CHEM/LETTER

THE CHAIRMAN'S MESSAGE

The next time you visit the main office of the Chemistry Department you may be in for a surprise. The second phase of Bagley Hall renovation has been completed. The Departmental offices have been relocated and occupy the entire northeast wing of the first floor. These new quarters are really quite pleasant. (Come to think of it, some of the walls are a bit bare. If you have a spare antique tapestry or an unloved Mark Tobey in the attic keep us in mind.) New faculty offices, laboratories and classrooms have also been completed. As in all construction projects a few vexing errors have shown up but we expect that most of them will be corrected, barring further budget cuts. The third phase will involve renovation of the southeast wing and is expected to get under way in September.

This fall three new faculty members join the Department. Professor Brian R. Reid, currently on leave at Oxford University will arrive near the end of the calendar year with a joint appointment in Chemistry and Biochemistry. Professor Reid's work on tRNA structure and dynamics using NMR will bring an entirely new dimension to the Department. Indeed, plans are being developed to create a formal program in biophysical chemistry by drawing on the talents of people in Chemistry and in several other departments of the University.

Dr. Tom Engel from IBM Zurich will join the Department this fall as Associate Professor of Chemistry. Dr. Engel's interests involve surface phenomena and catalysis which he investigates using molecular beam scattering methods and other advanced experimental techniques. Not only will his research complement the interests, in surfaces, of Professors Halsey, Slutsky and Kowalski in Chemistry, but also the broad range of research in surface science underway in the Department of Physics. We look forward to a significant expansion in surface related research at the University of Washington.

Dr. Bruce Robinson, presently with IBM Instruments Inc., in New York will assume his new responsibilities as Assistant Professor of Chemistry starting Fall Quarter. Dr. Robinson has been involved in the development of the theory of saturation transfer spectroscopy as it relates to magnetic resonance (EPR) studies of spin labeled biomolecules, and has applied these methods, for example, to the study of the torsional motion in DNA. Together, Bruce Robinson, Brian Reid and J. M. Schurr represent a formidable resource within the Department for unraveling and understanding the complex dynamics of nucleic acids, a topic of considerable importance in connection with the exploding interest in recombinant DNA techniques.

This fall we will begin recruiting in the area of Environmental Chemistry. There is substantial though widely dispersed activity on campus involving various aspects of oceanographic and atmospheric chemistry with considerable emphasis on geochemical cycles. We plan to make an appointment in Chemistry which will complement and strengthen these activities. Our initial inclination is to seek someone with a strong analytical chemistry background. However, because of the special interdisciplinary character of this appointment, the best candidate may have a different area of specialization, or possibly may not even have training typically provided by a chemistry department. That makes the task more challenging and we earnestly solicit your suggestions not only of potential candidates but also of the appropriate emphasis and structure for such a position. Although the position is at the assistant professor level, a truly outstanding candidate at a more senior level would be seriously considered. By making an appointment in this increasingly important area, and by making modest changes in the undergraduate and graduate course offerings, we anticipate that Chemistry will be able to provide leadership and help to generate greater coherence for the many excellent research efforts under way around the campus.

We continue to make significant progress in improving our research facilities. i) The Digital Equipment Corporation VAX 11/780 with nearly 3 Mbytes of main-core memory and 800 Mbytes of of disk storage was placed in operation in July. ii) Through the efforts of Professor William F. Trager, Chairman of Medicinal Chemistry, (who was appointed Adjunct Professor of Chemistry this past year) and several other investigators, funding was obtained from NIH for a new intermediate resolution VG-7070 mass spectrometer. The three instruments in the mass spectrometer facility on the ground floor of Bagley Hall provide an excellent resource for a broad spectrum of users. iii) We are especially pleased that the Murdock Charitable Trust has decided to provide substantial funding toward the development of our proposed NMR facility. We anticipate acquisition of two superconducting NMR spectrometers: a 200 MHz (for protons) multinuclear instrument with both high resolution and solid state capabilities, and a state-of-the-art 500 MHz instrument. These planned additions will provide an enormous jump in capabilities not only for the Department but for the entire institution as well.

I must not neglect to mention the excellent response to our invitation to contribute to the Paul C. Cross Memorial Fund. It was most heartening. As a result of the many contributions received, the Department initiated the Paul C. Cross Lectures this year. We invited Professor Bryce Crawford (Paul Cross' first graduate student) to launch the series. We appreciate the generosity of all who have contributed and have made this important lecture series possible.

Finally, I wish to mention that an important administrative change was made last year because of increasing demands on the Department, the complexity of its operations, and its expanding activities. Professor Arthur G. Anderson Jr. agreed to accept the position of Associate Chairman and has vigorously and efficiently handled that job during this past year. One of his major areas of responsibility involves graduate student affairs and especially the recruitment of new graduate students. You can provide significant help to Professor Anderson by telling prospective students about the Department, the recent and continuing expansion of the faculty and the dramatic increase in research facilities. The Department is

strong because of the quality of its graduates. Your continued interest and help in maintaining and enhancing that quality is very important to us. Anything you can do to help us attract the best students will be greatly appreciated by the entire Department.

I hope all of you will be able to visit the Department at the time of the Spring, 1983 ACS meeting in Seattle. If you cannot come at that time, come when you can. In the meantime, my best wishes for a good year to each of you.

Alvin L. Kwiram
Chairman

FROM THE ASSOCIATE CHAIRMAN

CHEMISTRY ALUMNI REUNION

Plans are just germinating to have a reunion of all former graduates of the Department at the time of the Spring 1983 National ACS meeting which will be held in Seattle. By that date it is hoped that the extensive renovation of Bagley Hall, which was begun several years ago, will be completed and all the new instrumentation will be churning out data. If you have not been back to Seattle in recent years, you will find many other changes both on and off campus. So mark this meeting and reunion on your plan-ahead calendar. The next Newsletter will have more information.

FUNDING FROM FELLOWSHIPS AND CONTRIBUTIONS

The significant reduction in industrial fellowships and contributions which has occurred during the last decade has been more severely felt by the Department in recent years. These funds were primarily used for graduate student support to reward outstanding performance and to fill in gaps between grants, or to bring eminent chemists to visit the Department. Most of those graduating in the 1950-1970 period benefitted from such funds.

In conjunction with the current active growth of the Department (see remarks by the Chairman), an increase in industrial support and personal contributions (H. V. Tartar or P. C. Cross Funds) is being sought. If you can assist with either, we will be very grateful. For those associated with an industrial concern, it would be appreciated if you could provide information on the possibility of some form of support, and the name, title, and address of the person in your company to contact.

Arthur G. Anderson
Associate Chairman

FROM THE EDITOR'S DESK

Number 10 When Chem/Letter started in 1971, no thought was given to the volume and number. Perhaps it was because of an uncertain future and the very shaky past of earlier Newsletters. It is therefore fitting to call this No. 10, skipping the "volume" since it is an annual effort.

