

CHEM / LETTER

CHAIRMAN'S MESSAGE

The first high-resolution Fourier transform nuclear magnetic resonance (FT-NMR) spectrum using a superconducting magnet was recorded on campus on July 6, 1981. Our new Bruker WM-500 superconducting FT-NMR spectrometer provides resolution for protons at 500 MHz using a 5mm probe of 0.08Hz and sensitivity for 0.1% ethylbenzene of 180:1 on a single pulse. The system is equipped with ^1H , ^2D , ^{13}C , ^{15}N and ^{31}P fixed probes plus a multinuclear probe.

The first spectrum from our new Bruker CXP-200 superconducting FT-NMR spectrometer was recorded on August 14, 1981. This versatile multinuclear instrument not only will provide for the needs of the synthetic chemists for routine high resolution solution spectra for almost any nucleus, but it also has a broad range of powerful options for the study of solid samples. High-resolution, solid-state spectra can be obtained by using either high-power multiple-pulse RF methods of magic-angle spinning. This million-dollar, multi-instrument installation gives us one of the premier magnetic resonance facilities in the nation. The funds were provided by the Murdock Charitable Trust, by NSF and NIH, and by the University.

We are especially pleased to announce the appointment of Dr. Gary Drobny as manager of the NMR facility. Dr. Drobny has an excellent background in the theoretical aspects of NMR and in the design and construction of spectrometers of this class. His thesis work on multiple-quantum NMR in liquid crystals was carried out with Prof. Alex Pines at the University of California, Berkeley. Dr. Drobny also plans to expand our NMR capabilities by adding new instrumentation and will help plan a short conference in Seattle featuring recent development in magnetic resonance spectroscopy.

Although the NMR facility represents the most dramatic addition to our constellation of state-of-the-art support instrumentation, the department continues to make other additions. We have recently taken delivery of an IBM FT-IR (Model 9198-2A) instrument on a lease-purchase plan. Through the efforts of Prof. William W. Parson of biochemistry, a Quantel Nd-YAG laser has been added to the picosecond laser facility. With additional modifications now nearing completion, we will have available a millijoule of energy in tunable picosecond pulses.

Professors Engel, Reid, and Robinson arrived this past year and recently have moved into their newly renovated laboratories. The new labs that they occupy were completed as part of phase III (southeast wing) of the Bagley Hall renovation. Displaced faculty members who had occupied quarters there for many years also have returned to new offices and labs. Although planning for the final phase of renovation has begun, ample

signs exist that capital construction projects will be severely limited in the coming years. Phase IV may not happen in this decade.

Our recruiting efforts for an assistant professor of environmental chemistry were not consummated. We are now searching for candidates at a more senior level. This fall we launched a search for a new assistant professor of organic chemistry. Your suggestions of outstanding candidates are solicited.

After many years of dedicated service to the department, Prof. William Scott Chilton resigned from the faculty at the end of the 1980/81 academic year. He served with distinction as chairman of many important committees, and his artfully crafted lectures were exemplary for their organization and clarity. The Chiltons have moved to Washington University in St. Louis. Scott will be sorely missed in the department.

Barney Nist, lecturer, will retire at the end of Autumn Quarter 1981. Barney has taught CHEM 463 (Spectroscopic Structural Analysis), and has supervised the instrumentation for NMR and optical spectroscopy for decades. His departure will mark the end of an era in NMR. I know many of you will remember Barney's contributions to your research efforts. Howard Fulton and Bill Tafil retired at the end of August. Howard's many years of service in the machine shop, his deft touch with the analytical balances, as well as Bill's craftsmanship with wood, all deserve special recognition.

The dedicated efforts of the faculty continue to be reflected in a substantial increase in the level of research grant support, appointments to editorial boards and other professional posts, and awards recognizing outstanding achievement. In the latter category, I call attention to the Guggenheim Award received by Prof. Weston T. Borden and the election of Ernest R. Davidson to membership in the International Academy of Quantum Molecular Science. This prestigious body has only twenty-five members under the age of seventy.

Graduate enrollment has remained steady at an average of about one hundred ten and an entering class of nearly thirty. The stipends for teaching and research assistantships at Washington have not, unfortunately, been among the highest in the country. It is hoped that current and projected increases will improve our competitive position for 1982. Beginning September, 1982, the stipends for TAs and RAs will be the same for the first time within memory. Our faculty, facilities, programs, and location continue to attract a large number of fine applicants. Special scholarships and fellowships from the Graduate School have also helped.

We look forward to the visits of several distinguished lecturers in the coming year: Prof. E. Bright Wilson, Harvard University, will present the second Paul C. Cross lecture on November 10, 1981; Prof. William N. Lipscomb, Harvard University, will visit the campus May 3–14 as a Walker-Ames Professor; Dr. Linus Pauling will deliver several lectures in early April, 1982, as the Jesse and John Danz Lecturer. Should you happen to be in the area for any of these special occasions, we invite you to visit us. In any case, we hope many of you can plan to visit us at the time of the ACS meeting in the spring of 1983. But you need not wait that long. You are welcome at any time.

