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# PUGET SOUND CHEMIST

BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY

Volume 52, Number 5

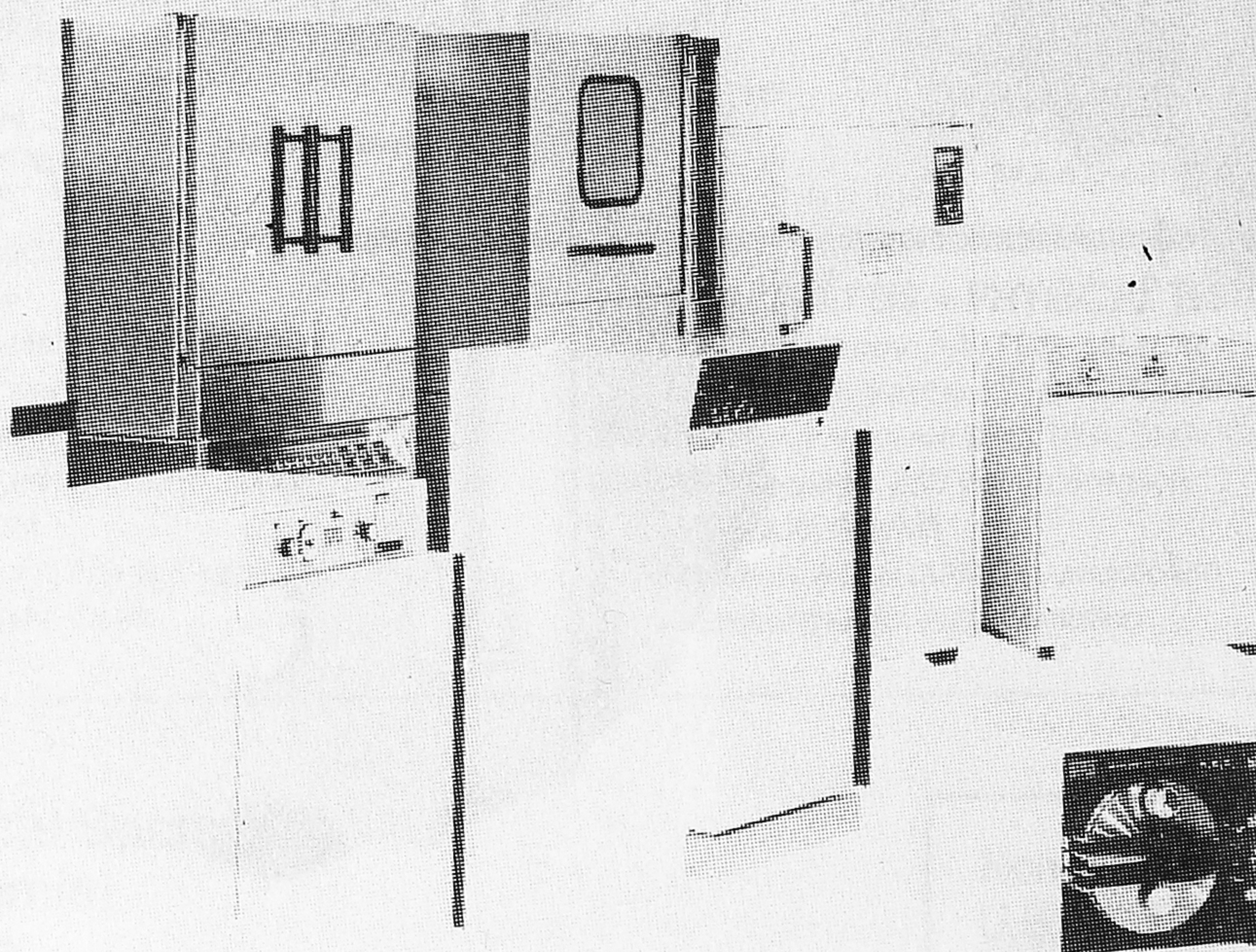


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On the cover: Dr. Joe A. Vinson, University of Scranton, Pennsylvania, will be the ACS Tour Speaker for the September meeting of the Puget Sound Section of the American Chemical Society (see related articles in this issue).



