

PUGET SOUND CHEMIST

BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

Volume 54, Number 1



February 1993



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On the cover: Dr. E. Alan Cameron, R.P.E., will be the featured speaker at the March 1993 meeting of the Puget Sound Section of the American Chemical Society (see related articles in this issue).

MARCH MEETING

- DATE:** Monday, March 8, 1993
- FEATURED SPEAKER:** Dr. E. Alan Cameron, R.P.E.
The Pennsylvania State University
Department of Entomology
College of Agriculture Sciences
University Park, PA 16802
- PROGRAM:** "Sex and the Single Gypsy Moth"
- LOCATION:** North Seattle Community College, Dining Room
9600 College Way N.
Seattle, WA
- DIRECTIONS:** Take Northgate exit from I-5 and go West on Northgate Way N.E. to Meridian N. Turn left going South on Meridian, which becomes College Way N, and continue to the college.
- SCHEDULE:** 6:30 pm - Dinner Buffet
7:30 pm - Speaker and Program
Please feel free to join us for the program, even if you are unable to join us for the dinner.
- COST:** \$15.00 per person
- 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, February 26, 1993. For reservations, 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.

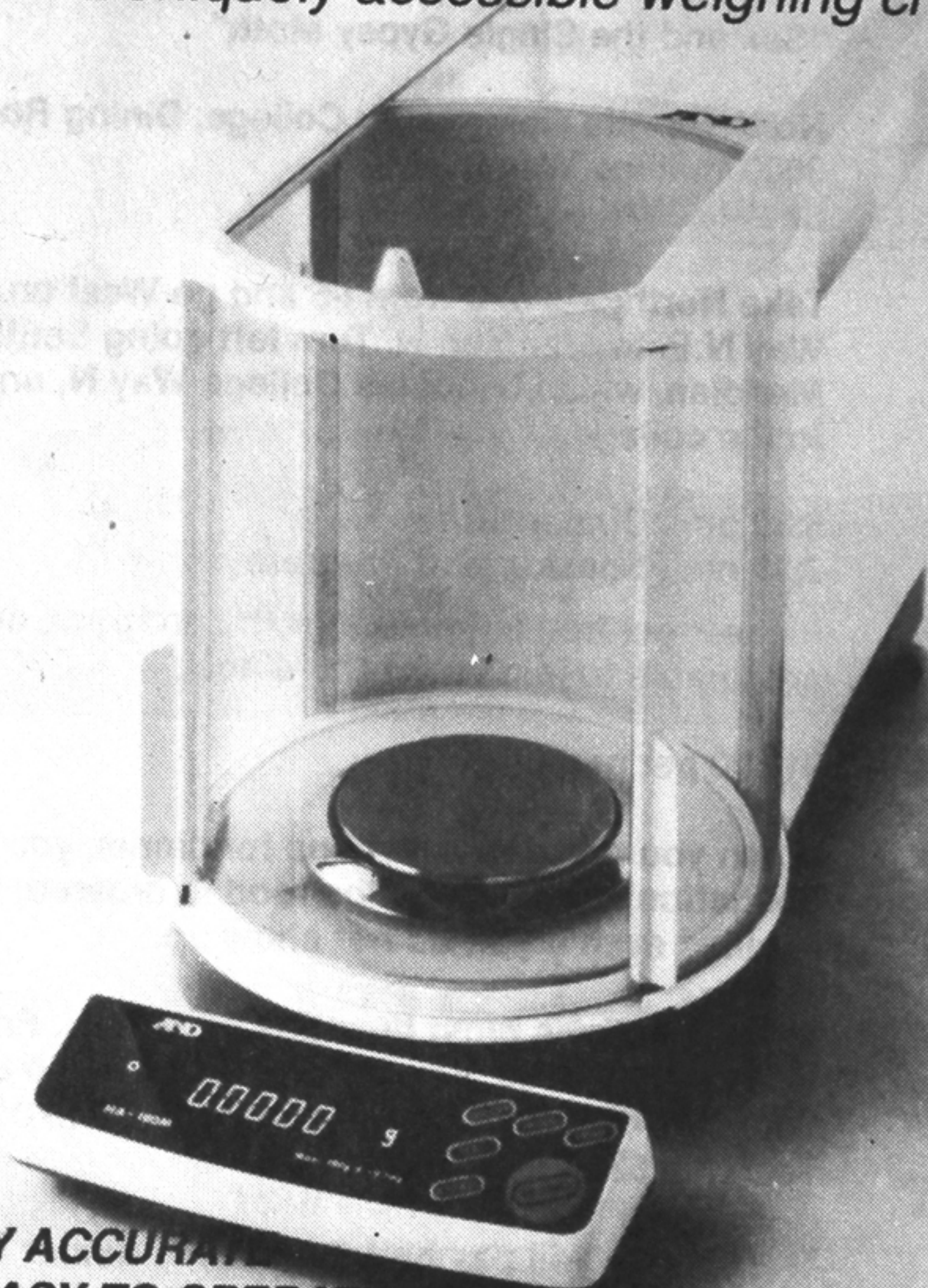
1993 DUES BILL REMINDER

If you have not received your 1993 dues bill, please contact the ACS Department of Member and Subscriber Services at (800) 333-9511. If you have questions concerning your membership, please call Jean Parr, Manager, Office of Member Services 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 1993 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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DR. E. ALAN CAMERON, R.P.E., WILL BE THE FEATURED SPEAKER AT THE MARCH MEETING OF PUGET SOUND SECTION