Alvin L. Kwiram,
Chairman

FROM THE EDITOR'S DESK

Addresses We are constantly checking our address list. The most difficult area to keep up is that of Canadian and overseas addresses. We would like to write each of you in this category asking for address verification, but a tight budget argues against this. Therefore, we are asking that you write us verifying your location.

Last year's *Chem/Letter* carried "Address Correction Requested." This enabled the U.S. post office to give us some new addresses. Of course, we prefer to have you tell us when you retire, move, or have other news.

C/L and Department Financing We have pointed out before that C/L is funded entirely by nonstate money. If you appreciate getting it, you may wish to make a donation for its support. Or you may choose to contribute to the H. V. Tartar or Paul C. Cross funds. These are unrestricted, to use as the donor or department designates. Make checks out to the Department of Chemistry and indicate in your letter which fund you choose. By the way, a convenient method is to use the enclosed Alum Report as your letter, enclosing your check, and taping or stapling it closed. We pay the postage. I hope to write acknowledgements to many of you.

Victorian Sivertz, Editor

FACULTY AND STAFF NOTES

N. H. Andersen was one of three U.S. representatives at a U.S.-Italy Joint working meeting on prostaglandins in Milan in May, 1980; took part in many other conferences; and in June presented an invited fifty-minute symposium paper at the Northwest Regional Meeting in Bozeman.

W. T. Borden has been awarded a Guggenheim Fellowship, spending the autumn quarter of 1981 at the Institute for Molecular Sciences in Okazaki, Japan. Next spring, he will be a visiting professor at Princeton University, giving a course on molecular orbital theory.

G. H. Cady was honored on his seventy-fifth birthday at the winter conference of the Division of Fluorine Chemistry in Florida. Speakers included H. J. Emeleus and the following former students: F. Aubke, D. DesMarteau, A. W. Jache, R. E. Nofhle, Jean'ne Shreeve, and S. Williamson; C. Merrill also attended.

G. D. Christian is on the boards of four journals. He was the keynote speaker at the International Symposium on Electroanalysis in Clinical, Environmental, and Pharmaceutical Chemistry, Cardiff, Wales, in April. He gave invited lectures at Aarhus University Denmark, Yarmok University, Riyadh University, Cairo University, University of Jordan, Free University of Brussels, the universities of Wisconsin and Georgia, and Georgia Institute of Technology.

E. R. Davidson (see Chairman's Message).

D. F. Eggers was on sabbatical for spring, spent partly at Brookhaven National Laboratory and partly (four weeks) in Northern Europe.

B. E. Eichinger gave an invited lecture at the ACS August meeting at a symposium on elastomers and rubber elasticity and attended the West Coast Statistical Mechanics Conference at La Jolla in June.

L. R. Field was an invited speaker for the sixteenth International Symposium on Advances in Chromatography in Barcelona, (Sept. 28–Oct. 1) and is active in the Pacific Northwest Chromatography Discussion Group.

B. R. Kowalski took a sabbatical leave during the period beginning December 16, 1979, and ending December 15, 1980, providing opportunities for independent study, collaborative research, and professional visits to research centers in Europe and South America. An Alexander von Humboldt Award made possible a ten-month stay at the Technical University of Munich from January to October, 1980. Activities included independent study at the Technical University, collaborative research with members of the Department of Mathematics, University of Munich, and numerous speaking engagements at European Universities. It was particularly gratifying to observe and foster the development of chemometrics in Europe, a field cofounded by him in the early Seventies. The development of chemometrics abroad complements the growing acceptance in the United States of chemometrics as a healthy new chemical discipline. Our laboratory for chemometrics is currently recognized as outstanding.

Alvin L. Kwiram employs novel magnetic resonance techniques for studying excited states. He is also interested in solid-state NMR based on ENDOR detection methods. He has been re-elected for a second five-year term as secretary-treasurer of the American Chemical Society's Physical Chemistry Division. He was appointed to the board of directors of the Council for Chemical Research. The first official meeting of the newly incorporated organization will be held in Rochester, New York in early November. As chairman of one of the subcommittees, he has been responsible for designing funding mechanisms and for enhancing university-industry interaction. He attended the Rocky Mountain Chemistry Chairmen's Conference in Arizona last autumn and plans to attend the one in Denver this October. Professor Kwiram has been invited to speak at the ACS Presidential Conference in Arlington, Virginia, in November.

E. C. Lingafelter was an invited speaker at a symposium on coordination chemistry in Florence in April and attended the International Union of Crystallographers at Ottawa in August.

J. W. Macklin was a NASA-ASEE Summer Faculty Fellow at NASA's Ames facility and Stanford University. He was also at the IUPAC meeting in Vancouver in August.

