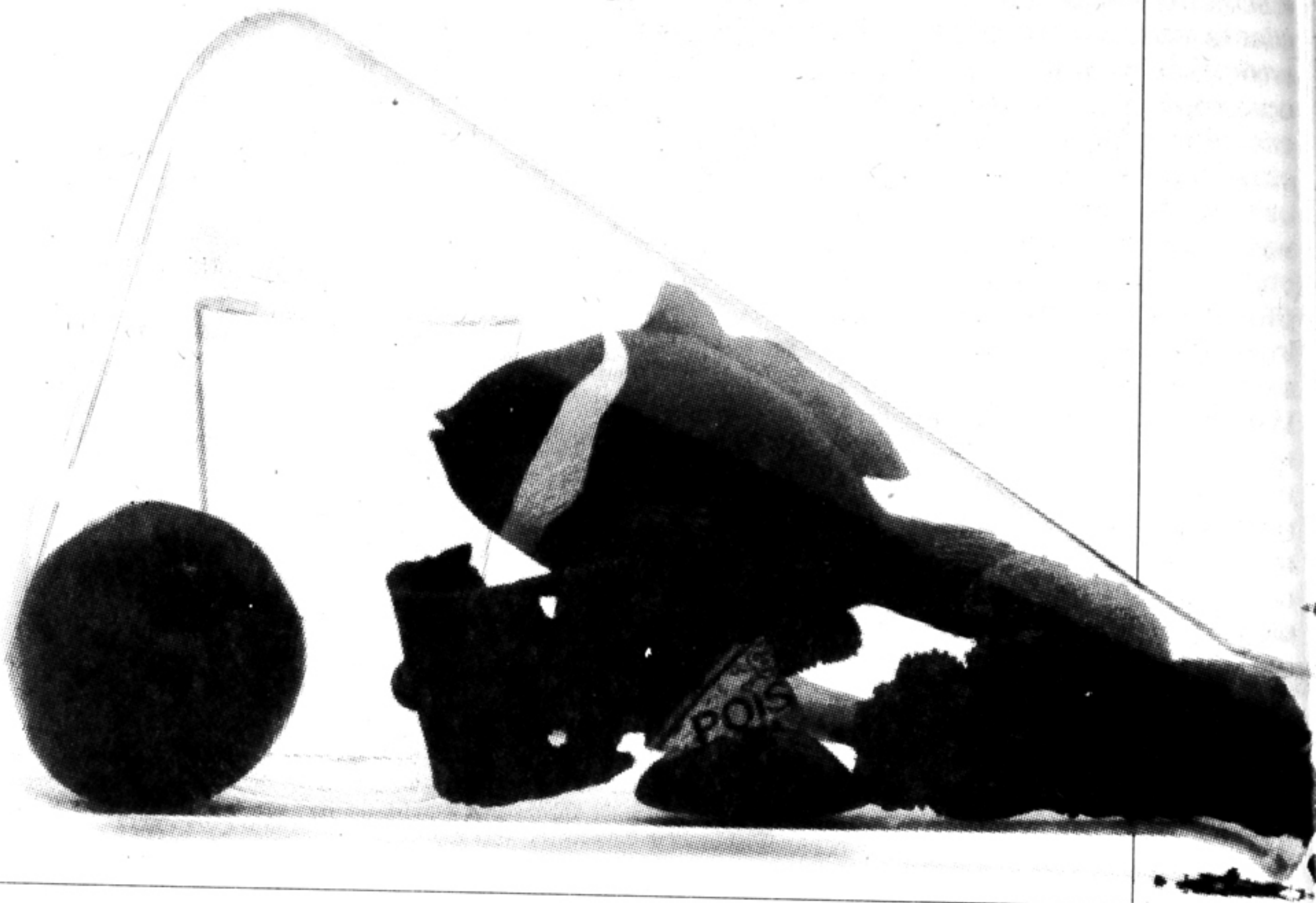
Located on Sequim Bay in Washington's Strait of Juan de Fuca, Battelle's Marine Sciences Laboratory is a nationally recognized leader in marine sciences research. For more than 25 years, the Laboratory has been providing research and technology development to manage and protect the aquatic environment and resources. Studies at the Laboratory focus on the effects of contaminants, natural occurrences, thermal changes, engineered structures, and human activities on marine ecosystems. Additional research activities and capabilities are available in molecular biology and biochemistry, chemical and infectious carcinogenesis, and infectious diseases of marine organisms. The Laboratory's strategic location near marine and coastal environments gives our scientists an ideal environment to address marine-related pollution issues relating to the Pacific Northwest and the Puget Sound area. Researchers at the Laboratory take a multidisciplinary approach in their investigations of marine-related issues. They are helping clients maintain the critical balance between development and conservation of the marine environment with expertise in marine biology and fisheries, geology, physical oceanography, and toxicology. Scientists at the Laboratory work with petroleum and chemical companies, federal and state agencies, port authorities, public utilities, and other clients to offer technical assistance in: **Environmental chemistry.** Researchers are using state-of-the-art equipment to detect trace and ultra-trace levels of contaminants in water, sediment, and tissues of marine organisms. This information is used to develop an understanding of the processes governing the environmental fate of contaminants. **Global climate change.** The physical processes affecting global change are under investigation at the Laboratory. Research on ocean currents and ocean/atmosphere gas exchange will lead to a better understanding of what we can do to protect the earth. **Marine resources.** Battelle-Northwest scientists are evaluating impacts on marine resources from major chemical spills, off-shore oil and gas exploration and production, and ocean disposal. **Ecotoxicology.** Studies of the behavior, fate, and effects of chemical contaminants on the marine organisms are helping the staff develop strategies to protect marine resources. **Contaminant transport.** Computer models aid in the evaluation of how contaminants migrate, interact, and accumulate in all types of water systems. **Ocean disposal.** Battelle is developing and applying methods to evaluate environmental effects of disposing wastes and dredged material in the ocean and estuaries.