# SEPTEMBER MEETING

- DATE:** Tuesday, September 24, 1991
- SPEAKER:** Dr. Joe A. Vinson, University of Scranton, Pennsylvania
- TOPIC:** A Scientific Look at Marijuana in Man
- LOCATION:** Ocean City Restaurant  
609 So. Weller  
International District, Seattle
- DINNER:** Hot and Sour Soup, Fried Wontons, Prawns in Lobster Sauce, Beef with American Broccoli, Kung Pao Shrimp, Fried Chicken, Mixed Vegetable Chow Mein, Barbecued Pork Fried Rice, Tea, and Fortune Cookie
- COST:** \$12, includes tax and gratuity
- NOTE:** When you reserve dinner, you have an obligation to pay. Once the food is ordered, the section is billed even if you do not show up.
- DIRECTIONS:** From I-5, take Exit 164 to S. Dearborn Street. Go west on S. Dearborn 3-4 blocks to 6th Ave. South. Turn right (north) 2 blocks to So. Weller. Covered parking available on 6th Ave. S. in lower level of restaurant after 6 pm.
- SCHEDULE:**  
6:00 pm - social gathering; no-host bar  
6:30 pm - dinner  
7:45 pm - program (please feel free to join us even if you don't attend dinner)
- RESERVATIONS:** Make reservations by NOON, Friday, September 20, 1991.  
Seattle: 543-1610  
Tacoma: 535-7530  
Bellingham: 676-3070
- OFFER TO STUDENTS:** The Section will pay half the cost of dinner for the first ten students (graduate, undergraduate, or high school) who call 543-1610.

## FUTURE MEETINGS

October 25

Derek A. Davenport, Purdue University  
"Early Vindication of the Rights of Women Chemists"

November  
December 3

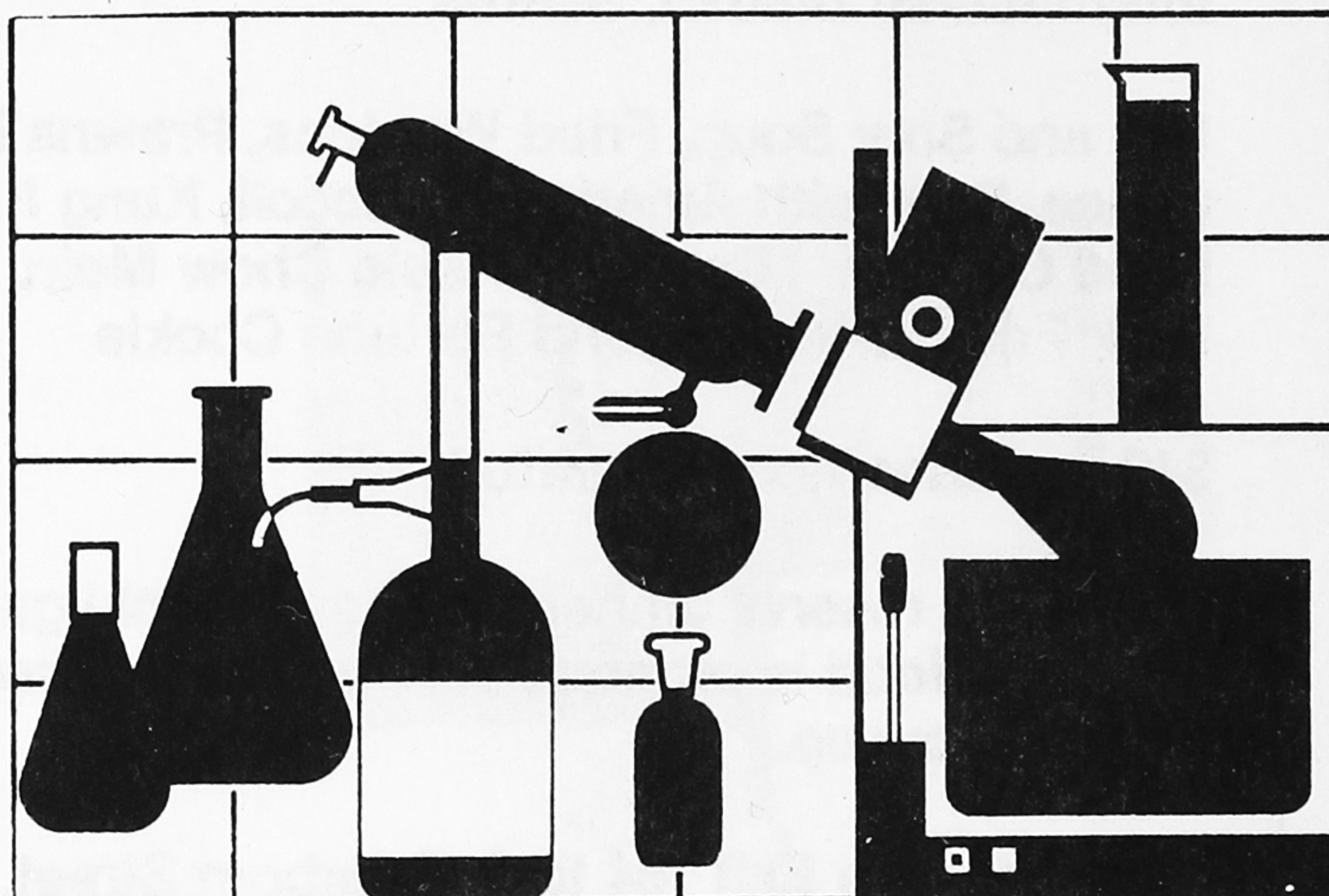
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## JOE A. VINSON TO ADDRESS SEPTEMBER MEETING OF PUGET SOUND SECTION