C. B. Meyer received a gold medal of the German Cellular Plastics Division of the International Society of the Plastics Industry at the International Conference in Strassbourg, June, 1980, for his contribution to Urea-Formaldehyde Resin Chemistry; spent nine months with EPA to (a) initiate and manage the National Research Program on Indoor Air Quality, in behalf of EPA, CPSC, DOE, NIOSH, and HUD and (b) initiate a \$2.4 million research program to study twenty-four hour pollution exposure of office workers under various conditions; participated in meetings on formaldehyde research and regulatory activities of EPA, CPSC, DOE, HUD, and NIOSH, as well as state legislatures of California, Ohio, Wisconsin, and Minnesota to resolve problems of stale air in office buildings and mobile homes; continues to lead research program for DOE on sulfur dioxide scrubbing at Lawrence Berkeley Laboratory; presented lectures in Washington, D.C., Heidelberg, Bonn, and Darmstadt.

Y. Pocker (1) gave an invited lecture in the Joint Chemistry-Biochemistry Seminar Series in September at the University of Alberta; (2) served as External PhD Examiner in Chemistry, University of Alberta; (3) in April gave invited lecture on the "Molecular Basis of Enzymatic Hydration" in

the Department of Biochemistry, University of Washington; (4) in June, his associate, Prof. B. P. Ronald, presented a joint paper at the Northwest Regional ACS Meeting; (5) in August, his associate, Dr. Thomas L. Deits, presented a joint paper in the Bioinorganic Chemistry Section of the twenty-eighth IUPAC Congress, held at the University of British Columbia; (6) served as senior scientific sponsor to three visiting scholars: Prof. Clarita Bhat, Alvin Fitzgerald, and Bruce Ronald; (7) was awarded four research grants to extend his studies in physical-organic chemistry, biochemistry, and biophysical chemistry. The grant donors were: NIH, HSF, PRF, and the Muscular Dystrophy Association.

S. Raucher was promoted to Associate Professor. He gave papers at the ACS meeting in Atlanta and the regional meeting in Bozeman.

B. S. Rabinovitch received the 1981 UW Signa Xi Award for Noteworthy Achievement in Original Research and will present a lecture at the spring meeting of the society. He gave an invited paper on surface processes at the Atlanta ACS meeting and a paper at the Tenth International Photo-

chemistry Conference in Crete, in September, 1981.

V. Schomaker was a participant at an ACS Workshop Committee to advise on the National Science Foundation reorganization proposal in September, 1980. He attended the International Union of Crystallographers in Ottawa in August.

J. M. Schurr was an invited lecturer on "Internal Brownian Dynamics and Elastic Properties of DNA" and "Theory of Electrolyte Friction on Translating Polyions," at the University of Calif., San Diego in September, 1980.

R. Vandenbosch continues as director of the Nuclear Physics Laboratory here. He gave an invited talk at the European Physical Society in Istanbul in September.

B. Weinstein attended the Seventh American Peptide Symposium in Madison in June and the August ACS meeting in New York.

NEWS OF GRADUATES

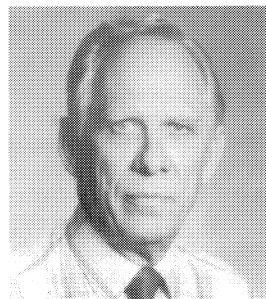
Again we salute four of our alumni, chosen by the faculty, to be honored in this issue. Their photographs and brief accounts of their careers are given below.



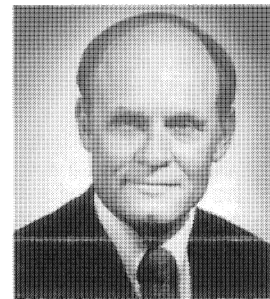
Moulton



Jensen



Youngman



Porter

RALPH WELLS MOULTON

Ralph Wells Moulton, born in Seattle, had all of his schooling here. He received the BS in chemical engineering in 1932 and his PhD in 1937. He was then employed by the Union Oil Company for four years in various parts of California.

In September, 1941, he joined the Department of Chemical Engineering here, rising to the rank of professor in 1949. In 1953, the joint Department of Chemistry and Chemical Engineering was divided and Dr. Moulton was named executive officer of Chemical Engineering, a post he held until 1977.

The department grew markedly in the Sixties and early Seventies, under his guidance, reaching fifteen faculty members and enrolling about fifty graduate students. Along with Dr. Babb, Dr. Moulton was responsible for the NSF grant for a building that resulted in the construction of Benson Hall, occupied in 1966.

Dr. Moulton's main research interests are in the areas of fluid flow, electrochemistry, and mass transfer. Since 1954 he has been active in nuclear engineering education, serving as both secretary and chairman of the Nuclear Committee of the American Society of Engineering Education. For several years before 1977 he was also Dean of the Joint Center for Graduate Study in Richland.

In June, 1978, he retired and accepted a two-year contract with the Department of State to administer an AID loan to the Republic of South Korea to benefit graduate programs in natural science at Seoul National University. He and Mrs. Moulton moved to Seoul, taking over the apartment and car of his predecessor. They made many friends and traveled to Taiwan, Hong Kong, Singapore, Bangkok, and Japan, as well as Korea.