Dr. Cameron is professor of Entomology and senior member of the graduate faculty Pennsylvania State University. He has been actively involved in forest pest management research since 1970. His research includes the role of Disparlure—a synthetic sex attractant for the gypsy moth, and other parasites and predators for controlling gypsy moth population management, and environmental effects of chemical insecticides. Prior to his graduate studies at University of California, Berkeley, he was at the Commonwealth Institute of Biological Control, California Station, Fontana, CA, where he was involved in biological control of insect and weed pests and provided several effective parasites of siricid wood wasps to Australia and New Zealand.

He is a graduate of the Ontario Agricultural College, University of Toronto, Guelph, Ontario, Canada (1960). He studied for his M.S. (1967) and Ph.D. (1974) at University of California, Berkeley, CA. He has published over 100 articles in various technical and semi-technical journals, and was a contributor to books *Pheromones*, edited by M. Birch (1974), and *The Gypsy Moth: Research Toward Integrated Pest Management*, edited by J. C. Doane and M. L. McManus (1981). Dr. Cameron has been a member of eight professional or honorary societies. He is a past president of Entomological Society of Pennsylvania and the Eastern Branch of Entomological Society of America. In addition, he is a member of the governing board of The Entomological Society of America. He has traveled extensively in both western and eastern Europe pursuing his research interests. He spent a year on sabbatical at Gastdozent, Entomologisches Institut, Eidgenossische Technische Hochschule, Zurich, Switzerland, (1979-80) studying larch budmoth population dynamics. He has taken study trips to England, Switzerland, Norway, Federal Republic of Germany (formerly West Germany), Yugoslavia and Romania.

ABSTRACT SEX AND THE SINGLE GYPSY MOTH

The gypsy moth, *Lymantria dispar* (L.) (Lepidoptera: Lymantriidae), an introduced pest of northeastern US hardwood forests, continues to expand its range to the south and west; populations are established in Pacific coast states. Many varied approaches to pest management are being investigated.