The 40,000-square-foot Marine Sciences Laboratory is located on a 125-acre waterfront site. In these specialized facilities, they evaluate mankind's ecological effects on the marine environment and find ways to minimize environmental disturbances, reduce aquatic health hazards, and develop valuable fisheries resources. Two laboratories provide space for bioassays and other studies requiring flowing seawater. In these labs and outdoor tanks are holding and breeding facilities for a variety of fish, shellfish, and other marine organisms.

Battelle's Marine Sciences Laboratory is part of the Pacific Northwest Division of Battelle Memorial Institute, an international organization with 8,200 scientists, engineers, and specialists and an annual research volume exceeding \$616 million. Battelle, the world's largest independent research and development institute, is moving aggressively to bring leading-edge technology into the work place. Projects range from infrared sensors for the European space lab, to innovative technologies for environmental restoration and a unique process that converts food processing waste into methane fuel. In addition to the Marine Sciences Laboratory, Battelle-Northwest includes the Battelle Seattle Research Center and the Richland Research Complex located on 280 acres near the federal government's Hanford site. Division headquarters are located in Richland, WA, where Battelle operates the Pacific Northwest Laboratory for the U.S. Department of Energy. Battelle-Northwest also performs contract research programs for other government agencies and industry sponsors. In addition to its corporate headquarters and research laboratories in Columbus, Ohio, Battelle has major research centers in Richland, WA; Geneva, Switzerland; and Frankfurt, Germany. Other specialized facilities, offices, and representatives are located around the world.

(continued on page 7)

How to break through the productivity bottleneck.



It's simple: Wherever you see a bottleneck in your environmental laboratory, look to HP for the solution.

Sample preparation? We'll cut your time from days to minutes. Report generation? Powerful, automated HP data handling solutions meet your data quality objectives—and your deadlines—while your people focus on other tasks. Informa-

tion flow? Industry-standard HP networking helps different vendors' instruments and systems work together smoothly.

Every product in our broad offering—from sample preparation through analysis and reporting—is designed for high throughput. While top-rated HP quality, service and support all help lower your cost of ownership—and make

possible our 99-percent uptime guarantee*.

Call **1 800 556-1234, Ext. 10232**, for our informative brochure. In California, call **1 800 441-2345, Ext. 10232**.

 **HEWLETT
PACKARD**

*Not available in all countries.
© 1990 Hewlett Packard Company AG04009

(continued from page 5)

Seventeen fully equipped analytical labs provide chemical and bioassay support in both upland and beach facilities. Sophisticated computer, communication, and word processing equipment are linked with national systems, providing access to a wide range of environmental and ecological data. Field investigations are enhanced by a full complement of marine sampling equipment, including research vessels ranging from 18 to 26 feet. Qualified SCUBA teams work in all types of aquatic environments—freshwater lakes, rivers, ocean, and estuaries.

In addition to the research capabilities at Sequim, scientists there can call on the expertise and facilities at other Battelle marine laboratories in Duxbury, Massachusetts, and Daytona Beach, Florida. They work closely with science and engineering departments at Battelle's Pacific Northwest Laboratories in Richland. The extensive physical resources there, including experimental facilities for freshwater studies, further enhance their capabilities for environmental research.

To find out how Battelle-Northwest can apply the capabilities of the Marine Sciences Laboratory to help solve problems in marine resource management, write or call: Richard M. Ecker, Manager, Marine Sciences Laboratory, Battelle/Pacific Northwest Division, 439 West Sequim Bay Road, Sequim, WA 98382; (206) 683-4151.

1992 PAULING AWARD SYMPOSIUM TO BE HELD AT UNIVERSITY OF BRITISH COLUMBIA

The 1992 Pauling Award will be presented at the University of British Columbia, Vancouver, Canada, in the Fall of 1992.

Mark Wicholas of Western Washington University in Bellingham is Chair of the Award Committee. Gordon Bates of the University of British Columbia is the Program and Symposium Chair.

SECTION CHAIR-ELECT ATTENDS NATIONAL CURRICULUM CONFERENCE

Dr. Clarita Bhat, Section Chair-Elect, was invited to attend the national Chemistry Curriculum Improvement Conference sponsored by the National Science Foundation in Washington, D.C., in May. She was among the 50-60 attendees who came to the conference, which included representatives from most of the major universities.

COUNCILORS ATTEND NATIONAL ACS MEETING IN SAN FRANCISCO

Herb Bryce and Bill Wasserman, local Section Councilors, attended the National Meeting of the American Chemical Society in San Francisco in April. They will report later on the event.

BURTON D. DIETZMAN 1908-1992

Burton D. Dietzman was born in 1908. He received his B.S. degree in Chemistry from Greenville College, Illinois, in 1934. He got an M.S. degree in Chemistry from Indiana University in 1940. Mr. Dietzman taught chemistry at Wessington Springs Junior College in South Dakota, and was director of the Water Desalinization Project with the U.S. Army in New Jersey from 1942 to 1945. He was a professor of chemistry at Seattle Pacific University from 1946 to 1973.