Since returning here in June, 1980, Dr. Moulton has been re-employed, on a part-time basis, by the College of Engineering to teach and for other activities.

It might be mentioned that we claim Wells as one of our graduates, as we do all the chemical engineers who obtained doctorates before 1953. The Moultons have two sons and two daughters who live in the Pacific Northwest.

LYLE H. JENSEN

Lyle Jensen was born in East Stanwood, Washington, and received his early schooling there. Walla Walla College granted him the AB degree in 1939, and he received the PhD from here in 1943.

He was a research associate at the University of Chicago 1943/44, taught at Emmanuel Missionary College 1944-46, and was a research associate at Ohio State University 1946/47.

After serving a year here as a research Fellow, Dr. Jensen joined the Department of Anatomy in 1949 as an instructor. In 1961, he became professor, and the department name was changed to biological structures. He served as chairman 1961-63 and was also Associate Dean of the Graduate School 1967-69.

Dr. Jensen's field of research has been almost entirely in x-ray crystallography. He and coworkers have published over a hundred papers in this field. He was co-editor of *Acta Crystallographic* 1971-75; on the editorial board of *Journal of Crystal and Molecular Structure* 1971-81.

He was a member of the Commission on Journals, International Union of Crystallography, 1974/75, and has served on several other publication boards.

In 1978, Dr. Jensen was honored by election to the American Academy of Arts and Sciences. His excellent reputation in this field is further indicated by his giving more than thirty invited lectures in the United States and abroad, as well as participating in many seminars.

The Jensens were married in 1940 and have three children.

EDWARD A. YOUNGMAN

Edward Youngman was born in Fresno, California, and attended Fresno State University during and after World War II. He was in the naval ROTC program here during World War II, earning a degree and commission. Then he obtained the BS degree and the PhD in 1948 and 1952, respectively, from the University of Washington.

Dr. Youngman was hired by the Shell Development Co., Emeryville, California, where he worked as a chemist on reaction kinetics in the Organic Chemistry and Applications Department, 1952–59. This included work in free radical chemistry and in application of acrolein and hydrogen peroxide.

In 1959, he started work as a polymer chemist, first in synthetic rubbers, then in polyolefins. He was a research supervisor in synthetic rubber and plastics from 1959 to 1966.

"In 1966," Ed writes, "I lost my intimate contact with the practice of chemistry and started a new career—the direction of scientists." He became department head and later director of plastics and resins research in New Jersey from 1966 to 1969. Then, in 1969, the appointment as Research Director of Shell's Biological Sciences Research Center, Modesto, California, brought him back to the San Joaquin Valley, a hundred miles from Fresno.

Dr. Youngman retained this position until his retirement last year. "The most interesting and enjoyable part of my career was the last eleven years in Modesto. The ultimate challenge, surprise, interest, and reward comes when one tries to deal with the chemistry of living systems." During his tenure with Shell he published fifteen technical and scientific papers, and he holds twenty United States patents, with many foreign equivalents.

Dr. Youngman was a member of the editorial board for the *Journal of Polymer Science* 1966–69; chairman of Gordon Research Conference on Polymers in 1966. He and his wife Phyllis (who still does some nursing) live in Modesto. They have a son and a daughter. Their many activities keep them as busy as they were before "retirement."

ROGER S. PORTER

Roger Porter was born in Minnesota, obtained the BS degree in 1950 from UCLA and the PhD here in 1956. He resides in Amherst, Massachusetts, is married, and has four children.

From 1956 to 1966 he was with Chevron Research in Richmond, California, attaining the position of senior research associate. Leaving to enter teaching, he was associate professor and chairman of Polymer Science and Engineering from 1966 to 1968 at the University of Massachusetts at Amherst and department head and professor from 1968 to 1976.

Dr. Porter conducted an active polymer research program for ten years at Chevron Research and for fifteen years at the University of Massachusetts. These continuing studies at UMass emphasize the characterization, rheology, and processing of thermoplastics and liquid crystals. The versatility and industry of this prolific worker can only be summarized here.

He has published about two hundred and fifty fundamental studies, many with a practical import.

Characterization studies continue to be developed in areas such as magnetic resonance, thermal analysis, and transmission and reflectance infrared. Programs on separation mechanisms and their application by gel permeation chromatography also remain under study, most recently by utilizing low-angle laser light-scattering detection.

A range of research programs is being continued on glassy polymers, particularly on polystyrenes and on polyesters and related compatible blends. Features of interest for such systems are how crystallinity development, gas permeability reduction, and mechanical property enhancement change with molecular orientation.

Dr. Porter has published on a broad range of semicrystalline thermoplastics with individual studies on high- and low-density polyethylene, on several ethylene and propylene copolymers, polypropylene, poly-1-butene, ionomers, poly-4-methyl-1-pentene and an experimental survey of the properties and flow of isotactic poly-1-olefins from polyethylene to poly-1-octadecene. He has also surveyed the properties of stereoregular polymers in the solid state. Dr. Porter reported some of the first studies on the flow of liquid crystals and of partially crystalline polyolefins. These early studies have subsequently led to a full field of exciting investigation involving the preparation of high-modulus semicrystalline thermoplastics by special deformation techniques.

