



# **PUGET SOUND CHEMIST**

BULLETIN OF THE PUGET SOUND SECTION OF THE AMERICAN CHEMICAL SOCIETY


**Volume 53, Number 1**

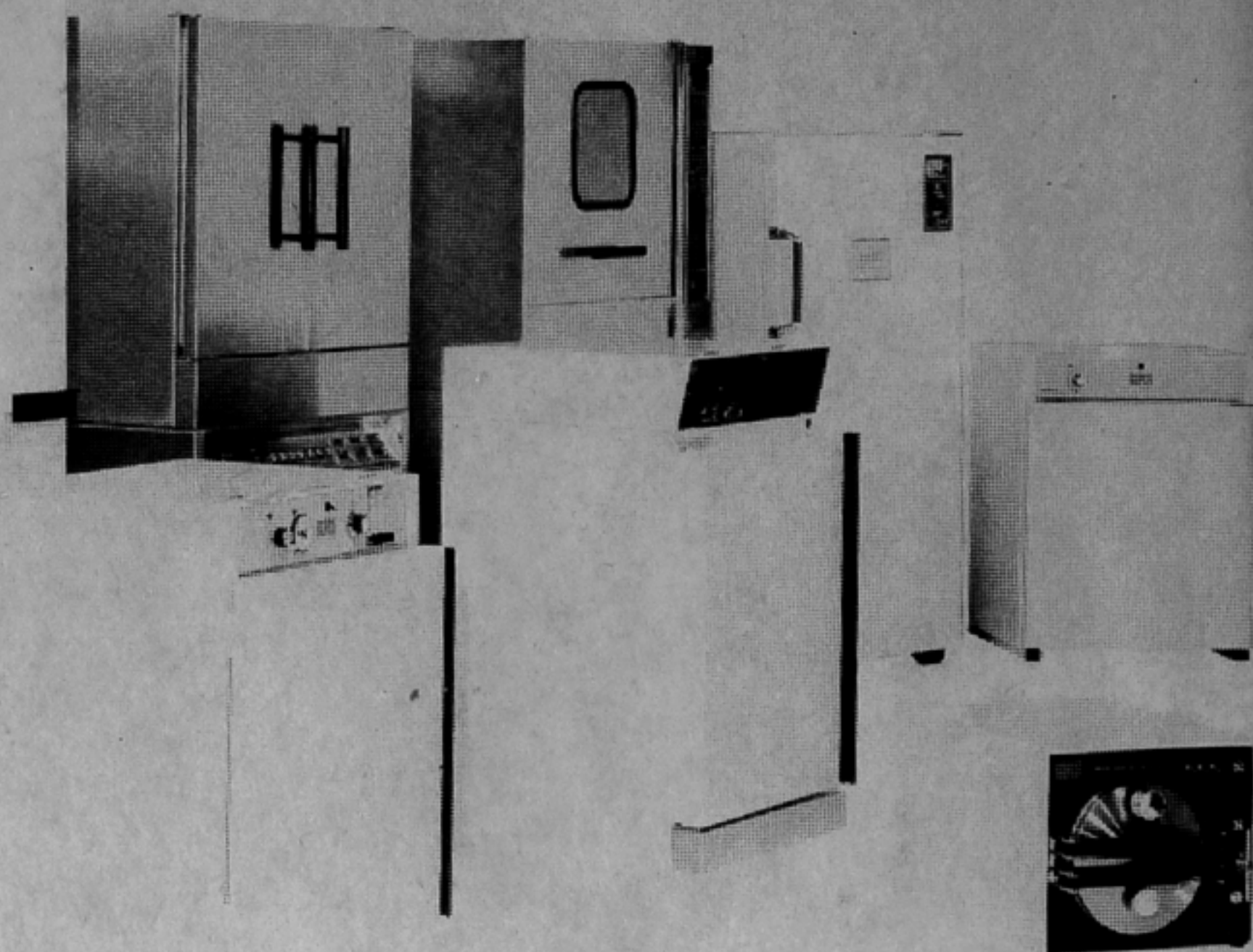


**January 1992**



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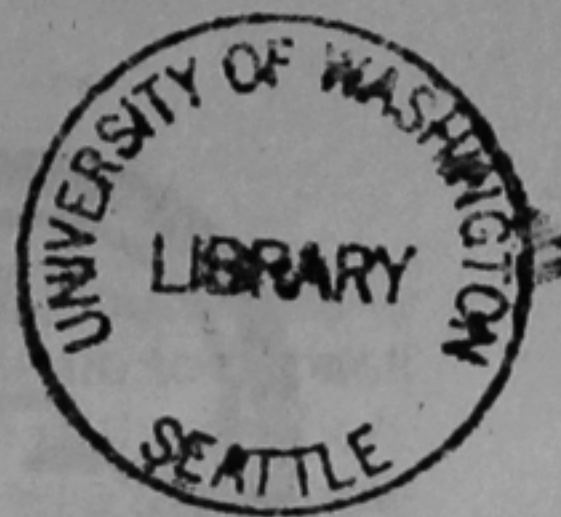
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**On the cover: Mount Rainier in winter from Chinook Pass (see Winter Social Meeting, this issue).**



# FEBRUARY MEETING



- DATE:** Wednesday, February 5, 1992
- WINTER SOCIAL MEETING**  
honoring 50-year members for 1991
- LOCATION:** Mountain Room, Rainier Brewing Company
- SCHEDULE:** 6:00 pm - social gathering and tours  
6:45 pm - buffet dinner  
7:30 pm - speaker and program  
Please feel free to join us for the program even if you don't attend dinner.
- DINNER:** German buffet
- COST:** \$5.00
- NOTE:** When you reserve your dinner, you have an obligation to pay. Once the food is ordered, the section is billed even if you do not show up.
- DIRECTIONS:** Exit I-5 - Northbound - at Airport Way South (Exit 164) to Airport Way; continue 1 mile; Brewery on left side of street.  
Exit I-5 - Southbound - at Spokane Street (Exit 163); continue in right-hand lane to 6th Avenue South. Turn right onto 6th Avenue South; continue to Hanford Street, turn right and proceed to Airport Way; turn left on Airport Way; continue to Brewery on right-hand side.  
Plenty of parking available at Brewery. Signs in the parking lot will direct you to the Mountain Room.
- RESERVATIONS:** Make reservations by NOON, Friday, January 31, 1992.  
Seattle: 543-1610      Bellingham: 676-3070  
Tacoma: 535-7530