Mr. Dietzman was recently awarded his 50 year pin for 50 years of membership in the American Chemical Society. During the 18 years that he was retired from teaching, Mr. Dietzman maintained an active interest in chemistry by reading magazines, attending meetings, and keeping in touch with former students. A number of his students continued on in chemistry-related fields such as medicine, dentistry, research and teaching. Former students of Seattle Pacific University, from which Mr. Dietzman retired in 1973, are contributing to a scholarship fund for chemistry students of that institution.

When you need to hire temporary personnel for your lab, chances are you have two basic requirements.

- 1. They have to be qualified.***
- 2. They have to be available when you need them.***



Call the one company that specializes in filling both of those requirements.



LAB SUPPORT

Science Professionals On Assignment

Seattle (206) 455-5025

PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

1992 STANDING COMMITTEE CHAIRS

Archivist
Directory
Education
Employment
High School Teacher Award
International Olympiad
Laboratory Relations

Legislation
Long Range Planning
Membership
National Chemistry Week
Networking
Nomination
NOR
NOR (Regional)
Program
Student Affiliates
Chemical Health & Safety

Lorna Goebel
William Wasserman
Larry Thomas

Bob Smith

Peggy Knight
Greg Perez
Ed Gruger
Sheri Tonn
Linda Karsonovich
Doug Mandt
Wesley Lindgren
Sheri Tonn
Despina Strong
Ed Lingafelter
Clarita Bhat
John Meany
Dirk Verhagen

☐ **Short-Course Developers & Presenters Positions Available**—Professional Analytical and Consulting Services Inc. (PACS) needs additional short-course developers and presenters for analytical and environmental course topics. They prefer senior-level professionals with practical and academic experiences. PACS provides consulting, sample analyses and 43 training courses. Courses repeat every six months in Pittsburgh, PA, and annually in St. Louis, MO, Los Angeles, CA, San Francisco, CA, and at the March Pittsburgh Conference and Fall FACSS meetings. On-site courses are also available. Send short-course proposal and resume to: Henry Nowicki, PACS, 409 Meade Drive, Coraopolis, PA 15108; (412) 457-6576, or toll-free 800-367-2567.

1992 AAAS SOURCEBOOK NOW AVAILABLE

American Association for the Advancement of Science (AAAS) has just published the 1992 edition of its handy reference tool, *Sourcebook for Science, Mathematics, and Technology Education*.

More than 2,500 programs and organizations involved in science, mathematics, and technology education and the people responsible for these activities are included. Two new sections detailing the NSF Statewide Systemic Initiative Program and the Mathematical Sciences Education Board's State Mathematics Coalitions have been added; the "Other Resources" section, containing listings for administrators, parents, teachers, and students contains fifty new programs and organizations; twice as many museums and science-technology centers with educational programs are included. Up-to-date information about state and federal government agencies, scientific societies and academies, education associations, and national advisory groups and committees involved in science, mathematics, and technology education make the *Sourcebook* the only place you'll have to look for information. Policymakers, educators, administrators, parents, and community groups will find this a valuable reference.

(AAAS publication #91-38S, 224 pp., four indices, \$12.95/\$10.35 AAAS members, plus \$4.00 shipping. California residents add tax. Order from AAAS Books, Box 753, Dept. A55, Waldorf, MD 20604. To claim AAAS member price, include membership number from SCIENCE label. To order by phone, Visa/MasterCard only, call 301-645-5643, 9am-4pm ET, and ask for AAAS.)

1992 CPAC SUMMER INSTITUTE ON PROCESS ANALYSIS AND CONTROL

The Center for Process Analytical Chemistry (CPAC) at the University of Washington will sponsor the 1992 CPAC Summer Institute, to be held July 6-16, 1992, in Seattle. A series of one- and two-day modules on selected topics in process analysis and control will be presented by CPAC investigators from the departments of Chemistry, Electrical Engineering, and Chemical Engineering. Topics to be covered include the following: Flow Injection Analysis; Sensors and Sensor Systems: Optical, Mass, Electrochemical, and Thermal; Signal Processor Integrated Circuitry for Sensor Applications; Chemometrics; NIR Spectroscopy; Model-Predictive Control.

The Center is a National Science Foundation Industry/University Cooperative Research Center supported by about fifty sponsors from the chemical industries. The Institute is designed for industrial and academic scientists and engineers who would like an intensive course on research and applications in this rapidly evolving field. Participants may register for one or more modules, in any combination. For further information and registration details, please contact Annalies Dickey, CPAC, BG-10, University of Washington, Seattle, WA 98195; (206) 685-2326, by June 19th.

Chemistry In The News

□ **PACS Analytical and Environmental Courses** will be given in Los Angeles in August. Course titles include OSHA Lab Rules, Toxicology for Non-Toxicologists, Atomic Spectroscopy AA/ICP, U.S. EPA Analytical Methods, and others throughout the month. Contact PACS, Dr. Henry Nowicki, 409 Meade Drive, Coraopolis, PA 15108; (412) 457-6576, or toll-free 800-367-2567.