Dr. Vinson was born in Arkansas and grew up in the San Francisco Bay area. He attended college at the University of California at Berkeley, where he received his B.S. in Chemistry in 1963. He received an M.S. degree in Physical Organic chemistry at Iowa State University in 1966. He was a research assistant at the Ames Laboratory of the Atomic Energy Commission at Iowa State and received his Ph.D. in Organic Analytical Chemistry in 1967, under the direction of Dr. James Fritz. He spent a year teaching at Shippensburg State College in central Pennsylvania and then moved to western Pennsylvania where he taught at Washington and Jefferson College. He spent a year in industry as a Product Development Chemist at J.T. Baker Chemical Company in Phillipsburg, NJ, specializing in Thin-Layer Chromatography. He returned to academe and is now Associate Professor of Chemistry at the University Scranton in northeastern Pennsylvania. His research interests are varied and include drug analysis in physiological fluids, and the effect of vitamins and minerals on nutrition and health.

### ABSTRACT A SCIENTIFIC LOOK AT MARIJUANA

Marijuana remains the most commonly abused, illegal drug in the United States. Unfortunately, only now are we beginning to know something about this drug. In this talk we will cover in layperson's terms the history of marijuana and the nature of the plant and the chemicals contained in it. We will look at what happens to marijuana when it is smoked and what happens to the body when marijuana is present. We will look in detail at both the acute and chronic effects of marijuana on human health. Recent research on the use of marijuana as a beneficial drug will also be highlighted. Ample time will be given for discussion after the presentation.

### Want to Talk to the Puget Sound Section?

Chuck Mainard, one of our Alternate Councilors, has volunteered one of his lines at All World Scientific for messages to the Puget Sound Section. Calls may be left at this number for members of the Executive Committee as well as other committees. The Section will try this arrangement for the next few months. The number at All World Scientific & Chemical for Section messages will be **206-672-4228**.

### CALL FOR NOMINATIONS 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. The award will consist of a trip to the ACS National Meeting in San Francisco, CA, for the winner and their spouse. A plaque commemorating the award will be presented at the CTA/NCCTA National Technician of the Year Awards Banquet in San Francisco on April 6, 1992.

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 should be mailed to Debra McCombs, ICI Americas, Concord Pike and Murphy Road, Wilmington, DE 19897. Nominations of no more than five typewritten pages should be received by **November 15, 1991**. Seconding letters are encouraged.

Chemical technicians need not be a Technician Affiliate Group or ACS member to be eligible for this award. The award is sponsored by the Council on Technician Activities (CTA) of the American Chemical Society (ACS) and administered by the National Conference of Chemical Technician Affiliates (NCCTA). For more information, contact Debra McCombs at (302) 886-3028, or FAX (302) 886-5345.



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## IN MEMORIAM CHRIS DEWEY

Chris Dewey, member of the Puget Sound Section, died in a mountain-climbing accident on Glacier Peak in early July. Dewey, 33 years old, was a hazardous-materials inspector with the Department of Labor and Industry. He majored in chemistry at Cornell College in Mount Vernon, Iowa, and moved to Seattle from Wisconsin about eight years ago. He developed one of the state's first hazardous-materials tracking systems for the Bellevue Fire Department. He was a trained firefighter and an amateur astronomer. He was the chairman of the National Chemistry Week activities for this Section.