## FUTURE MEETINGS 1992

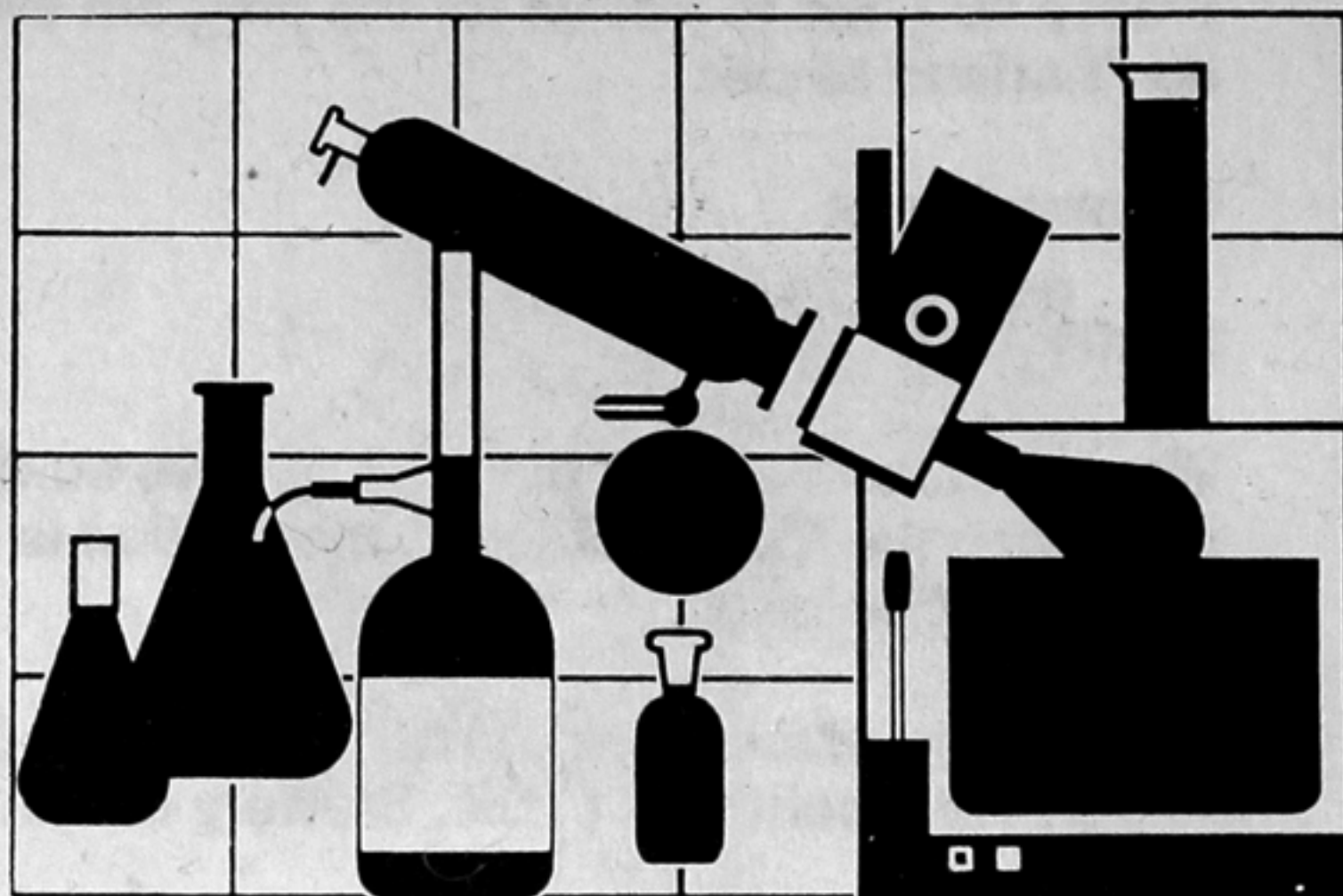
- |                  |   |
|------------------|---|
| March (23-28)    | Dr. Kenneth C. Matles, Eastman Kodak<br>"The Inside Story of Color Photography"     |
| April (20-25)    | Dr. Ellis K. Fields, Amoco Chemical Company<br>"My Career as an Industrial Chemist" |
| May              | To be announced   |
| June             | Northwest Regional Meeting (NORM)<br>University of Montana, Missoula                |
| October (19-24)  | Dr. Ernest Simpson, California State Polytechnic University<br>"Chemistry of Wine"  |
| November (16-21) | Dr. Carleton B. Moore, Arizona State<br>"Chemistry of the Moon's Surface"           |
| Fall             | 1992 Pauling Award<br>Puget Sound Section, Host                                     |



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## MESSAGE FROM THE PAST CHAIR

It's been a pleasure serving the Section this past year. We have an outstanding Executive Committee of committed individuals, and I know you will continue to be well served in the hands of the new chair, Despina Strong. Much is going well in the section. Under the leadership of Dirk Verhagen, the Safety Committee has developed a slide show on "Chemicals in the Home." It is now available on slides and in a videotape version. Dirk is willing to present the show to groups, and we need additional volunteers who can present it as well. Please call Dirk if you would like to help out. With Larry Thomas as chair, the Education Committee continues to be active and committed to strengthening our involvement in pre-college education. They can use help with "Chemistry for Kids" events and their new series of instrumentation workshops for high school and college teachers. Thanks as well to John Hu, retiring as editor of the *Puget Sound Chemist*, and to Eloise Crittenden and Margaret Pitts who put the *Chemist* together each month. Eloise is taking over as editor and welcomes your help.

I'd also like to thank Vince Santo Pietro for his service as chair and past chair. I know he will continue to be involved in the section. He's been a great role model for me.

The section needs fresh blood. Many dedicated people serve the section year after year, but we can use any commitment of time to the section. Please call the appropriate committee chair or any member of the Executive Committee if you can help out. The Executive Committee continues to be concerned about the high cost of dinner meetings. If you have ideas for lower cost events, please contact the chair-elect, Claria Bhat, with your ideas.

Sheri Tonn

## RESULTS OF THE ELECTION FOR 1992 PUGET SOUND SECTION OFFICERS

Clarita Bhat of Shoreline Community College was chosen Chair-Elect. Tim Hoyt, University of Puget Sound, was elected Alternate Councilor for 1992-1994.

Herb Bryce, Seattle Central Community College, Alternative Councilor for 1990-1992, was elected Councilor. Tom Schultz, Everett High School, was reelected Secretary, and David Munch, Seattle Central Community College, was reelected Treasurer.

Our congratulations to all. The full report of the election was submitted to the executive committee by Vince Santo Pietro, Nomination Committee Chair.