Special Salutations Four graduates are honored in the section "News of Graduates." We hope to continue this in future issues. This is a continuation of the Front Page Recognition accorded to alumni and faculty in 1977, 1978 and 1979. Also in 1976 and 1977 brief accounts of the careers of Carl Z. Draves, PhD '24, and of Waldo L. Semon, PhD '24, were given.

Where Do We Rank? Chairman Kwiram wrote in the June 4th U. of W. Daily on the ranking of undergraduate programs as listed in the Gourman Report. Our department ranks 18th in the country in the strength and excellence of its undergraduate programs. However, it is 10th in the country in the number of ACS certified bachelor's degrees.

Nearly 5000 students are registered in chemistry courses each quarter. This enormous teaching load is handled by about 30 faculty members—a smaller number, working with a smaller budget than many institutions ranked lower in the Gourman Report. This testifies to the dedication and hard work of the faculty, teaching assistants and staff.

Communication We experienced a partial breakdown in communication this year, the 1979 Alumnus Report replies were about one half the number of those in 1978. This may have been due to a last minute mix-up which eliminated the postage paid reply in the 1979 issue. It is reinstituted. So please send in news items and other topics. Tell us of your promotions, honors, special assignments, sabbaticals and changes of address. We lose 30 to 40 addresses each year, rediscovering some of these due to correspondence and perusal of the U of W Alumnus bulletin by your editor. Perhaps you can locate some of those listed at the end of this issue.

Victorian Sivertz, Editor

FACULTY NOTES

Niels H. Anderson, *Professor* (Organic, PhD, Northwestern)

On the Multiplicity of Platelet Prostaglandin Receptors. I. Evaluation of Competitive Antagonism by Aggregometry, N.H. Andersen, T.L. Eggerman, L.A. Harker, C.H. Wilson, and B. De, *Prostaglandins, 19,* in press.

Synthesis and Chiroptical Characterization of Prostacyclin Diastereomers, B. De, N.H. Andersen, R.M. Ippolito, C.H. Wilson, and W.D. Johnson, Prostaglandins, *19,* 221 (1980).

Dithiane Chemistry. III. The Addition of Grignard Reagents to Substituted Ketene Dithioacetals, N.H. Andersen, P.F. Duffy, A.D. Denniston, and D.B. Grotjahn, *Tetrahedron Lett.,* 4315 (1978).

Arthur G. Anderson, Jr., *Professor* (Organic, PhD, Michigan)

Continues his work on synthesis and properties of carbo- and heterocyclic non-classical aromatic compounds including biologically active derivatives of azulene. He also studies strained heterocyclic systems. He was co-author of a paper presented at the Northwest Regional Meeting of ACS in Salt Lake City, June 1980.

2*H*—Cyclopental[d]pyridazines. Polyhalogenation Studies. Evidence for a Radical Substitution with NCS, A.G. Anderson, Jr. and T. Tober, *J. Org. Chem.,* (1980), in press.

Azetidines. V. The Reaction of 1,1,3,3-Tetramethyl- and 1-Benzyl-1,3,3-trimethylazetidinium Ions with Butyllithium and Phenyllithium. Deuterium Labeling as a Mechanistic Probe, M.T. Wills, I.E. Wills, L. VonDollen, B.L. Butler, J. Porter, and A.G. Anderson, Jr., *J. Org. Chem.,* (1980), in press.

Electrophilic Trifluoroacetylation of Dicyclopenta[ef,kl]keptalena (Azupyrene), A.G. Anderson, Jr., G.M. Masada, and G.L. Kao, *J. Org. Chem., 45,* 1312 (1980).

Weston T. Borden, *Professor* (Organic, PhD, Harvard)

Was an invited Speaker at the ACS Symposium honoring Ronald Breslow upon his receipt of the James Flack Norris Award in Physical-Organic Chemistry.

Dependence of the Singlet-Triplet Splitting in Heterosubstituted Carbenes on the Heteroatom Electronegativity and Conformation, D. Feller, W.T. Borden, and E.R. Davidson, *Chem. Phys. Lett., 69,* 0000 (1980).

A Theoretical Study of Paths for Decomposition and Rearrangement of Dihydroxycarbene, D. Feller, W.T. Borden, and E.R. Davidson, *J. Computational Chem., 1,* 000 (1980).

Stereochemistry of Electrophilic Attack on the Putative Carbanion Intermediate in the Base Catalyzed Ketonization of 3,7-Dimethyl-tricyclo[3.3.0.$0^{3,7}$]octan-1-o1. Evidence against the E_E1 Mechanism for Ketonization, A.B. Crow and W.T. Borden, *J. Am. Chem. Soc., 101,* 6666 (1979).

George H. Cady, *Professor Emeritus* (Inorganic, PhD, California)

Is determining the composition of clathrate hydrates of gases, doing his own laboratory work. He attended the International Fluorine Symposium in Avigon, France, September 1979.

Solubility and Reactions of Perchloryl Fluoride in Water, G.H. Cady, *J. Fluorine Chem., 11,* 225 (1978).

James B. Callis, *Research Associate Professor* (Physical, PhD, Washington)

Concerns himself with research on fluorescence spectroscopy, gas chromatography-mass spectrometry, and with spectroscopic studies of cells and chromosomes. He was promoted to Research Associate Professor, effective July 1, 1980.

Sub-microliter flow-through cuvette for fluorescence monitoring of high performance liquid chromotographic effluents, L. Herschberger, J.B. Callis and G.D. Christian, *Anal. Chem., 51,* 1444 (1979).

No evidence for chromosomal mosiacism in multiple tissues of 10 patients with 45,X0 Turner syndrome, J.L. Burns, J.G. Hall, E. Powers, J.B. Callis and H. Hoehn, Clinical Genetics, *15,* 22 (1979).

Video Fluorometer, D.W. Johnson, J.B. Gladden, J.B. Callis and G.D. Christian, Rev. Sci. Inst., *50,* 118 (1979).

William S. Chilton, *Professor* (Organic, PhD, Illinois)

DNA Transfer Reagent: A Carcinogenic Byproduct, W.S. Chilton, Science 207:6 (1980).

Psilocin, Bufotenine and Serotinin: Historical and Biosynthetic Observations, W.S. Chilton, J. Bigwood, and R.E. Jensen, J. Psychedelic Drugs 11:61 (1979).

Chemistry and Mode of Action of Mushroom Toxins, W.S. Chilton, Chapter 6 in *Mushroom Poisoning: Diagnosis and Treatment,* B.H. Romack and E. Salzman, eds., CRC Press, 1978.

Gary D. Christian, *Professor* (Analytical, PhD, Maryland)

Devotes his efforts to the following research topics: clinical chemistry, enzyme analysis, competitive protein binding assays, electroanalytical chemistry, atomic spectroscopy, multi-component fluorescence analysis, chromotography detectors, and flow injection analysis. During 1979-80 he has been chairman, Pacific Northwest Section, Society for Applied Spectroscopy. In 1979 he was presented with the Honorary Certificate of Research by the University of Ghent, and he gave a lecture at the Garvan Medal Symposium, Houston ACS meeting.