HAZMAT/CENTRAL ATTRACTS OVER 4,600 SHOW VISITORS

The fifth annual presentation of the Hazardous Materials and Environmental Management Conference and Exhibition/Central (HazMat/Central) drew 3,457 visitors, 1,032 exhibitor personnel and 180 chairmen and speakers—making a total attendance of 4,669 hazardous materials and environmental management professionals.

According to tabulation of job functions, as reported by visitors, 85% of the attendees were executives and managers and 7% were chemists and other scientists. The exhibition featured over 150 companies displaying state-of-the-art products and services.

□ **HAZMAT 92 North-AM**—Hazardous Materials and Environmental Management Conference and Exhibition/North America, September 15-17, 1992, at Wayne Hall, Cobo Center, Detroit, MI, Conference Program Sessions and Workshops announced. North-AM Plenary Sessions are: Sept. 15, Clean Air Act, Water and RCRA Reauthorizations; Sept. 16, Enforcement Issues; Sept. 17, Pollution Prevention/Source Reduction. Technical Sessions and Workshops on Chemistry for the Non-Chemist, Regulatory Compliance, In-Plant Chemical Spill Response, Pollution Prevention/Waste Minimization, Hazardous Waste Site 8-Hour Refresher Course, Environmental Law, Developing Chemical Emergency Response Plans, Groundwater Hydrology, and other topics will be given during the conference, in addition to the Exhibition. For more information, contact Tower Conference Management Co., 800 Roosevelt Road, Building E, Suite 408, Glen Ellyn, IL 60137-5835; Phone (708) 469-3373, FAX (708) 469-7477.



BIOASSAY TESTING SERVICES

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

Christopher L. Getchell
Oceanographer / Biologist

Acute and Chronic Toxicity Testing
Hazardous Waste Characterization
NPDES Permit Compliance

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

47th NORTHWEST REGIONAL AMERICAN CHEMICAL SOCIETY MEETING

June 17-19, 1992, at the University of Montana, Missoula

The Montana Section of the American Chemical Society cordially invites all chemists and interested scientists to the beautiful University of Montana campus in Missoula, Montana, for the 47th Northwest Regional American Chemical Society Meeting, June 17-19, 1992. ACS President Ernest L. Eliel will give the plenary lecture and will address the banquet on June 18.

The meeting will center around six exciting symposia and contributed papers in all areas including undergraduate research.

An exciting range of commercial exhibits will be located in the same area as the poster sessions. The close proximity of the exhibition to the poster sessions and meeting rooms will be especially attractive.

For more information, contact the chairmen at the Department of Chemistry, University of Montana, Missoula, MT 59812-1006:

General Chairman

Edward E. Waali

Program Chairman

Richard J. Field

Exhibit Chairmen

William Van Der Sluys,

Missoula is a comfortable day's drive on interstate highway from Seattle, Portland, or Salt Lake City, and has excellent airline connections from all directions. Situated between Glacier National Park (140 miles) and Yellowstone National Park (280 miles), Missoula is an ideal base for a variety of recreational activities, including hiking, camping, fishing, and sightseeing. The University of Montana is known as one of the most scenic campuses in the nation. Located at the base of Mount Sentinel, the campus borders the Clark Fork River and offers an ideal place to retreat in a relaxed, academic setting. Local motels and hotels and the downtown business district are within walking distance. At the heart of the campus is the spacious University Center built around a sunlit botanical garden mall. Most activities will take place in the Center, which features excellent air-conditioned meeting rooms, display space, and dining facilities.

BECKMAN

Products for the Life Sciences

Receptor Binding

DNA Sequencing

Pharmaceutical QA/QC

Molecular Biology

Peptide Mapping

Radiochromatography

Centrifugation

Robotics

Lab Information Manage-
ment Systems (LIMS)

Supplies

Field Service

System Gold HPLC

Capillary Electrophoresis

UV/VIS Spectrophotometers

Liquid Scintillation Counters

pH Meters

Beckman Instruments, Inc., Western Sales

1050 Page Mill Road, P. O. Box 10015

Palo Alto, CA 94303

1-(800) 742-2345

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

STOCK RECORD BOOKS

B50D — Fifty pages and fifty duplicates. 1/4 inch sqs. on right pages.

B100P — 100 — 1/4 inch sqs. on right pages.

100 — 10 sqs. per inch on left pages.

B200P — 208 1/4 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 8 1/2.

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) 278-7012

**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) 947-6593

**KARDEN ASSOCIATES, INC.
CONSULTANTS**

Safety and Regulatory Compliance

Denis Sapiro, CSP, CHMM
Senior Consultant

3241 44th Ave. SW • Seattle, WA 98116

***polymer
laboratory
and
consulting
services***

**CHEMICAL/THERMAL ANALYSIS
PHYSICAL/MECHANICAL TESTING
ELECTRON MICROSCOPY
FAILURE ANALYSIS
STRESS ANALYSIS/DESIGN
PRODUCT EVALUATION/TESTING**

L.J. BROUTMAN & ASSOC., LTD.
3424 SOUTH STATE STREET
CHICAGO, IL 60616
312.842.4100

broutman™



**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

LOOKING FOR A JOB?

AMERICAN CHEMICAL SOCIETY EMPLOYMENT SERVICES AND PROFESSIONAL DEVELOPMENT PROGRAMS

The American Chemical Society Offices of Employment Services and Professional Services offer programs to all of its members seeking employment.

Our local Section is seeking a Chairperson for the Standing Committee on Employment. If you are interested in serving on this Committee, contact Despina Strong, Section Chairperson, 895-4737 (ofc), 364-9783 (hm).