## PROFESSOR RUDOLPH MARCUS AWARDED 1991 PAULING MEDAL

Professor Rudolph Marcus of the California Institute of Technology, Pasadena, has been awarded the 1991 Linus Pauling Medal. The award activities are tentatively scheduled for May 9, 1992, in Corvallis, Oregon. The 1991 award is being organized by the American Chemical Society's Oregon Section, one of the three northwest ACS sections sponsoring this award. Rudolph Marcus is a foremost expert in the field of theoretical chemical kinetics. Although he has contributed to many areas, he is best known for his theory of electron transfer reactions in solution ("Marcus Theory") and for his contributions to the theory of unimolecular reactions (RRKM theory). The outstanding aspect of his work is that his theories have not only been a stimulus to other theoreticians, but they have had a profound influence on shaping the direction of experimental research.

Details of the symposium and banquet to be held in honor of Professor Marcus will be announced later this spring.

## CHEMICALS IN THE HOME

The Health and Safety Committee of the Puget Sound Section, ACS, has prepared an audio/visual program on the subject of chemicals in the home. It is designed to help the public conception of the chemical business by improving the use, storage and disposal of these beneficial products.

The program is about 10 minutes in length and is available as a video tape or in a slide/tape format. The short length allows time for questions from the audience. It can be shown to any group such as luncheon clubs, garden clubs, or any group that includes users of these products.

If any of you are part of or know of any group that would be interested in this program, please contact Dirk Verhagen at (206) 745-3494.