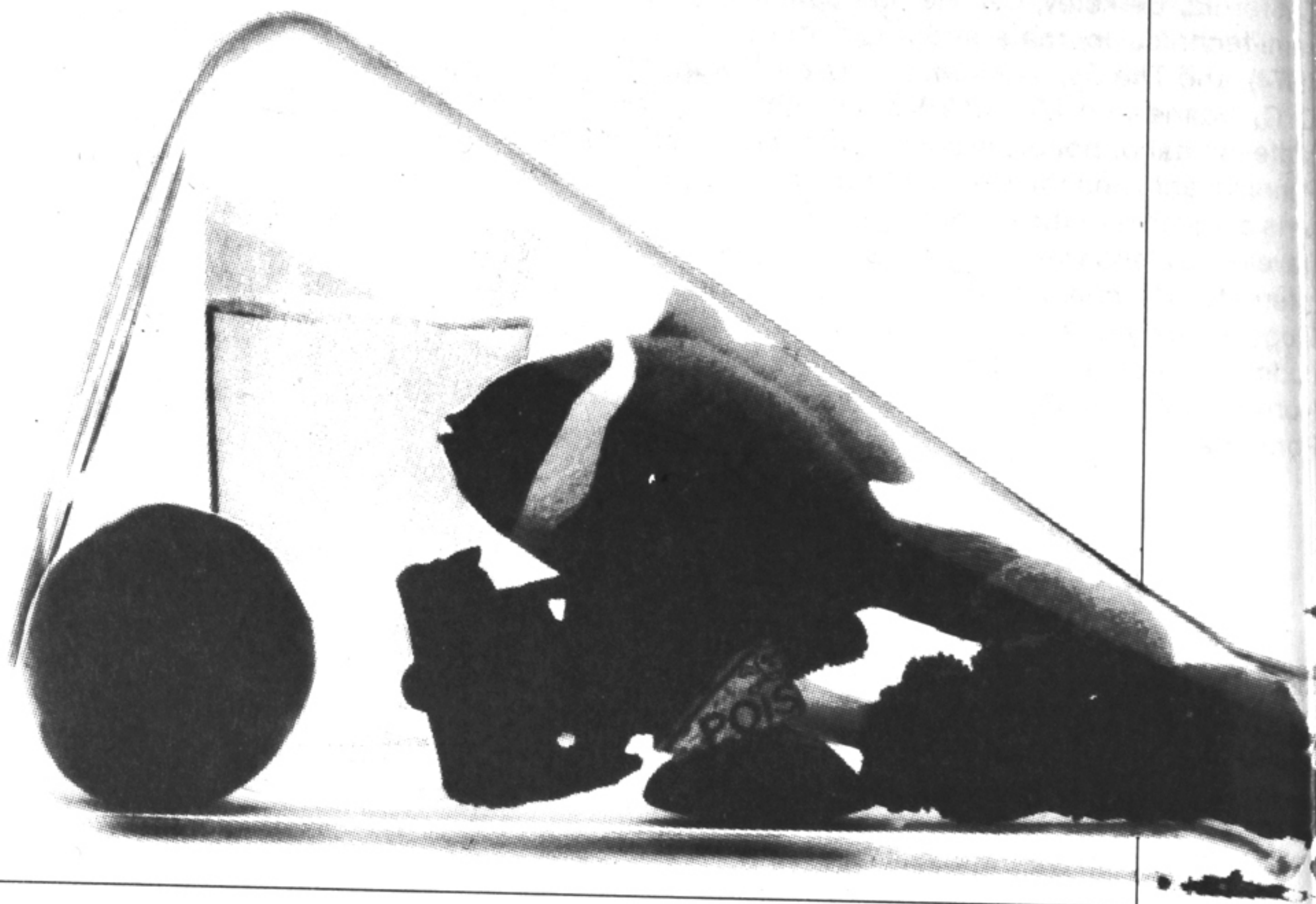
Gypsy moth male adults are excited by and respond to a female-produced pheromone. Chemical communication between the sexes has been recognized since the late 1800s; modern analytical techniques and biological assays of synthesized materials during the 1970s suggest that the (+) enantiomer of disparlure, (7R,8S)-epoxy-2-methyloctadecane, is the natural sex attractant produced by female moths.

Numerous intensive and extensive tests, both in the laboratory and the field, have been conducted during the last 20 years to aid understanding of the behavior of adult moths, and especially the role played by chemical communication between the sexes. Attempts have been made to exploit use of the synthetic pheromone for survey and detection, population monitoring, population manipulation, and control. Except for survey and detection (where pheromone-baited traps provide the most sensitive system available), operational use of the pheromone is not effective. Many of the reasons for failure to meet control and management goals are explainable through our understanding of moth behavior.