OFFICE OF EMPLOYMENT SERVICES—• C&EN situation-wanted ads placed by employed ACS members and student affiliates are accepted by Centcom, ACS' advertising agency, at 90 cents per word per insertion, no minimum charge. Unemployed ACS members, student affiliates, and retired members may place free situations wanted ads; certain restrictions apply. • CHEMJOBS USA is a weekly bulletin which contains classified ads seeking the chemical professional from up to 20 newspapers and publications throughout the U.S. The ads are abstracted into an easy-to-read format. A three-month subscription to this publication costs only \$40. • National Employment Clearing Houses at National and Regional Meetings give job applicants the opportunity to interview with employer representatives. ACS national meeting registration fees can be waived for UNEMPLOYED ACS members who register as job applicants at NECH at national meetings; waivers of registration fees for unemployed members registering for NECH at regional meetings are left at the discretion of the region. Registration for NECH itself is free at both national and regional meetings. • The ACS Year-Round Professional Data Bank is a computerized databank which includes a cross-section of scientific professionals who are seeking employment. This important service makes available information on these individuals to interested employers who seek assistance of Employment Services for their recruiting needs. The data bank is not confidential, operates on a year-round basis, and is free to ACS members and student affiliates. With about 1000 chemical professionals already in the bank, the ACS is able to offer recruiters top-flight chemists in a wide variety of fields, and will have made about 6000 referrals to scientific employers in 1991. • ACS Year-Round Confidential Employment Listing Service. This service offers the same service as the ACS Professional Data bank. However, for a modest charge, ACS members can have confidentiality assured. • Employers Mailing List is the mailing list used to solicit employers for ACS employment services; it is arranged by state, and can be purchased for a small fee. Use of this mailing list is restricted to personal use only. • There will be a special resume review section for ACS members unable to attend National and Regional Meeting NECHS, beginning in San Francisco. The purpose of this section will be to provide employers with the resumes of ACS members who are looking for jobs, but who are unable to attend the meetings for one reason or another.

For more information on the above services, call 1-800-227-5558, and press 4.

OFFICE OF PROFESSIONAL SERVICES—• Career Consulting Program—offers career counseling to members of all ages and career stages. Consultants provide assistance with job search strategies, resume and interview preparation, and career advice. Also available are Career Tutorials; Resume Forum; Mock Interview Sessions; Phone Assistance—members can call Professional Services or Employment Services to gain information related to all OPS and OES services and data collection, as well as to discuss career questions or concerns; Salary Survey—information is published in C&EN and is used for many other written reports and presentations. Many chemists seek this information over the phone to assist their career decision-making; Career-Related Literature—a variety of publications related to job hunting and career development such as "Coping with Job Loss" and the "Professional Employment Guidelines"; and Presentations. For more information on the Professional Services program, call 1-800-227-5558, and ask the operator to connect you to ext. 4432.

Ultimately, you have to find your own job. The ACS services provide the resources to make the hunt easier.

Chemistry In The News

□ **Electron diffraction study nails down C_{70} structure**—Since the earliest days of fullerene research by Richard E. Smalley of Rice University and Harry F. Kroto of the University of Sussex, U.K., C_{70} , the fullerene that is a first cousin to buckminsterfullerene, C_{60} , has been thought to have a "rugby ball"-like structure. . . . Now David R. McKenzie and co-workers at the University of Sydney, Australia, have used electron diffraction techniques to obtain a detailed structure of C_{70} Perhaps the Australian chemists' most intriguing finding is that the C_{70} cage is slightly pinched around the middle, which, the chemists say, may reflect the stability of the spherical C_{60} -like end caps on C_{70} .

(Feb. 17, 1992 C&EN)

□ **News from Chemical Abstracts Service**—Founded in 1907, Chemical Abstracts Service (CAS), a division of the American Chemical Society, has been a pioneer and continues to be an innovative leader in electronic information retrieval and publishing. Committed to providing scientific information to the world, CAS publishes *Chemical Abstracts* and produces a collection of chemical databases including the CA file, the CAS Registry file, CASREACT, CIN, and MARPAT. CAS also offers software products to make online searching easier (STN Express), printed products to provide current awareness in specialized areas (CA Selects and Chemical Industry Notes), easy online access to numeric data (Materials Property Data Network), and special services to make the search for information and retrieval of documents quick and convenient (CAS Search Service and CAS Document Delivery Service). The CAS Document Delivery Service (CAS DDS) has achieved a significant milestone—its one-millionth document request. CAS DDS, which has been in operation for over eleven years, provides copies or loans of documents cited in CAS publications and services and other sources to customers throughout the world. The vast collection of documents maintained by CAS includes journal articles, conference proceedings, symposia, and edited collections published since 1975; documents from the former Soviet Union published since 1970; and a growing number of documents from the People's Republic of China. Customers may also order copies of patents issued by 29 patent offices around the world and copies of articles from the entire collection of the American Chemical Society journals. According to Marian Nichol, manager of CAS DDS, over ninety percent of document orders are filled within twenty-four hours. For additional information on the document delivery service, contact CAS DDS by telephone at 800-848-6538 or 614-447-3600, or by telefax at 614-447-3648.