Biamperametric Determination of Ethanol, Lactate and Glycerol Using Immobilized Enzymes in Flow Streams, A.S. Attiyat and G.D. Christian, *Analyst, 105,* 154 (1980).

Enzymatic Determination of Blood Ethanol, with Amperometric Measurement of Rate of Oxygen Depletion, F.S. Cheng and G.D. Christian, *Clin. Chem., 24,* 621 (1978).

Amperometric Measurement of Enzyme Reactions with an Oxygen Electrode using Air Oxidation of Reduced Nicotinamide Adenine Dinucleotide, F.S. Cheng and G.D. Christian, *Anal. Chem., 49,* 1785 (1977).

Alden L. Crittenden, *Associate Professor* (Analytical, PhD, Illinois)

A Survey of the Molecular Nature of Primary and Secondary Components of Particles in Urban Air by High-Resolution Mass Spectrometry, D.R. Cronn, R.J. Charlson, R.L. Knights, A.L. Crittenden and B.R. Appel, Atmospheric Environment, *11,* 929 (1977).

Analysis of Atmospheric Organic Aerosols by Mass Spectroscopy, A.L. Crittenden, Ecological Reseach Series EPA-600/3-76-093.

Ernest R. Davidson, *Professor* (Physical, PhD, Indiana)

Continues his research on potential surfaces for chemical reaction, relativistic and magnetic interactions, photo-ionization theory and density matrices.

Dependence of the Singlet-Triplet Splitting in Heterosubstituted Carbenes on the Heteroatom Electronegativity and Conformation, D. Feller, W.T. Borden, and E.R. Davidson, *Chem. Phys. Letters,71,* 22 (1980).

Ab Initio Calculation of the Zero Field Splitting Parameters of the ^3A State of Formaldehyde, E.R. Davidson, J.C. Ellenbogen, and S.R. Langhoff, *J. Chem. Phys.,* in press.

The Method of Rank Annihilation with Applications to Quantitative Analyses of Multicomponent Fluorescence Data from the Video Flurometer, C.-N. Ho, G.D. Christian and E.R. Davidson, *Anal. Chem., 50,* 1108 (1978).

D. F. Eggers, Jr., *Professor* (Physical, PhD, Minnesota)

Ab Initio Theory of the Polarizability and Polarizability Derivatives in H_2S, R.L. Martin, E.R. Davidson and D.F. Eggers, Jr., Chem. Phys. *38,* 341 (1979).

The Infrared and Raman Spectra of Cyclopropene and of Six Deuterated Derivatives, T.Y. Yum and D.F. Eggers, Jr., J. Phys. Chem. *83,* 501 (1979).

The Infrared and Raman Spectra of cis- and Trans-1,2-dimethyldiborane, D.F. Eggers, Jr., D.A. Kohler and D.M. Ritter, Spectrochim. Acta *34A,* 731 (1978).

Bruce E. Eichinger, *Professor* (Physical, PhD, Stanford)

Is investigating the properties of random elastic networks and continuing to work on the solution thermodynamics of polymers. During the week of September 15, he attended an NSF sponsored seminar on small angle x-ray and neutron scattering from polymers in Strasbourg, France.

Volume Dependence of the Elastic Equation of State, L.Y. Yen and B.E. Eichinger, *J. Polym. Sci. Phys. Ed., 16,* 121 (1978).

Distribution Functions for Gaussian Molecules. I. Stars and Random Regular Nets, J.E. Martin and B.E. Eichinger, *J. Chem. Phys., 69,* 4588 (1978).

T. Engel, *Associate Professor* (Physical, PhD, Chicago)

Structural Investigation of an Adsorbate-Covered Surface with He Diffraction: Ni(110) + (1x2)H, K.H. Rieder and T. Engel, *Phys. Rev. Lett., 43,* 373 (1979).

Elementary Steps in the Catalytic Oxidation of Carbon Monoxide on Platinum Metals, T. Engel and G. Ertl, *Advances in Catalysis,* Vol. 28, 1, (1979).

A Molecular-Beam Investigation of the Scattering, Adsorption and Absorption of H_2 and D_2 from/on/in Pd(III), T. Engel and H. Kuipers, *Surface Sci., 90,* 162 (1979).

Nicolas D. Epiotis, *Associate Professor* (Organic, PhD, Princeton)

On the Role of Spin Inversion in the Triplet Photochemistry of Benzyl Halides and Benzyl Ammonium Salts, James R. Larson, N.E. Epiotis, L.E. McMurchie, and S. Shaik, J. Org. Chem., *45,* 000 (1980).

Spin Inversion in Triplet Diels-Alder Reactions, S. Shaik and N.D. Epiotis, J. Amer. Chem. Soc. *102,* 122 (1980).

On the Fragmentation Modes in PMO Analyses, F. Bernardi, A. Bottoni, and N.D. Epiotis, Theoret. Chim. Acta *53,* 269 (1979).

Arthur W. Fairhall, *Professor* (Nuclear, PhD, M.I.T.)

Has been examining the fate of fossil CO_2 emissions in the environment, and the use of bomb ^{14}C to study the carbon cycle in the marine environment. April 23-25 he attended a workshop in Washington, D.C. on the fate of fossil CO_2 emissions and the predictions of future levels of atmospheric CO_2. In Boulder, Colorado, October 1979, at a conference on the Ancient Sun, he presented a paper on ^{14}C studies which suggest that there have been no detectable changes in solar modulation of cosmic ray fluxes over the last 10 millenia.

Carbon-14 Variations in Terrestial and Marine Reservoirs During the Last 11 Millenia, A.W. Fairhall and I.F. Yang, Proc. Conf. Ancient Sun, Boulder, CO, 1979.

Potential Impact of Radiocarbon Releases by the Nuclear Power Industry, A.W. Fairhall, California Energy Resources Conservation and Development Commission Report, Sacramento, CA 52 pp. Sept. 1978.

Larry R. Field, *Assistant Professor* (Analytical, PhD, Arizona State)

Effect of Element Composition of Thermodynamic Properties in HPLC, L.C. Sander and L.R. Field, *Anal. Chem.,* (1980) in press.

Reversed Phase Gradient Elution for Chemically Bonded C_{18} Thin Layer Chromatography Plates, L.C. Sander and L.R. Field, *I. Chromatographic Science, 18,* 133, (1980).

Gas Chromatography, S.P. Cram, T.H. Risby, W.-L. Yu, and L.R. Field, *Anal. Chem., 52,* 324 (1980).

Martin G. Gouterman, *Professor* (Physical, PhD, Chemical Physics, Chicago)

Was chairman at a session of the "Symposium on Interaction between Iron and Proteins in Oxygen and Electronic Transport", held at Arlie House, Virginia in April 1980.