Professor Porter is codirector for the first National Science Foundation Materials Research Laboratory devoted to polymers. He also has been head for ten years of one of the world's most active University programs in polymer science and engineering. In addition, he is editor for the *Society of Plastics Engineers journals*, "Polymer Engineering and Science" and "Polymer Composites."

Professor Porter was appointed by the United States presidential science adviser in 1979 to evaluate a possible U.S.-U.S.S.R. cooperative program on polymers. He has been elected to the board of trustees on the Gordon Research Conferences and appointed to the board of the Petroleum Research Fund of the American Chemical Society. Other recognitions include: American Physical Society, Division Chairman and Elected Fellow; ACS Award in Coatings and Plastics, 1979; Society of Plastics Engineers Award for Polyolefin Research, 1977; Plastics Institute of America; Member, Board of Directors, 1974–1980; International Award in Plastics Education, SPE, 1980; and the International Award in Plastic Science and Engineering, SPE, 1981.

Dr. Porter's other teaching includes: visiting professorships at the Royal Institute of Technology, Stockholm, 1972; London University, 1972/73; University of Utah and the Science University of Tokyo, 1980.

WHERE THEY ARE . . . WHAT THEY ARE DOING

To economize space, abbreviations are used, particularly for the educational institutions, and PD is used for postdoctoral. Except for new addresses, the following listings will just indicate by institution where the respondent is. Complete addresses may be obtained by writing the editor.

The Thirties and Forties

Gene Baxter, BS in 40s, is Chief Development Chemist, Georgia-Pacific Corp., 2883 Miller Rd., Decatur, GA 30035.

Frank Conrad, PhD '34, living in retirement from U. of Missouri in the Ozark Rivers Nat'l Park. Home address: POB 632 Rolla, MO 65401.

Dana Harter, PhD '47, retired from Eastern Wash. State U., now at 10011 Briar Forest, Houston, TX 77040.

Name _____ Degree(s) at U of W _____ Year(s) _____

Home Address _____

Other Degree(s) _____ Institution(s) _____ Year(s) _____

Position _____ Organization _____

Business Address _____

News Notes:

News of Other Graduates:

Date _____ Signed _____

John Hicks, BS '29, MS '31 (PhD Berkeley '33), retired after an active career. Some high points were: PD work at M.I.T. '33-'38; joined Corning Glass, '38-'43 (Manhattan Project '43-'45); Director of Corning Foreign Tech. Service '47-'53; Manager of their International Div. '53-'61; V. Pres. of Corning '56-'61; Assoc. Dir. Battelle Inst. '61-'65; V. Pres. Battelle, '62-'65; Consultant and Prof. of Glass Tech., Ohio State U. '65-'75. Now at 20 Quinine Hill, Columbia, SC 29204.

Robert Houston, PhD '43, retired from Chevron Research this spring. Home address: 63 Billou St., San Rafael, CA 94901.

John Lincoln, BS '38, retired in December as Sr. Oceanographer, UW. Now at 9800 23rd Ave. N.W., Seattle, WA 98117.

Richard Mullineaux, BS '48 (PhD Wisconsin '51). New address: Shell Oil Co., POB 2463, One Shell Plaza, Houston, TX 77001.

Loren Neff, PhD '43, retired from Union Oil Co., January 1981. Home address: 425 W. Brookdale Place, Fullerton, CA 92632.

Helen Pearce, MS '32, busy with many activities at 7417 York Road, Helena, MT 59601.

Ernest Wenkert, MS '49 (PhD Harvard), now at Dept. of Chem., U. of Calif. at San Diego, La Jolla, CA 92093. Exact appointment not reported.

The Fifties

David Barlow, PhD '53, retired from DuPont, now at RD #1, 152 Explorer Lane, Port Ludlow, WA 98365.

Harold Booker, MS '55, new address 1423 B St. S.E., Auburn, WA 98002.

Xikui Jiang, PhD '52, visited the Department on Aug. 12-15, 1981. He was on a trip sponsored by the People's Republic of China to the University of Minnesota, Michigan, Wisconsin, Washington, and Heidelberg (Germany), and also to the IUPAC meetings in Vancouver, B.C., and Freiburg (Germany). Dr. Jiang is now a Professor at the Shanghai Institute of Organic Chemistry, Shanghai 200032, P.R.C. His son is a student in Chemical Engineering at Madison, and Dr. Jiang visited him there while renewing his friendship with Dr. Irving Shain (Chancellor at Wisconsin).

Wayne Lanka, PhD '52, retired from DuPont and living in Nebraska, but C/L does not have his address.

Bruce Raby, BS '52 (PhD, Iowa State '63), is now a self-employed consulting chemist, 1547 Arata Ct., San Jose, CA 95125.