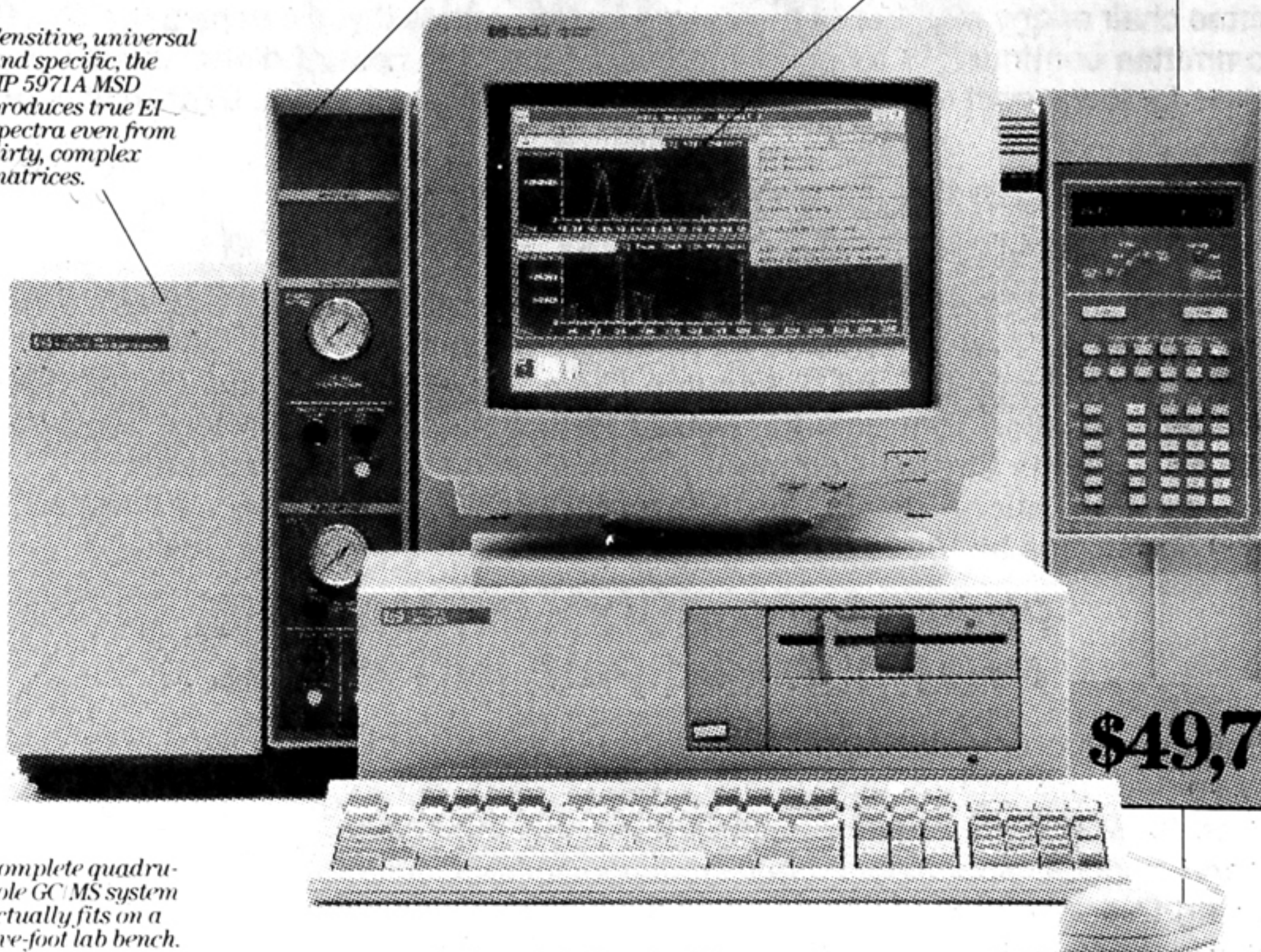


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# **CALL FOR PAPERS 47th NORTHWEST REGIONAL AMERICAN CHEMICAL SOCIETY MEETING**

**June 17-19, 1992, at the University of Montana, Missoula  
Abstract Deadline - February 19, 1992**

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. To present a contributed paper, an original and two copies of an abstract on the standard ACS form must be submitted to the Program Chairman, Dr. Richard J. Field, by **February 19, 1992**. Additional information can be obtained from Dr. Edward E. Waali, General Chairman.

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. Exhibit Co-Chairs are William Van Der Sluys and Edward Keller.

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.

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

General Chairman  
Edward E. Waali  
(406) 243-4992 or 4022  
INTERNET:  
ch\_eew@selway.umt.edu  
FAX: (406) 243-4227

Program Chairman  
Richard J. Field  
(406) 243-6374  
INTERNET:  
ch\_rjf@selway.umt.edu  
FAX: (406) 243-4227

Exhibit Chairmen  
William Van Der Sluys,  
Edward Keller, Co-Chairs  
(406) 243-2592 (WVDS)  
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FAX: (406) 243-4227

## **1992 AMERICAN CHEMIST SOCIETY DUES**

If you have not received your 1992 dues bill, please contact the ACS Department of Member and Subscriber Services at (800) 333-9511. In accordance with ACS policy on a grace period for unrenewed ACS journals and *C&EN*, ACS cannot continue to send *C&EN* and journals after February 29 to those members whose 1992 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. If you have questions concerning your membership, please call Jean Parr, Manager, Office of Member Services, at (202) 872-4414.