NEW VOLUNTEER

Brad Burford has volunteered to serve as chair, Chemical Health and Safety Committee. He is a senior chemist at Olin Rocket Research, Redmond, WA, and he can be reached at (206) 885-5010, Ext: 5377.

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MESSAGE TO MEMBERS FROM THE INCOMING CHAIR

My fellow members of ACS, Puget Sound Section:

I would like to start my year as the chair of the Puget Sound Section of the ACS with thanks to all of you for your confidence in my leadership. The past year, serving as the program chair, I had the opportunity to meet many of you at our regular meetings. It made me feel proud to be a leader of such an important organization, with so many well qualified, prominent members. At the same time, I am reminded of the story of the pastor and his congregation. As he was complaining about the large absenteeism to a very small group that ventured for the Sunday services, one of the few that was present remarked: "Why are you telling us? We are here!" The same thought occurred to me, as I viewed the same faithful members attending all the meetings, serving on all the committees, and holding all the offices! To all of you I give my thanks and appreciation. You are holding up the pride of the ACS. However, the sobering thought is this: Where are the rest? How to reach each of them and involve them in the activities of the organization? These are difficult times for the members of our profession—the image of the chemist has been tarnished by soot and pollution and the evils of some of our products; at the same time, however, let us also remember that it is our expertise that is offering solutions to reverse the trend of global destruction.

As each of us is besieged by many chores and duties of every day life, and volunteerism declines, we still need to offer our services to each other and work jointly to make this organization an energetic, and dynamic one. We will achieve more by sharing our burdens so that each of us has to do less! Please get involved; help us with various activities of the organization; we need you. Call us.

DIVISION OF SMALL CHEMICAL BUSINESSES SPONSORS SYMPOSIA ON CONSULTANT AND ON CONTRACT R & D COMPANIES AT THE DENVER NATIONAL ACS MEETING

The Monday, March 29th, morning session on concerns of consultants will feature presentations on a Colorado-based consultants organization, how to effectively use consultants, how to consult for attorneys (opportunity or disaster?), and N. H. Giragosian will talk about market research as a career.

The afternoon session will consider the role and future of contract R & D firms. D. M. Golden will discuss contract research at SRI International. Other presentations will address alliances between small and large companies, critical elements for small business support from federal agencies, and how to obtain SBIR contracts. The characteristics of contract R & D organizations will be discussed followed by a presentation from Hauser Chemical Research on marketing contract R & D and a presentation by N. Hazen and T. McNulty on when contract R & D is the right choice.

TECHNOLOGY TRANSFER OPPORTUNITIES FOR SMALL BUSINESSES IS TOPIC FOR DENVER ACS SYMPOSIUM

The Division of Small Chemical Businesses will present a symposium organized by P. M. Coyne on Tuesday, March 30. In addition to an overview and consideration of the legal aspects, the symposium covers a wide range of information on technology transfer from federal and state agencies, universities, and businesses. There will be a presentation specifically on the biotechnology area and one from the venture capital viewpoint.

ARE YOU UP-TO-DATE ON COPYRIGHT ISSUES?

A copyright information pamphlet, intended to give a brief overview of copyright, is available from the ACS. The pamphlet includes a definition of copyright and explains the exclusive rights of a copyright owner, the transferability and term of copyright, use of a copyright notice, "fair use," photocopying of copyrighted material, use of software and phonograph records, ACS copyright policy, and reprint permissions and copyright credit. Useful addresses and telephone numbers are provided. To obtain a copy of the pamphlet, send a self-addressed, stamped envelope to Copyright Administrator, Publications Division, American Chemical Society, 1155 Sixteenth Street N.W., Washington, DC 20036, or stop at the Membership Booth at any Regional Meeting.

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ABOUT OUR 50 YEAR MEMBERS

L. Frank Maranville

Frank Maranville, a past chair of our section (1982), studied at WSU and obtained his Ph.D. from the University of Chicago. He built the photometrically accurate Raman spectrometer and measured the ionization constants of sulfuric and nitric acid. He was a research chemist at ALCOA and subsequently at ITT Rayonier where he spent the major portion of his professional career working on the chemistry of lignin, tannins, cellulose and hemicelluloses, bleaching and refining of wood pulp, personnel recruiting, supervision, and technology assessment. He has been an outdoor enthusiast and a mountain climber for over 50 years and still does volunteer trail work in the Olympic mountains with friends, for which they received the 1990 USFS Regional Caring for the Land Award.