STN International, the scientific and technical information network, is operated jointly by CAS in North America; by FIZ Karlsruhe in Europe; and by JICST, the Japan Information Center of Science and Technology, in Japan. A network of more than 120 databases, STN International offers information on a broad range of scientific fields, including engineering, thermodynamics, materials science, physics, biotechnology, and chemistry. During June, each STN International account will be allowed ten free extended searches in the MARPAT file, providing access to all specific and generic substances represented by the Markush structures in patents. For more information about the MARPAT file and the free offer, contact CAS Customer Service at 614-447-3731 or 800-753-4227.

The new version of STN Express allows import of MDL structures. Released in April at the American Chemical Society national meeting in San Francisco, STN Express V3.1 allows the import of structures and reaction queries created in the Molecular Design Limited (MDL) software package ISIS/Draw. Further information about STN Express V3.1 can be obtained by contacting CAS Customer Service at 800-753-4CAS or 614-447-3731.

CIN (Chemical Industry Notes), the chemical business file on STN International, now contains article titles from the original source documents. For records from non-English language source documents, the original titles are followed by an English-language translation. CIN (Chemical Industry Notes), produced by CAS, is updated weekly with summaries of chemical business news from 80 leading international journals, trade magazines, newspapers, and newsletters. The coverage includes information on corporate activities, products and processes, government activities, production, pricing, sales, facilities, and people. The CIN file is part of a cluster of over twenty databases on STN that contain business information. Other key databases in this cluster are CSCHEM and CSCORP, which contain information on chemical products and their suppliers; MATBUS, a materials business file; PHAR, a database on pharmaceuticals that are under development; and PLASNEWS, a plastics news file.

ED AND NSF TO POOL FUNDS FOR MATHEMATICS AND SCIENCE EDUCATION

Secretary of Education Lamar Alexander and Walter E. Massey, the director of the National Science Foundation, signed an agreement to pool their agencies' resources and to jointly plan and develop programs in school mathematics and science education. The "memorandum of understanding" would enable the agencies, which together provide 85% of federal spending on elementary and secondary school education, to target \$657 million toward helping children learn mathematics and science to world-class standards.

Under the agreement, the two agencies will establish a working group of about ten senior level officials who will meet on a regular basis and set their own agenda. The group's first priority will be to develop efforts to collaborate on training mathematics and science teachers, according to Luther S. Williams, assistant director of the NSF and head of the education and human resources directorate. Through their combined efforts, the two agencies could double the number of teachers who receive intensive training to teach science and mathematics. The joint program would also enable states to use funds from the Department of Education's Eisenhower Mathematic and Science Program to participate in the NSF's statewide systemic reform initiative.

The memorandum states that the interagency groups will also address identification and development of common strategies for initiatives in mathematics and science, review of new and existing programs to identify opportunities for collaboration, exchange of information on pending legislation, and development of a joint four-year plan for implementing the Administration's mathematics and science education program. (*Science Education News, American Association for the Advancement of Science, Vol. 10, No. 3, March 1992*)

□ **K-12 Teachers Join AAAS Now and Save 28%**—The American Association for the Advancement of Science is pleased to announce to a new member category for K-12 science teachers. K-12 teachers can now join AAAS for only \$62—a savings of 28% off the regular membership fee. In addition, only K-12 teachers have the option of receiving a full year's subscription to *SCIENCE* or a year's subscription to *Science Books & Films*. For information, contact AAAS, Membership Department, 1333 H Street NW, Washington, D.C. 20005, Attn: Dee Valencia. (*Science Education News, Vol. 10, No. 3, March 1992*)

□ **Join Astronomy Teachers for Workshop**—Project SPICA (Support Program for Instructional Competency in Astronomy) will be holding another summer workshop for teachers at the Harvard-Smithsonian Center for Astrophysics (CfA) in Cambridge, MA, July 29 through August 16, 1992. The CfA is one of the world's largest institutions for research in astronomy and astrophysics and has established an education section to assist in improving high school science teaching. Thirty teachers will be selected. Following the summer workshop, the participants will present workshops for other teachers in their home areas, states, or regions.

Participants receive travel support, room and meals, and a \$900 stipend and partial support to conduct follow-up workshops. For application information or further details, write or call Dr. Darrel Hoff, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138; (617) 495-9798.

(*Science Education News, Vol. 10, No. 3, March 1992*)

□ **How Schools Shortchange Girls**—examines how gender bias shapes females' education and careers. Prepared for the American Association of University Women, the report is \$14.95 for AAUW members, \$16.95 for nonmembers from American Association of University Women Educational Foundation, 1111 16th Street NW, Washington, DC 20036-4873. Cite stock number 2501-6-00.

(*Science Education News, Vol. 10, No. 3, March 1992*)

AMERICAN CHEMICAL SOCIETY MEMBER DEMOGRAPHICS REPORT LOCAL SECTION 621-PUGET SOUND DECEMBER 31, 1991

*** AGE OF MEMBER *****		
XX-20	0	0.0
21-25	39	2.8
26-30	149	10.6
31-35	195	13.9
36-40	170	12.1
41-45	150	10.7
46-50	138	9.8
51-55	110	7.8
56-56	21	1.5
57-57	21	1.5
58-58	15	1.1
59-59	16	1.1
60-60	13	0.9
61-61	10	0.7
62-62	11	0.8
63-63	14	1.0
64-64	15	1.1
65-65	11	0.8
66-66	12	0.9
67-67	15	1.1
68-68	7	0.5
69-69	18	1.3
70-70	16	1.1
71-XX	163	11.6
N/A	74	5.3
TOTAL	1,403	100.0