## **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**.



# 1992 SUMMER PROGRAM FOR JUNIOR HIGH SCIENCE TEACHERS AND THEIR STUDENTS

Openings are anticipated for the 1992 Summer Program for Junior High Science Teachers and their students, pending support from the National Science Foundation. The program is being held in conjunction with the Summer Institute for High School Chemistry Teachers in the Department of Chemistry at the University of Washington. The Summer Program for Junior High Science Teachers and their students is an intensive, six-week program that combines classroom, laboratory, and industry experiences through the NSF Industry-University Cooperative Research Center for Process Analytical Chemistry (CPAC) at the University of Washington. CPAC, a research center affiliated with the Department of Chemistry, was established in 1984 as a partnership between the University, the NSF, and corporate sponsors from the chemical/materials industries.

Up to 10 participants from Washington State and up to five from out of state will be selected for the Summer Program. They will take a four-week lecture course on contemporary topics in chemistry taught by Professor Norman J. Rose. They will conduct laboratory work in an area of CPAC research: 1) light and matter - fiber optic sensors; 2) flow injection analysis - an integrated approach to sample handling; 3) analyzing chemical data - chemometrics methods; 4) monitoring of bioprocesses; 5) light and matter - spectroscopy; 6) chemical separations with chromatography; 7) surface science; and 8) process engineering and control. In addition, participants will tour industrial organizations in Washington State. The tours will give teachers a sense of how chemistry is being applied in industry today and what new careers are on the horizon for junior high students. All teachers will receive a \$1,900.00 stipend for participation in the program.