Thomas Shryne, PhD '55, new address, Shell Development Co., POB 481, 3737 Bellaire Blvd., Houston, TX 77001.

Lynn Slaugh, PhD '56, is now the highest ranked scientist in all Shell Research. Reported by one of his colleagues.

Richard Teeter, PhD '54, Chevron Res., has been working in organic mass spectrometry since 1959. He was awarded "Best Paper on Organic Geochemistry in 1972," Seifert, Gallegos & Teeter, JACS 94, 5880 (1972).

The Sixties

Robert Griffin Anderson, PhD '61, is a senior research chemist at Chevron Res. Co. In February he made a business trip to England, Switzerland, France, and Saudi Arabia.

Roy Behm, PhD '62, is chairman of chemistry at Eastern Wash. State Univ., Cheney, WA 99004.

Dagmar Cronn, BS and MS late 60s, (PhD in Atmos. Sc. here), is Assoc. Prof. of Chem. Eng. at W.S.U. As one of forty young professionals she has been chosen for a W. K. Kellogg Found. fellowship and is eligible for support up to \$30,000. She was named in the 1980 Who's Who in *Technology Today* as an "Outstanding Young Woman in 1979."

Frank Hunter, PhD '66, is manager Chem. Dept., Weyerhaeuser Co., Tacoma, WA 98477. He was with DuPont until 1978.

Robert Kortzeborn, PhD '66, is president of Markor Associates, 2975 Scott Blvd., Santa Clara, CA 95050; involved in development of electronic/computer devices.

Ted Koundakjian, MS '60, is with the Ortho Div. of Chevron Chem. Co., 940 Hensley St., Richmond, CA 94802. (sent in by Robt. Gr. Anderson).

Wesley Lingren, PhD '62, Seattle Pac. Univ., had a book published in Jan., 1980, *Inorganic Nomenclature*, 185 pages, Prentice-Hall.

Vincent Podbeilancik, PhD '66, retired from Seattle Univ. in June, 1981. He taught there for thirty-three years and was chairman twelve years. He plans to travel some, enjoy the outdoors and leisure. Home address 11639 S.E. 48th St., Bellevue, WA 98006.

Richard Tonkyn, PhD '60, visited here in May; new address, 15800 Van Aken #508, Shaker Heights, OH 44120.

The Seventies and Some Eighties

Dennis Bionciolini, MS '79, is a process engineer at American Microsystems, Inc., 2300 Buckskin Rd., Pocatello, ID 83201.

Patrice (Lorimer) Blakeway, BS '80, is a process engineer, ARCO refinery, POB 1127, Ferndale, WA 98248.

James Booker, PhD '70, now at Kimberly Clark in Wisconsin.

William J. Brunton, Jr., BS '80, 1026 E. Spence #113, Tempe, AZ 85281.

Larry Butler, PhD '72, was at the August, 1980, ACS meeting in Las Vegas. He would like to hear from Alan Craig, Rita Bartshot, Peter Stonebraker (so would we). See below for Ron Cook. Larry had three publications in press last November.

Lauren Colman, MS '71, new address: 4604 Colman Camp Rd. N.W., Gig Harbor, WA 98335.

Ronald Cook, PhD '74, is president of his own firm: BioSearch, 1281 Anderson Drive (#F), San Rafael, CA 94901.

Brian Davis, PhD '72, Sun Oil Co. Papers given (1) "Octane Improvement, Synergism With Alcohol Mixtures", ACS Houston meeting, March 1980; (2) "The Use of Alcohol Mixtures as Gasoline Additives," Nat'l. Petroleum Refiners Ass'n., New Orleans, March, 1980.

Jay Dunlop, BS '74, (PhD Harvard '79), PD at Thinann Labs., U. of Calif., Santa Cruz, CA 95064.

Joseph Edwards, BS '79, Tech. Aide, The Boeing Co., POB 3707 Seattle, WA 98124, Mail Stop 9R-37.

Edmond Fey, PhD '79, is with IBM, Dept. E22, 6M 00, Endicott, NY 13760.

Gary Forrest, MS '71, is president of his own company, Phyllogenics, Inc., 2278 45th Ave., San Francisco, CA 94116.

Judith Fries, PhD '71, has left New Orleans, plans to be married and live in Texas.

Louis Hahn, PhD '79, new address: 1694 Lakeview Dr., #F, Newark, OH 43055.

Rodney Hill, MS '79, is with Texas Instruments, POB 225621 (M.S. 974), Dallas, TX 75265.

Timothy Hoyt, MS '78, 126 N. 84th St., Seattle, WA 98103, teaching at Shoreline Comm. Coll.

Jeanne Hsu, BS '79, POB 4434, Stanford, CA 94305, is a market administrator for Pac. Telephone.

Richard Jewell, PhD '70, is a lead scientist at Weyerhaeuser Co., Tacoma, WA.

Phyllis Leithem, MS '73, is a research chemist with ITT Rayonier, Shelton; Rt. 1, Box 84A, McCleary, WA 98557.