*(from The Seattle Times, Monday, July 8, 1991)*



**Christopher L. Getchell**  
*Oceanographer / Biologist*

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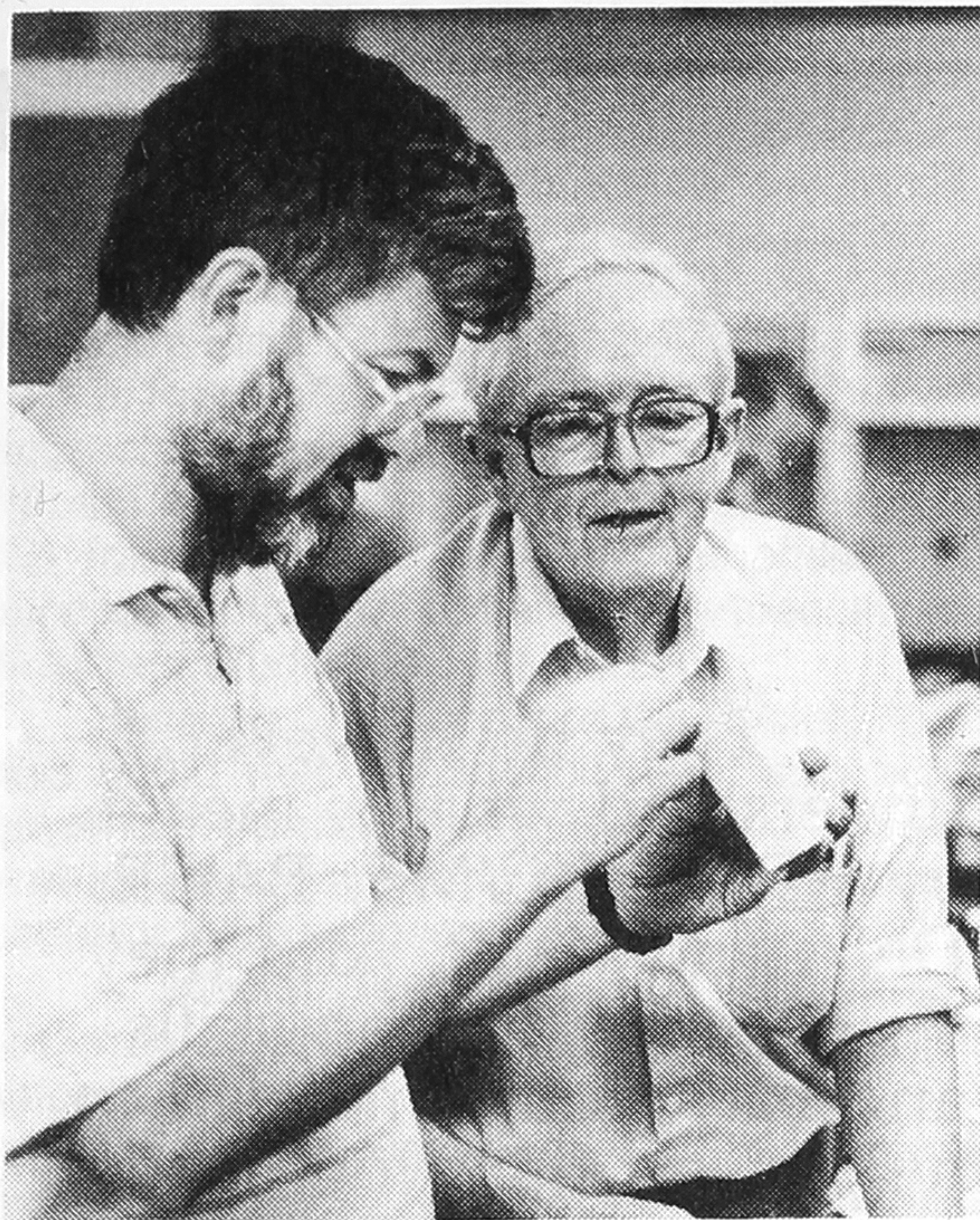
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## **CHEMISTRY TEACHER INSTITUTE SEEKS CORPORATE SPONSORS**

**In the picture, master teacher Leigh Van Etten of Charles Wright Academy, helps Danaher Dempsey, Nisqually Middle School Chemistry teacher, build a computer interface in the laboratory during the High School Teachers' Summer Institute at the University of Washington.**

The University of Washington Summer Institute for High School Chemistry Teachers is seeking contributors from the private sector to replace developmental National Science Foundation funding now being phased out. The private fund-raising campaign is aimed at enlisting firms as partners in the Institute's effort to help improve science education in the Northwest.