Porphyrins. 40. Electronic spectra and Four-Orbital Energies of Free Base, Zn, Cu, and Pd Tetra (perfluorophenyl) porphyrin, P.J. Spellane, M. Gouterman, A. Antipas, S. Kim, and Y.C. Liu, Inorg. Chem., *19,* 386 (1980).

Porphyrins. 39. Ammine and Nitridoosmium Porphyrins. Ligand Effects on the Electronic Structure of Osmium Octaethylporphyrins, A. Antipas, J.W. Buchler, M. Gouterman, and P.D. Smith, *J. Am. Chem. Soc., 102,* 198 (1980).

Optically Detected Magnetic Resonance of the -Oxo Bridged Porphyrin Dimer., W.R. Leenstra, M. Gouterman, and A.L. Kwiram, Chem. Phys. Lett., *65,* 278 (1979).

Norman W. Gregory, *Professor* (Physical, PhD, Ohio State)

Continues his research on the experimentally determined thermodynamic properties of metal halide vapors.

Ultraviolet-Visible Absorption of the Iron-Iodine Vapor Phase, N.W. Gregory, *J. Phys. Chem., 83,* 692 (1979).

Interaction of Bromine with Iron(II) Chloride, N.W. Gregory, *J. Phys. Chem., 83,* 688 (1979).

George. D. Halsey, Jr. *Professor* (Physical, PhD, Princeton)

Chemisorption of Hydrogen on Metals. The Inert Surface Model, G.D. Halsey, Jr. and A.L. Yeates, J. Phys. Chem. *83,* 3236 (1979).

Surface Tension and Spreading Pressure of Mobile and Registered Monolayers, G.D. Halsey, Jr., Surface Science, *72,* 1 (1978).

Bruce R. Kowalski, *Professor* (Analytical, PhD, Washington)

Works in analytical chemistry through application of chemometrics, the department of novel mathematical approaches of improving the measuring property. He also applies pattern recognition and other multivariant analysis methods to chemical data.

The Generalized Standard Addition Method, B.E.H. Saxberg and B.R. Kowalski, *Anal. Chem., 51,* 1031 (1979).

Pseudopolarographic Determination of Metal Complex Stability Constants in Dilute Solution by Rapid Scan Anodic Stripping Voltammetry, S.D. Brown and B.R. Kowalski, *Anal. Chem., 51,* 2133 (1979).

Image Analysis, Special Report Section, M. Moran and B.R. Kowalski, *Anal. Chem., 51,* 776A (1979).

Alvin L. Kwiram, *Professor* (Physical, PhD, Cal. Tech.)

Employs novel magnetic resonance techniques for studying excited states both for their own sake and as probes of complex systems such as carcinogen - DNA complexes and proteins. He is also interested in solid-state NMR based on ENDOR detection methods. Recent emphasis has been on exploration of line-narrowing of phosphorescene and magnetic resonance spectra in condensed phases as a result of direct T_1 So laser excitation. During the past year, Professor Kwiram has attended both ACS meetings as Secretary-Treasurer of the Division of Physical Chemistry. He has also attended a conference on Advances in Chemical Science and Technology in Midland, MI, sponsored by Dow Chemical Company. The purpose of the meeting was to bring together chairmen of major chemistry departments, government representatives, research directors of major chemical corporations and others to discuss the state of research in chemistry and to explore ways of enhancing cooperation between industry and universities. Plans are under discussion to establish a research fund to provide more industrial support for research in universities. He attended a second such conference at Lehigh University in September. In August he gave an invited paper at the 21st Colloque Ampere and the International Society of Magnetic Resonance.

Triplet State of Tryptophan in Proteins III: The Optically Detected Magnetic Resonance Lines of Native and Urea Denatured Proteins and Polypeptides, J.B.A. Ross, K.W. Rousslang, and A.L. Kwiram, *Biochemistry, 19,* 876 (1980).

Narrowing of Triplet State Spectral Lines in Laser-Excited Experiments, R.L. Williamson and A.L. Kwiram, *J. Phys. Chem., 83,* 3393 (1979).

Base Interactions in the Triplet States of NAD^+ and NADH, J.B.A. Ross, K.W. Rousslang, A.G. Motten and A.L. Kwiram, *Biochemistry, 18,* 1808 (1979).

E. C. Lingafelter, *Professor* (Physical, PhD, California)

Bis(acetonitrile) (2,3,9,10-tetramethyl-1,4,8,11-tetraazacyclotetradeca-1,3,8,10-tetraene)iron(II)Hexafluorophosphate,$[Fe(C_{14}H_{24}N_4)\ (CH_3CN)_2]$ $(PF_{62}$, H.W. Smith, B.D. Santarsiero and E.C. Lingafelter, Cryst. Struct. Comm., *8,* 49 (1979).

Comparison of the Structure and Aqueous Solutions of [o-Phenylenediaminetetraacetato(4-1)]colbalt(II) and [Ethylenediaminetetraacetato(4-1)colbalt(II) Ions, E.F.K. McCandlish, T.K. Michael, J.A. Neal, E.C. Lingafelter and N.J. Rose, Inorg. Chem. 17, 1383 (1978).

John W. Macklin, *Assistant Professor* (Inorganic, PhD, Cornell)

Is currently studying the dynamics of some organomercury ligand exchange reactions using UV and nmr measurements. He is also observing the formation and structure of alkali metal-perchlorate contact ion pairs in aqueous solution using Raman spectroscopy.

Infared Spectra of $(SN)_x$ and Brominated $(SN)_x$, J.W. Macklin, G.B. Street and W.D. Gill, *J. Chem. Phys., 70,* 2425 (1979).

Raman Spectra and Structure of $BrOSO_2F$ and $BrOSO_2F$ Solutions of Alkali Fluorosulfates, W.M. Johnson and J.W. Macklin, *Inorg. Chem., 17,* 2283 (1978).

Donald R. McAlister, *Assistant Professor* (Inorganic, PhD, Cal. I. T.)

Reduction of Coordinated Carbon Monoxide. Synthesis of Neutral Formyl and Hydroxymethyl Derivatives of the $(C_5H_5)Re(CO)_2(NO)^+$ Cation, C.P. Casey, M.A. Andrews, D.R. McAlister, and J.E. Rinz, *J. Am. Chem. Soc., 102,* 1927 (1980).

Model Studies of Metal Catalyzed CO Reduction, C.P. Casey, S.M. Newmann, M.A. Andrews, and D.R. McAlister, Pure and Appl. Chem., 52, 625 (1980).

Thermal Decomposition and Reactions with Hydrogen and Ethylene of Isobutyl hydrido *bis* (Pentamethyl cyclopentadienyl) Zirconium, D.K. Erwin, D.R. McAlister, and J.E. Bercaw, *J. Am. Chem. Soc., 100,* 5966 (1978).