Teachers will be expected to develop new educational materials based on CPAC experiences that can be shared with other teachers and schools. It is hoped that teachers will bring back to the classroom a new perspective on careers in chemistry and can share the excitement of new advances in this field. The 10 in-state teachers would each select two students to attend a two-week series of classroom sessions and tours. Presentations to the students would be conducted by the project director and thereafter, by the teachers themselves in conjunction with University personnel. The teachers would discuss their projects and provide a short tour of their labs. Other topics/labs would be selected for the student sessions, depending on interest, by the teachers with the project director. Eight academic credits will be awarded through University Extension on a credit/non-credit basis in Chemistry 473 (Workshop in Chemistry Teaching). For more information contact Dr. Deborah L. Illman, (206) 685-2326, FAX (206) 543-6506, Bitnet: cpac@cpac.bitnet, Internet: cpac@cpac.washington.edu. **Applications must be completed by April 1, 1992.**

## Chemistry In The News

□ **"Chemical Librarianship: An Opportunity To Be Involved"** by Patricia E. O'Neill, B.S., Pacific Lutheran University, is a featured article in the October/November issue of *In Chemistry*, the magazine for ACS Student Affiliates. Ms. O'Neill (M.S., library and information science, University of Illinois) is currently the head of the physical sciences library at Cornell University. The article describes the requirements and opportunities for employment in chemical librarianship.

□ **Miami University's Terrific Science Programs** provide teachers with opportunities to enhance their own science so that they can more effectively help their students actively explore the subject. Teachers experience the hands-on learning that they will use to improve their students' problem-solving skills in science, while also improving their own science-content knowledge and pedagogical methods. Those interested in the "Teaching Science with TOYS" or "Partners for Terrific Science" programs or the Affiliates Network may request applications by writing to the Terrific Science Programs, Miami University Middletown, 4200 E. University Blvd., Middletown, Ohio 45042. The deadline for applying to both the summer and academic-year programs is April 1, 1992. For more information, contact Mickey Sarquis, Director, Terrific Science Programs, Miami University Middletown, 4200 E. University Blvd., Middletown, OH 45042, (513) 424-4444, ext. 269.



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## NOMINEES SOUGHT FOR NATIONAL TECHNOLOGY MEDAL

All ACS members are invited by the Committee on Patents and Related Matters (CP&RM) to suggest possible candidates for nomination for the National Technology Medal. Recently funded by the United States Department of Commerce and established by the Stevenson-Wydler Innovation Act of 1980, the medal is awarded annually by the President of the U.S. It may be awarded to individuals, groups, companies or to institutions within the United States for outstanding contributions to technology or for the promotion of the technological workforce.

The National Medal of Technology is the highest award bestowed upon American technologists by the President of the United States. Presented annually, the Medal is awarded to provide recognition of extraordinary individuals and companies for their outstanding contributions to improving the well-being of the United States, either through the development or commercialization of technology, or for their contributions to the establishment of a technologically trained workforce. The National Medal of Technology was signed into law in 1980 as part of the Stevenson-Wydler Technology Innovation Act. The first Medals were awarded in 1985. Any U.S. citizen or U.S.-owned company is eligible to win the Medal. As of 1989, 40 individuals and one company have received the National Medal of Technology. Although 11 Medals are being presented in 1990, it is anticipated that—beginning in 1991—a maximum of six Medals will be awarded in future years. The Medal program is administered by the Department of Commerce's Technology Administration, under the management of the Assistant Secretary for Technology Policy. A steering committee, chaired by the Under Secretary of Commerce for Technology, oversees the solicitation of nominations. In addition to the Under Secretary, the steering committee consists of the Assistant Secretary for Technology Policy, the Director of the National Institute of Standards and Technology (NIST), and the Assistant Secretary/Commissioner of Patents and Trademarks.

Nominations can be made either by individuals or by companies. The nominations are then evaluated by the National Medal of Technology Nomination Evaluation Committee, which is appointed by the Secretary of Commerce. Committee members are selected from U.S. industry, government, professional organizations and academia to serve three-year staggered terms. After evaluating the nominations, the committee recommends a list of recipients in priority order to the Secretary of Commerce. The Secretary then makes his recommendations to the President who, in turn, makes the final selection. Nomination documents may be obtained by contacting the staff liaison to CP&RM, Ms. Nancy Todd, at (202) 872-4476. The deadline for submitting nominations is February 28, 1992.

## SUGGESTIONS REQUESTED FOR POSSIBLE NOMINEES TO INVENTORS HALL OF FAME

All ACS members are invited by the Society's Committee on Patents and Related Matters (CP&RM) to make suggestions to the Committee on possible candidates for induction into the National Inventors Hall of Fame. The inventor may or may not be a U.S. citizen, but the invention upon which the nomination is based must be covered by a U.S. patent. The invention must have contributed greatly to the national welfare, and significantly promoted progress in science and the useful arts.