Lyman F. Kells

A product of Seattle public schools, he obtained his doctorate in physical chemistry with professors Tartar and Lingafelter, University of Washington. His career has been approximately half industrial—largely involving physical measurements, and half teaching. "My last position—teaching in a small college in rural western Iowa for ten years—was my favorite," according to Kells. "This allowed me to follow my own inclinations in intellectual pursuits, consisting of different approaches to chemical reaction mechanisms and electronic structure, and in various aspects of astronomy, physics, and the history and philosophy of science. I expect to continue to be active in these pursuits as long as I am able."

Neva L. Karrick

Neva obtained her B.A. and M.Sc. from Ohio State University. After a supervisory stint at Schenley Laboratories penicillin development laboratory, and with USNR Hospital Corps (W.A.V.E.S.), she moved out west and devoted her career to studying various aspects of chemistry involving fisheries. This included the nutritional value and utilization of fish oils, preservation, irradiation, and processing of fishery products. As assistant director of Environmental Conservation Division at Northwest and Alaska Fisheries Center, Seattle, she was involved in the organization and development of the NOAA national Analytical Facility, studying effects of chronic exposure to organic contaminants on biological mechanisms and relating the results to marine ecological systems.

Earl Robert Weber

A graduate of University of Washington with a degree in chemical engineering, he gained expertise in the mining and processing of diatomaceous earth through his association with various institutions involved in its mining and manufacturing. Later on, he was also associated with Boeing in the chemical treatment and processing of airplane parts to apply protective and corrosion-resistant coatings. Membership in the ACS, along with its publications, was often found to be a good source of useful technical information, according to Weber.

Robert F. Labbe

After completing his formal education in Oregon, Dr. Labbe did his postdoctoral work at Columbia University and returned to University of Oregon Medical School as a faculty member and stayed there for four years before joining University of Washington. In 1974 he transferred to the Department of Laboratory Medicine where he subsequently became the head of the Clinical Chemistry division. His research interests include chemistry, metabolism, and diseases of porphyrins and related compounds. One of his clinical chemistry innovations was the establishment of a Nutrition Section, which is unique among hospital laboratories. In recent years he has developed a widely recognized biochemical and clinical nutrition program designed to investigate and define the utilization of clinical laboratory testing in the nutritional care of patients.

(continued on page 11)

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50 YEAR MEMBERS, continued from page 9

Arthur G. Anderson, Jr.

A graduate of the University of Illinois, he did his graduate work at the University of Michigan, obtaining his Ph.D. in 1944. At Tennessee Eastman Corp., Oak Ridge, he was a senior chemist and supervisor of the analysis of U235 for the Manhattan Project. He was a postdoctoral fellow with Roger Adams and joined the University of Washington faculty in 1946 and has been a professor there from 1955 to 1988. He supervised 49 Ph.D. candidates and 17 M.S. students during the course of his professional career and has 107 publications to his credit. His major area of interest has been the study of nonbenzenoid aromatic ring systems and small ring heterocyclic compounds.

Robert M. Bridgeforth, Jr.

This founder of Rocket Research (now Olin Rocket Research), Redmond, WA, was born in Mississippi. He graduated from Iowa State University and obtained his S.M. in Physical Chemistry from Massachusetts Institute of Technology. In addition, he studied physics, astronomy, and business administration at Harvard University. He was a research assistant with the Manhattan Project and a staff member with the Division of Industrial Cooperation, where he was involved with the production of penicillin by sublimation of ice from dilute solution, as well as research and development of torpedo motors for the U.S. Navy. After a brief stint at academia, he joined Boeing where he worked in various projects, including the Bomarc rocket ram-jet missile. He continued as senior group engineer, chief of rocket propulsion systems management office, design of rocket propulsion systems, propulsion for MINUTEMAN ICBM, etc. He founded Rocket Research Corp in 1960 and Explosives Corporation of America in 1966. He holds patents covering highest performance rocket propellants using beryllium, oxygen, hydrogen, lithium and fluorine. His special interests are chemical thermodynamics, biotechnology, cell culture and assistance in the organization of new enterprises in the fields of high technology.