C. B. Meyer, *Professor* (Inorganic, PhD, Zurich)

Continues his attention given to sulfur chemistry. In addition he is interested in the detection and level of occurrence of formaldehyde in indoor air, in the Raman spectroscopy of aqueous systems and in the matrix isolation of metastable species. Recently he was chairman of a three-day technical workshop for the U.S. Consumer Products Safety Commission. Currently he is on leave working with EPA to establish a National Indoor Air Pollution Research Program and to define comprehensive sulfur pollution criteria.

Urea-Formaldehyde Resins, B. Meyer, Addison-Wesley, Advanced Book Series, Waltham, Mass., 1979. (Book; 76 tables, 81 figures, 500 references).

Sulfur Cycles on Venus and in Terrestrial Pollution Abatement Systems, Geochimica Acta, *43,* 1579 (1979).

Raman Spectra of Isotopic Bisulfite and Disulfite Ions in Alkali Sales and Aqueous Solution, B. Meyer, L. Peter and C. Shaskey-Rosenlund, Spectrochim. Acta *35A,* 345 (1979).

J. G. Norman, Jr., *Associate Professor* (Inorganic, PhD, M.I.T.)

Seeks to carry out accurate theoretical calculations of the electronic structure of large molecules, particularly transition metal complexes. Recently he has been concerned with weak metal-metal interactions, in particular antiferromagnetic coupling in such systems as 2-Fe ferredoxin proteins and copper carboxylate dimers. During the year he has been invited to visit or lecture at University of British Columbia, Simon Fraser University, National University of Mexico, University of California-Davis University, University of Sussex and Free University of Amsterdam. He has been named to the Editorial Advisory Board of *Journal of Computational Chemistry,* and on September 1, 1980 he became Associate Dean for Research in the Graduate School.

Electronic Structure of 2-Fe Ferredoxin Models by X Valence Bond Theory, J.G. Norman, Jr., P.B. Ryan, and L. Noodleman, *J. Am. Chem. Soc., 102,* (1980).

Photoelectron and Electronic Spectra of $Rh_2Cl_2(CO)_4$, J.F. Nixon, R.J. Suffolk, M.J. Taylor, J.G. Norman, Jr., and D.E. Hoskins, *Inorg. Chem., 19,* (1980).

Metal-Metal Bond Energies in Mo_2, $Mo_2Cl_8^{4-}$, and $Mo_2(O_2CH)_4$, J.G. Norman, Jr., and P.B. Ryan, *J. Computat. Chem., 59* (1980).

Yeshayau Pocker, *Professor* (Organic, PhD, D.Sc., London)

(1) Received the Outstanding Service Award of the American Chemical Society for 1979. (2) Speaker at the National Alcoholism Forum and the National Research Conference on Alcoholism, Seattle, May 1980. The paper with graduate student K.W. Raymond was entitled "The Inhibitory Effect of Ethanol on the Oxidation of Retinol by Liver Alcohol Dehydrogenase." (3) Symposium speaker at the Vth International Conference on Solute-Solvent Interactions, Florence, June 1980. The paper co-authored with graduate student T.L. Deits and Dr. N. Tanaka was entitled "Metalloenzymes and Model Systems. Carbonic Anhydrase: Solvent and Buffer Participation, Isotope Effects, Activation Parameters and Anionic Inhibition." The lecture was selected for the "Chianti—Special Reserve" Award of the IUPAC Conference. (4) Participated in the Lighthouse Conference sponsored by the University of Oregon, August 9-12, 1980. (5) Awarded a $61,000 NSF grant to study "Relationships between Activity and Structure of Enzymes." (6) Acted as Scientific Sponsor during Summer Quarter for two Senior Visiting Scholars: Professor Bruce P. Ronald from Idaho State University and Professor John E. Meany from Central Washington University. (7) Awarded a $13,000 grant-in-aid from the Muscular Dystrophy Association to initiate studies on: "Control of pH and CO_2 by Muscle Carbonic Anhydrase." (8) A senior research associate in his group, Dr. Alvin Fitzgerald, presented a joint paper with graduate student S.B. Biswas at the Amer. Cryst. Assocn., Calgary, Alberta in August 1980. The paper was entitled "The Structure of a Stable Free Radical." NOTE: Graduate student S.B. Biswas received a $100 grant-in-aid from Sigma Xi, The Scientific Research Society, to further his work on insulin.

The Region of Mechanistic Transition in Acid-Catalyzed Epoxide Ring Opening. A Mechanistic Switch Mediated by Salt in Aqueous Media, Y. Pocker and B.P. Ronald, *J. Am. Chem. Soc., 102,* 5311 (1980).

Kinetics of Inactivation of Erythrocyte Carbonic Anhydrase by Sodium 2,6-Pyridinedicarboxylate, Y. Pocker and C.T.O. Fong, *Biochemistry, 19,* 2045 (1980).

Kinetic and Mechanistic Studies of Oxidation of Vitamin A Alcohol to Vitamin A Aldehyde by Liver Alchol Dehydrogenase. The Inhibition by Ethanol and Pyrazole, Y. Pocker and K.W. Raymond, *Alcohol and Aldehyde Metabolizing Systems,* 4, 137 (1980).

B. S. Rabinovitch, *Professor* (Physical, PhD, McGill)

Has an ever developing research program in chemical kinetics now centered on energy relaxation in non-equilibrium systems and at high temperatures. In May 1980, he was King Lecturer at Kansas State University, and in July 1980, he presented a paper at the International Symposium on Chemical Kinetics at Southampton, U.K.

Collisional Relaxation of Transient Vibrational Energy Distributions in a Thermal Unimolecular System. The Variable Encounter Method. D.F. Kelley, L. Zalotai and B.S. Rabinovitch, *Chem. Phys. 46,* 379 (1980).

Vibrational Energy Transfer in the Two-Channel 1,1-Cyclopropane-d_2 Isomerization System. Krypton Bath Gas. V.V. Krongauz, M.E. Berg and B.S. Rabinovitch, *Chem. Phys., 47,* 9 (1980).

Vibrational Energy Transfer in a Diffusion-Flow Cyclopropane-d_2 System, J.F. Burkhalter, E. Kamaratos and B.S. Rabinovitch, *J. Phys. Chem., 84,* 476 (1980).

Stanley Raucher, *Assistant Professor* (Physical, PhD, Minnesota)

Was selected as an Alfred P. Sloan Research Fellow for 1980-1982, with an accompanying grant of $20,000 for basic research. He presented papers at the 3rd IUPAC Symposium on Organic Synthesis, at the ACS meetings in Houston and San Francisco, chaired a session at the San Francisco meeting, gave invited seminars at the University of Oregon,

Oregon State University, and the Upjohn Co., and attended the Gordon Conference on Organic Reactions and Processes. His research group continues to investigate the development of new methods in synthetic organic chemistry, especially those involving sigmatropic rearrangements and organoselenium chemistry, and the application of these methods to the total synthesis of biologically important natural products.

Vinyl Phenylselenide: A $^{+}CH=CH:^{-}$ Synthon, S. Raucher and G.A. Koolperna: assignment of the 7-methyl guanosine resonance, Biochemistry *18,* 4017 (1979).