Nomination documents may be obtained by contacting the Staff Liaison to CP&RM, Ms. Nancy Todd, (202) 872-4476. The deadline for nominations is February 28, 1992.

## Chemistry In The News

□ **Vegetable fuel lowers diesel bus emissions**—Novamont, a Ferruzzi-Montedison subsidiary based in Milan, says operating tests on a vegetable-oil-based fuel in five buses that the public transportation system in Zurich uses have shown a 50% reduction in harmful emissions when compared with petroleum-derived diesel fuel. The diesel engine buses using the Novamont fuel, composed of 100 parts of either sunflower or rapeseed oil and 10 parts methanol, produced significantly fewer particulates and therefore less black fumes, and showed a total absence of sulfur compounds, when compared with petroleum-derived diesel fuel.

(November 18, 1991 C&EN)



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## STRAIGHT DOPE ON COPYRIGHT

"Are You Up on Copyright Issues?", available from the ACS Publications Division, is an informative pamphlet that provides a brief overview of copyright. 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; works in the public domain; "fair use"; photocopying of copyrighted material; use of software and phonograph records; ACS copyright policy; and reprint permissions and copyright credit. Useful addresses and phone numbers also are provided. You can obtain a copy of the pamphlet by sending a self-addressed, stamped envelope to Barbara Polansky, ACS copyright administrator, in the Publications Division at ACS headquarters, 1155 - Sixteenth Street NW, Washington, DC 20036; 800-ACS-5558. *(from the November 1991 ACCESS, a publication of the American Chemical Society Membership Division)*

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## Who's Who in Chemistry

### HELEN FREE WINS ACS PRESIDENTIAL ELECTION

Helen M. Free has won the American Chemical Society's election for 1992 president-elect with 61% of the vote. She has been active in ACS for many years including recent terms on the ACS Board and in Region V. [Most recently, she was in charge of the National Chemistry Week Task Force for 1991.] She is a professional relations consultant for Miles Inc.'s diagnostic division in Elkhart, Ind. She had been employed by Miles for the past 47 years.

Two amendments to the ACS constitution were accepted by the elections—one to remove gender specific pronouns from the constitution and one to allow the establishing of international ACS chemical sciences chapters.

(as reported in the  
November 25, 1991, C&EN)

### DR. JACQUELINE BARTON, 1992 GARVAN MEDALIST, TO ADDRESS WOMEN CHEMISTS LUNCHEON AT ACS NATIONAL MEETING IN SAN FRANCISCO

The winner of the Garvan Medal for 1992 is Dr. Jacqueline K. Barton, professor of chemistry at California Institute of Technology. Professor Barton has accepted an invitation to speak at the Women Chemists Luncheon on Tuesday, April 7, at the ACS national meeting in San Francisco. WCC plans to sponsor a symposium in San Francisco on mentoring and special programs to improve the undergraduate and graduate experience for women students in chemistry.

### UNIVERSITY OF WASHINGTON REGENTS APPROVE APPOINTMENT OF BRUCE KOWALSKI TO FIRST ENDOWED CHEMISTRY PROFESSORSHIP

In December 1991, the University of Washington Board of Regents approved the first appointment to an endowed professorship in the Department of Chemistry, established with support from 10 corporate donors, the first endowed professorship at the UW arising from a consortium arrangement. The professorship, which was matched by state funds, is in the field of Analytical Chemistry.

Contributors to the endowment include Amoco Corporation, CIBI-Geigy Corporation, Dow Chemical Corporation USA, E.I. duPont de Nemours & Company, Inc., Hewlett-Packard Company, Mobil Research and Development Corporation, Olin Corporation, Perkin-Elmer Corporation, Union Carbide Chemicals and Plastics Company, Inc., and 3M Company. The corporate donors are sponsors of the National Science Foundation Industry/University Cooperative Research Center for Process Analytical Chemistry (CPAC) at the University of Washington. The Center is an interdisciplinary research venture aimed at developing new analytical and sensor technology for industrial process control. Founded in 1984, CPAC has grown to about 50 sponsoring organizations from industry and the national laboratories.