We are proud to be associated with these distinguished individuals. More about 50 Year Members in future issues of the *Puget Sound Chemist*.

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PUGET SOUND SECTION 1993 OFFICERS

Chair-Elect: Randy Eatherton

Randy Eatherton has been a GC/MS scientist with the chemistry laboratory at Weyerhaeuser Co. since 1991. His primary responsibilities as head of the Volatile Organic Analysis section involve coordinating operation of GC/MS volatiles analysis in environmental and industrial samples and review of QA/QC processes. Before joining Weyerhaeuser Co., he was a senior chemist at Alden Analytical Labs in Seattle, prior to which he was an R & D chemist at International Clinical Labs, Seattle. Randy studied for his Ph.D. under Herbert H. Hill, Jr., at Washington State University, where he developed novel selective detectors for capillary gas chromatography and capillary supercritical fluid chromatography.

OUR APPRECIATION AND THANKS FOR A JOB WELL DONE:

Eloise Crittendon, as Editor, and Margaret Pitts, as Production Manager, of the *Puget Sound Chemist*, have been a part and parcel of our Puget Sound Section. They have carried on the burden so long that we tend to take them for granted. As all good things come to an end, both of them have decided to resign from their duties due to other pressing personal duties. We congratulate them for a job well done and offer our thanks.

WELCOME TO OUR NEW EDITOR:

V. K. Bhat has volunteered his services to take over the duties as Editor and hopes to draw upon the experiences of his predecessors and carry on their good work. He can be reached at 206-745-9550, or by mail at the *Puget Sound Chemist*.

The First
GEORGE H. CADY LECTURESHIP

will be presented by:

Jean'ne M. Shreeve
Vice Provost for Research and Professor of Chemistry
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Synthesis of Fluorinated Molecules Using Silylated or Metallated Precursors

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Professor Emeritus Cady, a distinguished analytical chemist, served as Chairman of the Department of Chemistry, University of Washington, from 1961-1965. This Lectureship is dedicated in his honor by his family and his many friends and colleagues.

A GIFT THAT MATTERS

We all know someone—a relative, friend, or colleague—who has touched us in a special way and whose memory or achievements merit recognition. While creating a thoughtful tribute to a treasured relationship, you can also ensure the vitality of the American Chemical Society by making a memorial or honorary gift.

Honorary and memorial gifts help advance ACS programs which are not fully funded by dues. Gifts may be designated to a program area such as Public Outreach or Education or to a specific activity such as National Chemistry Week or Congressional Fellowships. Gifts to the Project SEED, National Chemistry Olympiad, or ACS General Endowments are lasting and meaningful ways to express your feelings for a colleague or friend—whether living or deceased.

Some of the individuals who have been recognized with memorial gifts to the Society are: Frederick B. Bailey, Jr., Herbert Fineberg, Milton Harris, Jan Kopecky, Arnold Lada and Cheng Qian. Gifts have also been received in honor of Robert A. Baker, Ernest L. Eliel, and Mary L. Good.

The Society is pleased to list all individuals making such meaningful gifts under the name of the person honored in a Memorial/Tribute book which is displayed in the main lobby of the Society headquarters in Washington, D.C. All gift amounts are confidential.

Please consider joining many of your fellow ACS members in making gifts that remember someone close to you, while at the same time help us further the Society's goals. For more information about a memorial or honorary gift, contact the Tribute Program, ACS Development Office, 1155 Sixteenth Street NW, Washington, DC 20036.

FUTURE MEETINGS 1993

March 8	Dr. E. Alan Cameron, R.P.E., ACS Tour Speaker
March 5	Deadline for NORM paper abstracts
March 28-April 12	ACS Spring National Meeting—Denver, CO
April	ACS Tour Speaker
June 17-19	NORM93
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BULLETIN OF THE
PUGET SOUND SECTION
AMERICAN CHEMICAL SOCIETY

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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.

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