Deprotonations with potassium diisopropylamid-Lithium *tert*—Butoxide. Alkylation of 1-(Phenylseleno)alkenes and Bis(phenylseleno) Acetals, S. Raucher and G.A. Koolpe, *J. Org. Chem., 43,* 3794 (1978).

Regiospecific Synthesis of Substituted Arenes. [3,3]Sigmatropic Rearrangement of Benzyl Vinyl Ethers, S. Raucher and A.S.-T. Lui, *J. Am. Chem Soc., 100,* 4902 (1978).

Brian Reid, *Professor* (Physical, PhD, California-Berk.)

Probing transfer RNA structure by NMR, B.R. Reid, E. Azhderian, and R.E. Hurd, NMR and Biochemistry, S. Opella and P. Lu (Eds.), Marcel Dekker Press (1979).

NMR studies on the tertiary folding of transfer RNA: Assignment of the 7-methyl quanosine resonance, R.E. Hurd and B.R. Reid, Biochemistry *18,* 4017 (1979).

Paramagnetic ion effects on the NMR spectrum of transfer RNA: Assignment of the 15-48 tertiary resonance, R.E. Hurd, E. Azhderian and B.R. Reid, Biochemistry, *18,* 4012 (1979).

David M. Ritter, *Professor Emeritus* (Inorganic, PhD, Chicago)

Continues research on the hydrides of boron most recently concerned with the stereoisomerism of 1,2; dimethyl diborane. Study of the mechanism of base attack on the methyl pentaborane-11s is in progress.

Electron-Diffraction Study of the Molecular Structures of cis- and trans-1,2-Dimethyldiborane, L. Hedberg, K. Hedberg, D.H. Kohler, D.M. Ritter and V. Schomaker, *J. Am. Chem. Soc., 102,* 0000 (1980).

The i.r. and Raman Spectra of cis- and trans-1,2-Dimethyldiborane, D.F. Eggers, Jr., D.A. Kohler and D.M. Ritter, *Spectrochim Acta, 34A,* 731 (1978).

Bruce Robinson, *Assistant Professor* (Physical, PhD, Vanderbilt)

Norman J. Rose, *Professor* (Inorganic, PhD, Illinois)

Acctonitrile(Carbony1) (2,3,9,10-Tetramethyl-1,4,8,11-Tetraazachcylotetradeca-1,3,8,10,Tetraene)Iron(II)Hexafluorophosphate, L.E. McCandlish, B.D. Santarsiero, N.J. Rose and E.C. Lingafelter, Acta Cryst. B35, 3053 (1979).

Comparison of the Structures and Aqueous Solutions of Two Complexes: [Co(II)ortho-penylevediaminetetraacetate] and [Co(II)ethylenediaminetetraacetate]$^{2-}$, E.F.K. McCandlish, J.A. Neal, E.C. Lingafelter, T. Michael, and N.J. Rose, *Inorg. Chem., 1,* 1381 (1978).

Verner Schomaker, *Professor* (Physical, PhD, Cal. Tech.)

Reports that he and his collaborators have "a goodly stream of crystal structure determinations under way using our 'new' diffractometer; mostly the substances are made in Rose's group." He is still working on various ideas about crystal structure refinement, and he is continuing a series of publications (with R.E. Marsh at Cal Tech) that were begun during his sabbatical with him. Electron diffraction determinations are being done in collaboration with Ritter and the Hedbergs (OSU-Corvallis). He gave an invited lecture at the winter meeting of the American Crystallographic Assocation in Eufaula, Alabama.

Monomeric Bivalent Group 4B Metal Dialkylamides $M[NCMe_2(CH_2)_3NCMe_2]_2$ (M = Ge or Sn), and the Structure of a Gaseous Disilylamide, $Sn[N(SiMe_3)_2]_2$, by Gas Electron Diffraction, M.F. Lappert, P.P. Power, M.J. Slade, L. Hedberg, K. Hedberg, and V. Schomaker, *J.C.S. Chem. Comm., 369,* 1979.

Potassium Tetrachlorosulfatoborate: Change in Space Group, R.E. Marsh and V. Schomaker, *Acta Cryst., B36,* 219 (1980).

Some Incorrect Space Groups in *Inorganic Chemistry,* Volume 16, R.E. Marsh, and V. Schomaker, *Inorg. Chem., 18,* 2331 (1979).

Wolfgang M. Schubert, *Professor* (Organic, PhD, Minnesota)

Behavior of *p*-Dimethylamino-__-Bromostyrene in Water Solutions, W.M. Schubert and D.C. Green, *Tetra, Lett.,* 0000 (1980).

Salvoytic Behavior of *p*-Dimethylamino-__-Bromostyrene in Water Solutions, W.M. Schubert and D.C. Green, *Tetra. Lett.,* 0000 (1980).

J. Michael Schurr, *Professor* (Physical, PhD, California)

Applies modern optical techniques to study the dynamics of various Brownian motions of rigid and flexible macromolecules, including torsion and bending deformations of DNA, and simple diffusion of spherical lipid bilayer vesicles. Primary objectives have been to investigate cooperative and polyelectrolyte phenomena, including the melting and aggregation of DNA, its condensation by polyamines, and the effects of ionic environment and bound ligands on its elastic properties, and also electrostatic ordering and electrolyte friction in dilute solutions of highly charged polylysine. Some unusual aspects of the interaction of electromagnetic radiation with matter have also been pursued.

A Theory of Electrolyte Friction on Translating Polyelectrolytes, J.M. Schurr, *Chemical Physics, 45,* 119 (1980).

Torsion Dynamics and Depolarization of Fluorescence of Linear Macromolecules. I. Theory and Application to DNA, S.A. Allison and J.M. Schurr, *Chemical Physics, 41,* 35 (1979).

Photo Correlation Spectroscopy in the Near Ultraviolet, J.C. Thomas and J.M. Schurr, *Optics Letters,* 4, 222 (1979).

Leon J. Slutsky, *Professor* (Physical, PhD, M.I.T.)

Response to Comments by G.W. Tin and J.E. Stuehr, L. Madsen and G.J. Slutsky, *J. Phys. Chem., 83,* 2930 (1979).

Relaxation Times for Acid Ionization and Internal Proton Transfer in the Neighborhood of the Helix-Coil Transition. L. Madsen and L.J. Slutsky, *J. Phys. Chem, 81,* 2264 (1977).

R. Vandenbosch, *Professor* (Nuclear, PhD, California)

Received the American Chemical Society's Award for Nuclear Chemistry for 1980. A colleague describes him as "one of the very best nuclear chemists in the whole field of research." For a detailed account, please refer to the Aug. 25 issue of C & E News, p. 49. We congratulate him on receiving this much-deserved award.

On the Variations in Fusion Cross Sections for Different Light Heavy-Ion Systems, R. Vandenbosch, *Nucl. Phys. A339,* 167 (1980).