***** SEX *****		
MALE	1,133	80.8
FEMALE	263	18.7
N/A	7	0.5
TOTAL	1,403	100.0

**** ELECTION DATE ****		
1900-1920	1	0.1
1921-1925	2	0.1
1926-1930	10	0.7
1931-1935	18	1.3
1936-1940	32	2.3
1941-1945	62	4.4
1946-1950	62	4.4
1951-1955	63	4.5
1956-1960	52	3.7
1961-1965	108	7.7
1966-1970	107	7.6
1971-1975	96	6.8
1976-1980	160	11.4
1981-1985	226	16.1
1986-1990	323	23.0
1991-1995	81	5.8
1996-1999	0	0.0
N/A	0	0.0
TOTAL	1,403	100.0

***** GEOGRAPHIC AREA *****		
FOREIGN	0	0.0
PUAS	0	0.0
CANADA	159	11.3
US POSSESSIONS	0	0.0
APO/FPO	2	0.1
DOMESTIC	1,242	88.5
TOTAL	1,403	100.0

***** MAJOR *****		
CHEMISTRY	1,103	78.6
CHEMICAL ENGINEERING	102	7.3
OTHER	127	9.1
N/A	71	5.1
TOTAL	1,403	100.0

**** PRIMARY FIELD IN CHEMISTRY ****		
AGRIC & FOOD	58	4.1
ANALYTICAL	149	10.6
BIOCHEMISTRY	101	7.2
CARBOHYDRATE	4	0.3
CEL,PAPER&TEXTILE	37	2.6
CHEM EDUCATION	49	3.5
CHEM INFORMATION	2	0.1
COLLOID & SURFACE	13	0.9
COMPUTERS	24	1.7
ENVIRONMENTAL	201	14.3
FORENSICS	6	0.4
FUEL	2	0.1
GEOCHEMISTRY	4	0.3
HEALTH & SAFETY	13	0.9
INORGANIC	63	4.5
MARKETING&ECONOMICS	4	0.3
MATERIALS	16	1.1
MEDICINAL	31	2.2
MICROBIAL	3	0.2
NUCLEAR	10	0.7
ORGANIC	102	7.3
ORG CTGS&PLASTICS	15	1.1
PESTICIDE	6	0.4
PETROLEUM	11	0.8
PHYSICAL	59	4.2
POLYMER	29	2.1
RUBBER	3	0.2
OTHER	67	4.8
N/A	321	22.9
TOTAL	1,403	100.0

AMERICAN CHEMICAL SOCIETY MEMBER DEMOGRAPHICS REPORT LOCAL SECTION 621-PUGET SOUND DECEMBER 31, 1991

*** JOURNALS TAKEN *****

0	753	53.7
1	411	29.3
2	149	10.6
3	55	3.9
4	22	1.6
5	7	0.5
6	6	0.4
7	0	0.0
8	0	0.0
9	0	0.0
10	0	0.0
11	0	0.0
XX	0	0.0
TOTAL	1,403	100.0

**** CHEMISTRY DEGREE ***

DOCTORS	606	43.2
MASTERS	222	15.8
BACHELORS	499	35.6
OTHER	13	0.9
N/A	63	4.5
TOTAL	1,403	100.0

* NON-CHEMISTRY DEGREE **

DOCTORS	110	7.8
MASTERS	109	7.8
BACHELORS	128	9.1
OTHER	2	0.1
N/A	1,054	75.1
TOTAL	1,403	100.0

* CONTINUOUS SINCE DATE *

1900-1920	0	0.0
1921-1925	1	0.1
1926-1930	6	0.4
1931-1935	18	1.3
1936-1940	27	1.9
1941-1945	58	4.1
1946-1950	52	3.7
1951-1955	60	4.3
1956-1960	44	3.1
1961-1965	93	6.6
1966-1970	96	6.8
1971-1975	87	6.2
1976-1980	162	11.5
1981-1985	224	16.0
1986-1990	378	26.9
1991-1995	97	6.9
1996-1999	0	0.0
N/A	0	0.0
TOTAL	1,403	100.0

***** MEMBERSHIP STATUS *****

LIFE MEMBER	0	0.0
NATIONAL AFFILIATE	0	0.0
MEMBER	932	66.4
ASSOCIATE MEMBER	141	10.0
STUDENT MEMBER	62	4.4
STUDENT ASSOCIATE MEMBER	48	3.4
EMERITUS MEMBER	151	10.8
RETIRED MEMBER	69	4.9
TOTAL	1,403	100.0