The Institute, which has been very highly rated by participants during its seven years of operation, accepts up to 30 teachers each summer for an intensive, month-long session. A main Institute goal is to update teachers on the important environmental aspects of chemistry, with lectures on that theme by Professor Norman J. Rose of the University's Department of Chemistry. Many other faculty from Chemistry and related departments volunteer as subject matter experts on additional topics through the Institute's Contemporary Issues in Chemistry seminar series. The Chemistry Department also contributes staff expertise in hands-on tours of modern instrumentation and general staff support, as well as equipment and teaching and laboratory space. Effective teaching units and methods are emphasized through presentations from the Department's collection of demonstration experiments and by sharing among participating teachers of what they have found to be particularly successful in their own classes. Laboratory work, supervised by area master teachers, includes illustration of the advantages of microscale techniques and introduces low-cost ACS Project Seraphim computer approaches.

The school districts of participants are able to provide an allowance for supplies and some operating costs. While State of Washington grants have also helped in the past, the total requirements for participant support (stipends and room, board and travel for remote teachers) and project operating costs exceed the capacity of these sources.

One option for corporate giving is for awards for the full support of an attending teacher to be named in honor of the donor. Such named awards may be specified for teachers from particular areas where a firm operates, to give maximum publicity in a locality to the sponsor's support of science education.

Those wishing to assist this funding drive should contact the Institute Project Director, Assoc. Prof. Darrell J. Woodman, Department of Chemistry BG-10, University of Washington, Seattle, WA 98195, telephone (206) 543-1670.



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# REPORT ON THE ACS COUNCIL MEETING

Atlanta, Georgia - April 17, 1991

1. It was noted with sorrow the death of Past President Albert C. Zettlemoyer. Dr. Zettlemoyer served as President in 1981.

2. The committee on Nominations & Elections introduced the four nominees for 1992 President-Elect: Frederick E. Baily, Helen M. Free, George E. Heinze, and Henry F. Whalen, Jr.

3. President Heininger pointed out in his report that the problem of public appreciation of chemistry is world wide. He then reported on the 10 proposed strategic thrusts for the society during the next few years. The Board and CPC members identified the following three for major emphasis: public appreciation of chemistry; improved services for industrial members, especially bachelor-level chemists; and improved efforts to attract students to the Society.

Because of criticism of the Society for being too bureaucratic and cumbersome (it was noted that the council was "approximately the size of the legislative body that governs the United States of America"), the Board of Directors has referred to the council a study on streamlining of ACS governance and has urged them to carefully consider constructive changes.

A special Task Force on Minorities was formed to examine the needs of underrepresented segments of the population and how to attract them to chemistry and science in general.

4. President-Elect Ernest L. Eliel reported that the Campaign for Chemistry had brought in over \$22 million. The largest single donations were from Arnold and the late Mable Beckman, and Donald and Mildred Othmer, for a total of \$4.5 million. \$18.5 million came from corporations, with the rest from individuals.

5. The Board of Directors approved a Board regulation establishing the Chemical Abstract Services Governing Board. The Board will oversee the business operations of CAS and be responsible to the ACS Board of Directors. It will consist of seven members, three ex officio and four others, comprised of ACS members and nonmembers, all with executive experience.

6. The Council Policy Committee voted that the \$100 per Councilor-position per year expense subsidy may be used at either national meeting in 1991. The guidelines will be reconsidered in New York.

7. The Council voted by a two-thirds majority to amend the ACS Constitution and Bylaws to remove all gender-specific terms (pronouns).

8. Petitions for amendments of the following petitions of the Society's Constitution and/or Bylaws were considered and will be presented for action at the national meeting in New York, August 28, 1991.

- a. Limitation of the Councilors Term of Office to a maximum of three terms.
- b. Establishment of International Chemical Sciences Chapters of the Society.
- c. Provision for a Committee on Economic Status in ACS Governing Documents.
- d. Dues Escalator Provisions. This would empower the Council to either raise or lower the dues at its Spring meeting to any amount without the necessity of amending the Bylaws and without prior announcement, if two-thirds of the Council agreed on it.