Sung Chang Lin, PhD '78, 8216 Wisner Ave., Van Nuys, CA 91402, is an engineer with Litton Data Systems.

James McGill, PhD '77, now at Boeing's Elec. Control System, 745 Andover Park E., Seattle, WA 98188, Mail Stop 1E-56.

James Martin, PhD '71, has a position with Sandia Labs, Albuquerque, NM.

Lance Matheson, BS '74, is production manager, Triad Controls, Inc., 6601 220th S.W. Suite 4, Mountlake Terrace, Seattle, WA 98043.

Carl Morimoto, PhD '70, 4003 Hamilton Park Drive, San Jose, CA 95130.

Rowland Pearsall, BS '72 (MD '76), Asst. Prof. Psychiatry, Yale Univ.

Christopher Perkins, PhD '80, Chem. Dept., Colorado State U., Fort Collins, CO 80253.

Paul Steiner, PhD '79, specialist engineer, Boeing, MS 73-43, POB 3707, Seattle, WA 98124.

Kenneth Stephens, MS '70 (MBA, '75 UW), with the Hysol Div./Dexter Corp., 1515 116th Ave. N.E., Bellevue, WA 98004.

Syang Yang Su, MS '79, working for PhD, Univ. of Florida, 571 Leigh Hall, Gainesville, FL 32611.

Mary Tompkins, PhD '80, 1851 Powell St., San Pablo, CA 94806.

Frank Tsien, PhD '70, now at Exxon Chem. Co., POB 536, Linden, NJ 07036, in the Chemical Solvent Division.

Edward Valente, PhD '77, has taken leave from N. Carolina Coastal Comm. Coll., to work at U. of Mich. next school year. He was at UW this summer.

Frederick Wolters, PhD '79, is with the Clorox Co., POB 493, Pleasanton, CA 94566.

Rebecca Wong, BS late 70s, expected MS degree from Inst. of Paper Chemistry in March.

Ronald Yates, PhD '77, is at Dow Chem. Co., M. E. Pruitt Bldg., Midland, MI 48640, working with laser photochemistry.

At the American Chemical Society meeting in New York (Aug. 24 thru 28) the following former students appeared at the University of Washington mixer: E. R. Byrd, David and Lola Bjorkquist, Darryl D. DesMarteau, Frederick A. Golec, Jr., Edward H. Gruger, David Keil, Jeanne Shreeve, Elizabeth (Betsy) Karess, Larry McCandlish, and William Wasserman. Several of them joined Boris Weinstein for dinner at a Brazilian restaurant.

WE REGRET THE PASSING OF . . .

Carl Z. Draves, Sr., died in February, 1980, in New Hyde Park, New York. He received his BS in '17, MS in '22, and PhD in '25, all from the UW. He was a distinguished textile and dye chemist and was national president of the American Association of Textile Chemists and Colorists for two years, 1940 and 1941.

Donald Granquist died May 9, 1981. He obtained the BS in Chemical Engineering when the dual department existed here and the PhD in Chemical Engineering after the departments had separated. He died in Richland, where he had worked for many years.

J. Irving Jolley died in Moscow, Idaho, in late 1975, although the news did not reach us until this year. He received his BS and PhD (1940) from here and taught at the Univ. of Idaho until his retirement.

Harlan Trumbull died in January, 1981, in Hudson, Ohio; BS and MS in 1907 and 1908 from UW, and the PhD from Univ. of Chicago in 1911. He taught here from 1911 to 1918. Employed at the B. F. Goodrich Co. from 1918 until his retirement, he was an internationally known research chemist and was largely responsible for many UW chemists being employed by Goodrich.

Wayne Zaugg, PhD '66, died in California in June, 1979. He had taught at Loma Linda University.

GRADUATE AND UNDERGRADUATE DEGREES

Doctoral Degrees (21)

Carl J. Appellof, 1940 Chapel Hills Drive, Colorado Springs, CO 80918. (1980)

Edward R. Bacon, Sterling-Winthrop Research Institute, Columbia Turnpike, Rensselaer, NY 12144. (1980)

Thomas L. Deits, Department of Biochemistry, UW SJ-70. (1980)

Lawrence E. Gulberg, 7419 N.E. 145th St., Bothell, WA 98011. Teaching High School. (1980)

Leon W. Hershberger, DuPont Biochemical Dept., Experiment Station, Bldg. 324, Wilmington, DE 19898. (1980)

Chu-Ngi Ho, Department of Chemistry, Texas A&M University, College Station, TX 77843. (1980)

Lienshin G. Kao, Oak Ridge National Laboratories, P.O. Box X, Oak Ridge, TN 37830. (1981)

David F. Kelley, Bell Laboratories, 600 Mountain Ave., Murray Hill, NY 10001. (1980)

Ronald P. Ko, Medicinal Chemistry, BG-10, UW, Seattle, WA 98195. (1980)

James R. Larson, Dept. of Chemistry, University of Chicago, Chicago, IL 60637. (1980)