On the Influence of Extra Neutrons Added to the $^{12}C + ^{16}O$ System: Gross Structures in -Ray Yields Following the $^{13}C + ^{16}O$ and $^{12}C + ^{18}O$ Reactions, Y.D. Chan, H. Bohn, R. Vandenbosch, R. Sielemann, J.G. Cramer, K.G. Bernhardt, H.C. Bhang, and D.T.C. Chiang, *Phys. Rev. Lett. 42,* 687 (1979).

Q and Z Dependence of Angular Momentum Transfer in Deeply Inelastic Collisions of ^{86}Kr with ^{209}Bi, P. Dyer, R.J. Puich, R. Vandenbosch, T.D. Thomas, M.S. Zisman, and L. Nunnelley, *Nucl. Phys.,* A322, 205 (1979).

Boris Weinstein, *Professor* (Organic, PhD, Ohio State)

Is currently working on the synthesis of biologically active peptides, marine natural products, Diels-Alder intermediates and new reagents for N-protection. He attended meetings of the American Chemical Society in Washington, D.C. (Fall 1979), and Houston, Texas (Spring 1980).

Construction and Analysis of Phylogenetic Trees by Pattern Recognition Procedures, M.A. Sharaf, B.R. Kowalski, and B. Weinstein, *Z. Naturforsch., Teil C, 35,* 508 (1980).

Alanopine and Strombine are Novel Amino Acids Produced by a Dehydrogenase Found in the Adductor Muscle of the Oyster, *Crassostrea gigas,* J.H.A. Fields, A.K. Eng, W.D. Ramsden, P.W. Hochachka, and B. Weinstein, *Biochem. Biophys. Acta, 201,* 11 (1980).

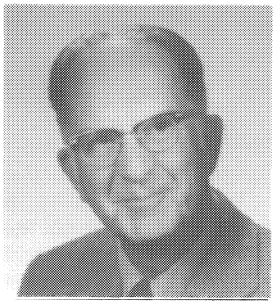
A New Amino Protecting Group. The Azo-Tac Unit, B. Weinstein and A.P. Steiner in *Peptides, Proceedings 6th American Peptide Symposium,* p. 329 (1980).

D. J. Woodman, *Associate Professor* (Organic, PhD, Harvard)

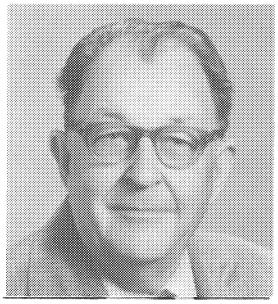
Ketenimine Carboxylate Isomer Protonation, D.J. Woodman, *Heterocycles, 7,* 247 (1977).

NEWS OF GRADUATES

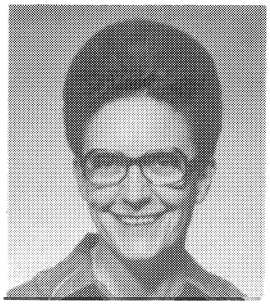
Thomas



Wirth



Zwicker



Shreeve

BERTRAM D. THOMAS

Dr. Thomas wrote "I still cherish a fond regard for my Alma Mater. My most prized honor was the Alumnus Summa Laude Dignatus Award in 1967." Born in Renton, Washington, he received the BS in 1929, several years after high school due to working as a chemist in Seattle. The PhD degree awarded in 1933 involved the electrical conductivity of sea water with Professor Thompson and Professor Utterback of physics advising.

Starting as a Research Engineer at Battelle Institute in 1934 at Columbus, Ohio, he spent his whole professional career there. He started the chemistry Department there in 1936; became Assistant Director 1938; Acting Director 1943-57 and President from 1957 until his retirement in 1968. For several years, Bert was president of Battelle and Paul Cross of Mellon Institute in Pittsburgh.

During his tenure as a Battelle administrator, he was involved in (1) the establishment of branches in Frankfurt, Germany and Geneva (1951-52). (2) setting up the Korean Institute of Science and Technology (1965) (3) establishing Battelle Northwest Labs and the management of the Hanford Labs. of the AEC (4) establishing the Battelle Seattle Research Center (1966) "my best achievement—in my own eyes." (5) Starting the Laboratory for Marine Studies at Sequim Bay, Washington (1967).

His many honors include: D. Eng., Michigan Tech. Univ. (1957); DSc, Ohio State Univ. (1963) and from Otterbein College (1965); and D. Eng., Cleveland State Univ. (1968).

Bert wrote about his Battelle experience that perhaps "such success as I achieved came about because I knew more physics than the chemists, more chemistry than the metallurgists and more metallurgy than the physicists and more business practice than most."

Dr. Thomas and his wife retired to Santa Barbara in 1968 where he is still active in civic life and still plays the violin. He is currently president of Santa Barbara Botanic Garden.

HENRY E. WIRTH

Northwest students who took their undergraduate and graduate studies were the rule rather than the exception in chemistry at U of W 45 years ago. Henry Wirth was born in Bellingham in 1908, got his BS degree in 1929 and his PhD in 1934 under Prof. Thompson, thus joining the illustrious group of oceanographers.

In 1931 he married Naomi Thomas, BS in chemstry 1931. Despite the ravages of the depression Henry started teaching analytical and physical chemistry at N. Dakota Agricultural College in 1934. He stayed there until 1939 but spent some summers at Friday Harbor, the oceanographic and biological laboratory on San Juan Island. Lloyd West, PhD '39, taught at N. Dakota from 1930-35. Henry persuaded Lloyd to spend a summer at Friday Harbor which undoubtedly influenced Lloyd to start graduate work at U. of W.

A position developed at Ohio State Univ. where Henry taught analytical and physical chemistry from 1939 to 1950 serving as vice chairman 1945 to 1948. He was selected as chairman of chemistry at Syracuse University in 1950 and held that position until 1965. His major research interests were: partial molal volumes of electrolytes in aqueous solutions, phase transitions in soap, low temperature phenomena, and chemical oceanography.

Henry and his wife live in Bellingham where they enjoy the return to the Northwest.

BENJAMIN ZWICKER

It is difficult to reduce several pages of autobiography and philosophy to a short space. Ben Zwicker said "The glare of a curriculum vitae leaves me cold." However in an attempt to include some of both we can start.

Being a native of Pendleton, Oregon, the third of our group is another Northwesterner. He entered nearby Whitman College, graduating in 1935 in chemistry, cum laude. Entering UW, he earned the MS degree in 1938 in oceanography and physical chemistry and the PhD in 1940 with emphasis on organic and physical.

Ben joined B.F. Goodrich in the summer of 1940, where he remained until his retirement in 1978. While this gives the bare outline of his academic and scientific careers, more important are his tributes to his teachers, professors and colleagues.

At UW, enrolled first in chemical engineering, Ben was influenced by Anton Vittone, a lab assistant, but not enough to overcome the persuasion of Professors Tartar and Thompson and the offer of a fellowship in chemistry. Later while doing both his masters and doctoral theses he credits Dr. Robinson for encouraging his branching into organic and physical.