—Submitted by Herb Bryce, Alternate Councilor

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## Executive Committee Meeting Puget Sound Section, ACS

September 11, October 9

Place: Seattle University  
Engineering Building

Dinner: 5:30 PM in Cafeteria (optional)

Meeting: 6:30 PM in Room 511.

Meetings are on the Second Wednesday of  
each month and are open to all members.

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## Chemistry In The News

### EDWIN G. KREBS SHARES ROBERT A. WELCH AWARD

Dr. Edwin G. Krebs, senior investigator for the Howard Hughes Medical Institute and professor emeritus of pharmacology and biochemistry at the University of Washington, was honored for his work in cellular regulation, winning a share of the \$250,000 Robert A. Welch Award in Chemistry, which is presented annually by the Texas-based Welch Foundation. Krebs shares the award with Dr. Earl Reece Stadtman, chief of the Laboratory of Biochemistry at the National Heart, Lung and Blood Institute, Bethesda. Krebs, along with Dr. Ed Fischer, professor emeritus of biochemistry at the UW, discovered an important class of enzymes called protein kinases, which regulate cell metabolism. A major accomplishment for Krebs was his discovery of cyclic AMP-dependent protein kinase, a key regulator of hormone action.

The prize will be presented at a banquet October 28 in Houston.

(from The Seattle Times, Thursday, May 30, 1991)

### WHAT'S HAPPENING IN CHEMISTRY?

*What's Happening in Chemistry?* is an annual compendium of selected research highlights and interesting articles pertaining to the chemical sciences field. This high-quality magazine is produced by the Public Communications Department of the American Chemical Society as part of the Society's continuing effort to promote public understanding of the chemical sciences. It is written in non-technical language and intended for a variety of readers. Writers will find it a valuable resource for story ideas they can further develop for their readers. Educators and students can use it as a springboard for discussion, experiments, and class projects. The general reader may pick from a variety of stories dealing with the environment, medicine, energy, and a host of other topics.

The current issue features "Taming the Northern Lights." This phenomenon is caused by natural radioluminescence. Researchers have taken a cue from the Northern Lights and are attempting to develop similar light sources that would require no electrical power supply and operate for years without maintenance. Other articles include "Diamond Coatings: An Engaging Technology for Industry," "Quasicrystals—An Exotic Form of Matter," "Worry-Free Desserts" and a chronology of "Chemistry-Related Highlights of 1990." Information is given at the end of each article for contacting the researchers if readers choose to pursue the article in further detail.

Copies of *What's Happening in Chemistry?* are available from the ACS for \$7.95 each.

### ACID RAIN

The American Chemical Society (ACS) Department of Government Relations and Science Policy has released the third edition of *Acid Rain*, an information pamphlet developed by the ACS Committee on Environmental Improvement. Through recent research, a clearer understanding has emerged about (1) the process by which oxides of sulfur and nitrogen are transformed in the atmosphere into acids, (2) the transportation of air pollutants over long distances, and (3) the process by which acid rain enters watersheds and constitutes acidification which affects fish and other aquatic organisms. This new information is useful but not definitive in all respects; an element of ambiguity remains. The major uncertainties associated with acid rain include the interaction of it and its precursors with other air pollutants; the effects of acid deposition on trees and soil, materials, and human health; and the degree to which control of emissions to the atmosphere will reduce acid deposition. This eight-page information pamphlet describes what is known and not known about this environmental issue.

Single copies of *Acid Rain* are available free of charge (up to 10 for non-profit groups) from the ACS Department of Government Relations and Science Policy, 1155 Sixteenth Street NW, Washington DC 20036. Please include a self-addressed mailing label. For multiple copies, please call (202) 872-8725.