John W. Loker, 14306 Grafton Place, Carrollwood Meadows, Tampa, FL 33624. (1980)

Lawrence J. Madsen, 11775 S.W. Terra Linda, Beaverton, OR 97005. (1980)

Michael J. Maroney, 14036 Juanita Drive N.E. #C, Bothell, WA 98011. (1981)

James E. Martin, Chemical Physics of Organic Material, Sandia National Labs., Albuquerque, NM. (1981)

Christopher M. Perkins, Department of Chemistry, Colorado State University, Ft. Collins, CO 80523. (1980)

Kenneth W. Raymond, Department of Chemistry, UW. (1980)

Bernard Santarsiero, Research Fellow, Department of Chemistry, California Institute of Technology, Pasadena, CA 91125. (1980)

Frederick J. Silbereis, Charminade College of Honolulu, 3140 Waiialae Ave., Honolulu, HI 96816. (1981)

David E. Sloat, 7330 15th Ave. N.E., Seattle, WA 98115, in electronic manufacturing in Lynnwood, WA. (1981)

John R. Swanson, Department of Chemistry, Southeastern Massachusetts University, North Dartmouth, MA 02747. (1980)

Hong-Chin Yeh, 110 CPL, Phillips Petroleum Co., Bartlesville, OK 74004. (1980)

Master's Degrees (9)

Ling Hing Ainslie, 5261 12th Ave. N.E., Seattle, WA 98105. (1981)

Abdulrahman Al-Arfaj, Department of Chemistry, UW. (1980)

El-Bashir E. Ali, Department of Chemistry, UW. (1981)

Teri F. Brown, Department of Civil Engineering, UW. (1980)

John T. Geppert, College of Forest Resources, UW. (1980)

Tzyy-Jan T. Han, Department of Chemistry, UW. (1981)

Elizabeth Yu Kwa, Department of Chemistry, UW. (1981)

Joseph H. Osborne, Department of Chemistry, UW. (1980)

Yueh-Shiang, 6018 West Airport Blvd., Houston, TX 77035. (1981)

Undergraduate Degrees

This year's large class was outstanding in the number who are going to graduate or professional schools and the number who earned awards. There were 52 B.S. and 21 B.A. degrees (divided, by chance, among 52 men and 21 women).

Space does not permit listing all, but the following are noteworthy. The symbols after the names indicate: Phi Beta Kappa (P); College Honors (C); Departmental Distinction (D); *Summa Cum Laude* (S), - grade-point average above 3.9; *Magna Cum Laude* (M) > 3.72; *Cum Laude* (CL) > 3.55.

Data on graduate work are not available in all cases.

Victoria Baker (M) UW (Medicine)

Michael Breda (C) (M) Johns Hopkins (Medicine)

Mark Brusich (C) (M) California Tech. (Physical Chemistry)

Robert Buchanan (C) (CL) University of Wisconsin (Organic Chemistry)

Raymond Burnham UW (Medicine)

Edward Celarier Canada (Physical Chemistry)

Bruce Cristen (P) (M) University of Southern California (Medicine)

Kevin Cronin (P) (D) (M) University of California, Berkeley (Organic Chemistry)

Gregory Davis UW (Medicine)

Grant Dona UW (Medicine)

Ralph Erickson (C) Armed Forces University (Medicine)

Robert Hamilton UW (MBA)

David Hansen (D) St. Louis University (Medicine)

Bernard Hayden Northwestern University (Dentistry)

Hepburn Ingham UW (Engineering)

Douglas Lantrip Purdue University (Analytical Chemistry)

James Larson (CL) (D) Medical College of Wisconsin (Medicine)

Yan Leung (CL) UW (Medicinal Chemistry)

Richard Lindquist UW (Medicine)

Douglas Louie UW (Medicine)

Timothy Lovell (D) (M) University of California, L.A. (Medicine)

William Mellor (D) UW (Medicine)

Greg Michelson (D) University of California, Berkeley (Organic Chemistry)

Martin Michelsons (C) Purdue University (Analytical Chemistry)

Robert Murray (SI) (P) Massachusetts Institute of Technology (Inorganic Chemistry)

Son Nguyen (Chemistry)

Richard Norman (C) (CL) UW (Organic Chemistry)

Keith Douglas Washington State University (Vet. Medicine)

Alexander Pallenberg Ohio State University (Chemistry)

Deborah Parsons (M) UW (Chemical Engineering)

Douglas Perschke University of Texas (Petroleum Engineering)

Christina Peterson University of Iowa (Dentistry)

Suzanne Raymonda State University of New York, Buffalo (Microbiology)

Sally Shyster UW (Medicine)

James Slater (M) University of Virginia (Biochemistry)

Rick Smith University of Southern California (Medicine)

Candace Soupley UW (Physical Chemistry)

George Tyndall University of California, Santa Barbara (Physical Chemistry)

Brian Wines (P) (D) (CL) University of California, Berkeley (Chemical Engineering)



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