***** PRIMARY FUNCTION *****

GRADUATE STUDENT	99	7.1
POST DOCTORAL RESEARCH	33	2.4
RESEARCH PROFESSOR	74	5.3
SECONDARY PRINCIPAL	0	0.0
SECONDARY TEACHER	17	1.2
UNDERGRADUATE STUDENT	10	0.7
UNIV ADMINISTRATOR	11	0.8
UNIV/COLLEGE TEACHER	125	8.9
OTHER ACADEMIC	24	1.7
IND APPLIED RESEARCH	73	5.2
IND BASIC RESEARCH	25	1.8
IND CORPORATE MGMT	34	2.4
IND ENGINEERING DESIGN	12	0.9
IND MAINTENANCE	0	0.0
IND MARKET DEVELOPMENT	8	0.6
IND PLANT PRODUCTION	9	0.6
IND PROCESS CONTROL	12	0.9
IND PROCESS R & D	16	1.1
IND PRODUCT R & D	40	2.9
IND PURCHASING	2	0.1
IND QUALITY CONTROL	22	1.6
IND SALES/ADVERTISING	12	0.9
IND TECHNICAL MGMT	43	3.1
IND TECHNICAL SERVICE	29	2.1
OTHER INDUSTRIAL	18	1.3
GOV BASIC RESEARCH	37	2.6
GOV ENGINEERING DESIGN	2	0.1
GOV GRANTING AGENCY	1	0.1
GOV MILITARY SERVICE	5	0.4
GOV PROCESS R & D	1	0.1
GOV PRODUCT R & D	0	0.0
GOV REGULATING FUNCTIONS	31	2.2
OTHER GOVERNMENT	19	1.4
LABOR UNION	0	0.0
PROFESSIONAL MGMT	0	0.0
SCIENTIFIC SOCIETY MGMT	0	0.0
CONSULTANT	38	2.7
CONSULTING CHEMIST	20	1.4
CONSULTING ENGINEER	18	1.3
CLINICAL LABORATORY	13	0.9
INDEPENDENT LABORATORY	28	2.0
OTHER	5	0.4
N/A	437	31.1
TOTAL	1,403	100.0

PUGET SOUND CHEMIST

Frequency and Size: 8 times a year, September through June. Average issue, 16-20 pages.

Circulation: Approximately 1600 per issue.

Deadline: First of the month preceding month of insertion. In event the deadline is not met, we reserve the right to use the preceding month's copy.

Mechanical Requirements: Space may be used in the following sizes:

Full page	4 ⁵ / ₈ in (wide)	by 7 ³ / ₄ in (deep)
Half page	4 ⁵ / ₈ in	by 3 ⁷ / ₈ in
Half page (vertical)	2 ¹ / ₄ in	by 7 ³ / ₄ in
Quarter page	2 ¹ / ₄ in	by 3 ⁷ / ₈ in
Eighth page	2 ¹ / ₄ in	by 2 in
Business card	2 ¹ / ₄ in	by 1 ¹ / ₄ in

Advertising Rates Per Issue: Effective January, 1992.

Space	8 issues	5 issues	1 issue
Full page			
Half page	\$92.00	\$98.00	\$190.00
Quarter page	55.00	58.00	127.00
Eighth page	33.00	36.00	95.00
business card	20.00	22.00	63.00
	12.00	13.00	32.00

Cancellations: Cancellable only on 60 days notice and upon payment of short-term rate for space used.

Advertising Copy: Advertiser or his agent must furnish glossy prints or must request an estimate of the charge for typesetting the copy. Copy subject to publisher's approval. Proofs sent upon request.

Unemployed Members: Unemployed members of the section who are seeking employment are allowed publication of three one-eighth page ads per year without charge.

We shall look forward to publishing your advertisements in the **Chemist**. For more information, please contact:

Business Managers

Ron Ekdahl

Bruce Tanke 672-4228

c/o All-World Scientific

5515 - 186th Place SW

Lynnwood, WA 98037

To the Puget Sound Chemist,

Here is our commitment for an advertisement:

Size _____ Issue(s) _____

Please send the bill to: _____

☐ Camera-ready copy will be provided.

☐ Our advertisement must be typeset. Please send us an estimate of the extra charge for this service.

PUGET SOUND CHEMIST



BULLETIN OF THE
PUGET SOUND SECTION
AMERICAN CHEMICAL SOCIETY

EXECUTIVE COMMITTEE PUGET SOUND SECTION

Editor
Eloise Crittenden 524-3741

Production Manager
Margaret Pitts 728-4698

Business Managers
Ron Ekdahl 672-4228
Bruce Tanke

Circulation Manager
Bob Smith 296-5502

Correspondent Staff
Betty Smith 363-3626

Printing
Northwest Printing & Graphics, Inc.
P.O. Box 3785
Kent, WA 98032
878-9446
FAX 870-4694

Chairperson
Despina Strong ofc 895-4737
hm 364-9783

Chairperson-elect
Clarita Bhat 546-4575

Past Chairperson
Sheri Tonn 535-7552

Secretary
Tom Schultz 339-4400

Treasurer
David Munch 523-3763

Councilors
William J. Wasserman (1992) 587-4083
Mark Wicholas (1993) 676-3071
Herb Bryce (1994) 587-6921

Alternate Councilors
Chuck Mainard (1992) 282-2133
Deborah Wiegand (1993) 641-1553
Tim Hoyt (1994) 756-3833

Typeset by Scarlet Letters Ltd., 939 N.E. Boat Street, Seattle, WA 98105 • (206) 547-3036.
FAX (206) 547-0303.

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**!!

NEW ADDRESS FOR THE PUGET SOUND CHEMIST

Publicity for local events, news of interest to the local section, and inquiries regarding publication of the *Puget Sound Chemist* should be sent to our new address:

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

MICROANALYSES

Analysis for All Elements, Trace Analyses,
ICP Scans, TOX, Ion Chromatography,
Molecular Weights.

GALBRAITH LABORATORIES, INC.

P.O. BOX 51610
KNOXVILLE, TN 37950-1610

(615) 546-1335
Since 1950

2323 SYCAMORE DR.
KNOXVILLE, TN 37921-1750

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



Serials
ACQUISITIONS DIVISION
UNIV OF WASH LIBRARY
SEATTLE WA 98195