The Regents approved the appointment of Professor Bruce R. Kowalski of the Department of Chemistry as the first holder of this endowed professorship. Professor Kowalski is the founder of CPAC, and with Professor James Callis, is the scientific co-director. For further information, contact Dr. Deborah L. Illman, CPAC, BG-10, University of Washington, Seattle, WA 98195; (206) 685-2326.

### PUBLIC RELATIONS MATERIALS FOR CHEMISTS FROM NATIONAL CHEMISTRY WEEK

Eight pamphlets which were made available to local sections through National Chemistry Week can be very useful in local efforts to increase the public's understanding of problems faced by modern chemistry. In particular, one pamphlet, "Chemical Risk: Personal Decisions," is ideal for shopping center, library and museum displays. These pamphlets may be ordered at low or no cost by your local section: *Chemical Risk: Personal Decisions*, *Acid Rain*, *Biotechnology*, *Chemical Risk: A Primer*, *Global Climate Change*, *Ground Water*, *Hazardous Waste Management*, and *Pesticides*.



## GMELIN FILE AND SPECTRA INFORMATION FILE AVAILABLE THROUGH STN INTERNATIONAL

STN International, the scientific and technical information network, is operated jointly by Chemical Abstract Services (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 100 databases, STN International offers information on a broad range of scientific fields, including engineering, thermodynamics, materials science, physics, biotechnology, and chemistry.

The GMELIN file was released in STN International during the International Online Information Meeting in December. The database contains critically evaluated data from the *Gmelin Handbook of Inorganic and Organometallic Chemistry* and unevaluated data from the scientific literature for about 250,000 substances. It is one of the foremost collections of information on inorganic compounds, organometallic compounds, coordination compounds, and materials in the world. GMELIN, which is one of over 20 numeric property files on STN, contains physical, chemical, and structural property data; substance identifiers; chemical synthesis and reaction information; and bibliographic data. Structures, text terms, and numeric values can be used for searching the database. Most substances have CAS Registry Numbers, which provide a link to the many other databases on STN containing chemical information. Stereochemical display is available for most compounds. The portions of the database from the Gmelin handbook cover the time period from 1817 to 1975, and the information from the literature is from 1988 and 1989. SPECINFO, a Spectra information file, has replaced the C13NMR/IR file on STN. SPECINFO, produced by Chemical Concepts GmbH in Germany, contains 88,300 nuclear magnetic resonance (NMR) spectra ( $^{13}\text{C}$ -NMR,  $^{19}\text{F}$ -NMR,  $^{15}\text{N}$ -NMR,  $^{17}\text{O}$ -NMR, and  $^{31}\text{P}$ -NMR) and 16,700 infrared (IR) spectra. The file is available exclusively on STN and is part of a cluster of over 20 numeric property databases. Along with spectral data, the SPECINFO records contain searchable substance identification information such as molecular formula, molecular weight, chemical name, and CAS Registry Numbers. The file also includes three data-generation packages to facilitate searching; SPECAL (spectrum calculation), which estimates the  $^{13}\text{C}$ -NMR spectra for a given structure query; COUPCAL (coupling constant calculation), which estimates coupling constants for a given structure query; and CHESS (chemical structure searching), which allows searching for chemical structures that are identical or similar to a given structure query. SPECINFO is updated every three months.

While C13NMR/IR had its own retrieval language, SPECINFO is searchable using Messenger, the common command language that is used to search the other files on STN. The common command language and the presence of CAS Registry Numbers facilitates cross-file searching between SPECINFO and other files on STN. A future enhancement planned for SPECINFO is the addition of mass spectral data.

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53 years ago - January 26th, 1939 - Neils Bohr reports the discovery of nuclear fission by Otto Hahn & Fritz Strassmann, to the 5th Washington Conference on Theoretical Chemistry.

127 years ago - January 27th, 1865 - Kekule presents his benzene structure to Societe Chimique, Paris.

31 years ago - February 14th, 1961 - Lawrencium (Lr,103) produced at University of California, Berkeley.

(From the Milestones in Chemistry calendar produced for National Chemistry Week 1991 by the American Chemical Society and the Beckman Center for the History of Chemistry. For more information contact ACS, 1155 Sixteenth Street N.W., Washington, DC 20036.)



# PUGET SOUND CHEMIST



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## Executive Committee Meeting Puget Sound Section, ACS

Second Wednesday each month

February 12

March 11

Place: Seattle University

Engineering Building

Dinner: 5:30 PM in Cafeteria (optional)

Meeting: 6:30 PM in Room 511

Meetings are open to all members.

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