## Chemistry In The News

□ **Harold Weintraub**, member of Fred Hutchinson Cancer Research Center, Seattle, and **Marc W. Kirschner**, professor of biochemistry and biophysics, University of California, San Francisco, are corecipients of the National Academy of Sciences Richard Lounsbery Award. They will share the \$50,000 prize and \$20,000 travel stipend. This annual award was established to recognize "extraordinary scientific achievement by French and American scientists in biology and medicine." (July 1, 1991 C&EN)

□ **Caltech's Barton gets "genius" award**—Jacqueline K. Barton, a bioinorganic chemistry professor at California Institute of Technology, has been awarded a \$250,000 MacArthur Fellowship. The no-strings-attached "genius" award is given each year to highly creative and talented individuals in a wide range of fields, both scientific and nonscientific. Barton, 39, studies the chemistry of gene expression. Her research concerns the binding of transition-metal complexes with DNA, and elaboration from these chemical tools of significant DNA structural features. Barton says she plans to continue doing chemical research at Caltech. (June 24, 1991 C&EN)

□ **U.S. team places fifth in chemistry olympiad**—The U.S. placed fifth among 31 delegations competing earlier this month at the 23rd International Chemistry Olympiad held in Lodz, Poland. The top-scoring country was China, followed by Romania, Hungary, and Poland. The four U.S. team members won one gold, one silver, and two bronze medals. Thirty-one delegations competed at this year's olympiad, including teams from Lithuania, Latvia, and Slovenia, a part of Yugoslavia. This year's U.S. team consisted of Dean Chung of Mountain Lakes High School, NJ; Susan Kuhn of Girls Preparatory School, Signal Mountain, TN; Forrest Michael of Naperville Central High School, IL; and Ashley Reiter of North Carolina School of Science & Math, in Durham. In the competition, Michael won a gold medal, placing 12th out of a total of 118 students. Chung placed 26th and received a silver medal. Reiter and Kuhn placed 39th and 41st, respectively, earning them bronze medals. Reiter was the top-scoring bronze medalist. (July 22, 1991 C&EN)

□ **Buckyball superconductor structure solved**—Another milestone in the buckyball saga was marked last week when researchers reported the crystal structure of potassium-doped buckminsterfullerene ( $K_3C_{60}$ ), a new material that becomes superconducting when cooled to 19.3 K [*Nature*, 351, 632 (1991)]. Physicist Peter W. Setpfens of the State University of New York, Stony Brook, and his coworkers there and at the University of California, Los Angeles, note, "The most important feature of the structure . . . is that it is so similar to that of the undoped solid." The  $K_3C_{60}$  structure basically consists of the face-centered cubic lattice of  $C_{60}$  with potassium atoms occupying all the octahedral and tetrahedral interstices. The advance was made possible when Robert L. Whetten and coworkers at UCLA prepared pure, single-phase  $K_3C_{60}$  samples that are bulk superconductors. In an accompanying commentary, Warren E. Pickett of the Naval Research Laboratory in Washington, D.C., says the path has now been cleared for experimental work to nail down the mechanism of superconductivity in these materials. Pickett also makes an intriguing case for considering the  $C_{60}$  molecule in a single, superheavy atomlike entity, possibly having "properties that are beyond the range of the usual atoms." (June 24, 1991 C&EN)

□ **Vanadium-containing organic polymer is magnetic at room temperature**—A polymer exhibiting magnetism at temperatures up to 350 K has been developed by Juan M. Manriquez, Gordon T. Yee, and Arthur J. Epstein of Ohio State University, and R. Scott McLean and Joel S. Miller of Du Pont [*Science*, 252, 1415 (1991)]. The Du Pont-Ohio State group has created a vanadium-containing polymer with a  $T_c$  so high it can't be measured because it exceeds 350 K, the thermal decomposition temperature of the sample. The polymer, synthesized by reacting bis(benzene)vanadium with tetracyanoethylene, is an insoluble, amorphous black solid. Vanadium is not itself magnetic. (June 10, 1991 C&EN)



# PUGET SOUND CHEMIST



## BULLETIN OF THE PUGET SOUND SECTION AMERICAN CHEMICAL SOCIETY

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## Chemistry In The News

☐ **Background noise a problem for radio astronomers**—Radio astronomers are beginning to have trouble detecting certain celestial signals because of background noise, according to a report from the National Research Council (NRC). Most of the astronomers think the interference comes partly from the growing number of electronic devices, such as cellular telephones and garage door openers, as well as from the similarly burgeoning active transmitting services. In any event, the astronomers would like to see better protection for certain frequencies. The case is made in "Views of the Committee on Radio Frequencies Concerning Frequency Allocations for the Passive Services in Preparation for the 1992 World Administrative Radio Conference." The report was submitted to the Federal Communications Commission as part of U.S. preparations for the 1992 radio conference. The event is organized by the International Telecommunications Union, which allocates frequencies globally.

(May 13, 1991 C&EN)



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