Space does not permit detailing the work of this versatile man. 1940–43 he was a research chemist. The next seven years in Goodrich Chemical he continued on polymerization, synthetic rubbers and latexes, GRS, butadiene and styrene, and PVC. This was the period of the synthetic elastomers and plastics. From 1950–60 he did market and economic research, pioneering research and patent review. From 1960 until retirement he was increasingly involved in government agencies (OSHA, EPA, NIOSH, CPSA, DOT and DOE) and Trade Ass'n Committees.

During the Goodrich years he pays tribute to Harlan Trumbull who taught at UW during WWI; to Waldo Semon, PhD '24, Victor Wellman, PhD '29 and Don Stewart, a UW graduate. Ed Willson a pioneer in natural rubber was in Malaya when Ben was hired and George Benoit, PhD '42, was with Goodrich before going to Chevron. All of these and others touched his life and work.

Ben and his wife live at 5851 Tulane St., San Diego, CA, 92122 where he is a Research Assistant at Scripps Institute of Oceanography.

JEAN'NE M. SHREEVE

Dr. Shreeve was born and raised in Montana and received the BA degree from Montana State University in 1953. The University of Minnesota, where she was a chemistry teaching assistant, granted her the MS in 1956. Enrolling at the University of Washington her graduate work resulted in the PhD degree in 1961. Working with Dr. Cady her thesis was "Some Reactions of Peroxydisulfuryl Difluoride."

Dr. Shreeve has spent her entire professional life at the University of Idaho rising through the professional ranks to her present position as Professor and Head of the Department of Chemistry, which she has held since 1973.

Since her initial good fortune of working with Professor George H. Cady at University of Washington, she has worked with Professor H. J. Emeleus as a NSF postdoctoral fellow and as U. S. Honarary Ramsay fellow at Cambridge, England, and more recently, with Professor O. Glemser at Gottingen as a U.S. Senior Scientist Awardee of the Alexander von Humboldt Foundation. The research efforts of Dr. Shreeve and her co-workers have been recognized by the ACS with its Garvan Medal and the Fluorine Division's Award for creative work in Fluorine Chemistry.

She is heavily involved in ACS activities at local and national levels and is presently one of the Inorganic Division's Councilors and a member of the Annual Policy Committee. Recently elected a Fellow of the AAAS, she is a member of the council representing Section C (Chemistry), and is chairman of a symposium entitled "Chemically Solvable Problems" to be held at the national AAAS meeting in Toronto.

Her interests included fly fishing, hiking, keying flowers, Montana history, and observing, with great pride, the successes of her former students and co-workers.

Twenties, Thirties and Forties

George Benoit, BS '37, PhD '42, retired March, 1980. He was Senior Research Associate at Chevron Research Co. Home address: 33 Luzanne Circle, San Alselmo, CA 94960.

James A. Brown, BS '36, entered the electronics industry in 1955 and was in Quality/Reliability management until retirement. 1952 Rock Springs Rd., Escondido, CA 92026.

Donavon A. Courville, PhD '46, retired from Loma Linda University where he taught chemistry until 1970. His principal pre-retirement publication was the chemistry sections in the monumental work "Poisonous and Venomous Marine Animals of the World," published by the U. S. Government Printing Office and sponsored by the Air Force, Army and Navy Departments. Since retirement his interest has been in ancient chronology as related to Scripture, publishing a two-volume work: "The Exodus Problem and its Ramifications," Crest Challenge Books, Loma Linda, CA. His address: 42 Dart St., Loma Linda 92354.

V. Richard Damerell, PhD '29, retired from Case-Western Reserve Univ. 1969, to Vista, CA. He then moved to 19508 Mella Drive, Volcano, CA 95689 in the Sierra foothills.

Milton Getzendaner, MS '45 (PhD '49 Texas), retired July 1980. He will leave on a trailer trip in August travelling west, eventually planning to settle in Northwestern Washington, forwarding address: 6008 Melbourne, Indianapolis, IN 46208.

Lyle H. Jensen, PhD '44, Dept. of Biol. Structure, U.W., was elected to the Amer. Academy of Arts and Sciences in 1978.

R. W. Moulton, PhD '38 (Chem.Eng.) returned in July from a two-year appointment in Korea as Program Director in the Agency for International Development. He will teach part time in the Dept. of Chem.Eng.

Wilfred W. Newschwander, PhD '39, retired from Central Washington U. in 1977, has left Ellensburg and he and his wife now have the luxury of two homes: Nov. 1 to March 31, 74-565 Dillon Road, Desert Hot Springs, CA 92240 and from May 1 to Sept. 30, Box 69, Campbell River, B.C., V9W-5A7, Canada.

The Fifties

John Douglas, PhD '52, presently Ass't Provost, — Grants and Assoc. Dean, College of letters and Sciences, Eastern Wash. Univ., Cheney, WA.

John P. Freeman, MS '59, change of address: 58 Collingwood Drive, Rochester, N.Y. 14621; still with Eastman Kodak.

Thomas Hutton, PhD '54, pursues two activities: chemistry with Rohm & Haas, Spring House, PA, 19477 and skiing, including representing Pennsylvania skiers on the Board of Directors of the Eastern Ski Ass'n.

Donald Gale, PhD '56, is President of Swish Corp. of America, P.O. Box 2593, Spartanburg, SC 29304.

Robert Grimm, BS '56, is with Canada Dry Corp. POB 48113, Seattle 98166.

George LeClereq, PhD '56, is with the Textile Fibers Dept., DuPont Co., Wilmington, DE 19898. George sent us Don Gale's address.

DEPARTMENT OF CHEMISTRY, UNIVERSITY OF WASHINGTON ■ ALUMNUS REPORT

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 _____

Please return to V. Sivertz, Department of Chemistry, University of Washington, Seattle, Washington, 98195. Just fold so return address shows, staple, add postage, and drop in the nearest mailbox.

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 429 SEATTLE, WA, USA

Postage will be paid by addressee

UNIVERSITY OF WASHINGTON
Department of Chemistry, BG–10
Seattle, Washington 98105

Attn: V. Sivertz

H. T. Liang, PhD '52, is now with the Institute of Materia Medica, Nanwei Road, Beijing (Peking) 100040, People's Republic of China. In a recent letter to our chairman he spoke of "taking part to an ever-increasing extent in the activities of the outside world." He is now a guest professor in the Chem. Dept. of Beijing Univ. and is on the advisory board of Planta Medica—the Journal of Medical Plant research published in W. Germany.

Bruce Raby, BS '52 (PhD '63, Iowa State) is Senior Chemist UTI, Sunnyvale, CA., just finished 2½ yrs. as Ch'm of the Golden State Chapter of Amer. Inst. of Chemists and has finished 3 yrs. as secretary and is currently Ch'm-elect of the Santa Clara Valley Section, ACS.

Harry Richards, PhD '58, is with Shell Development Co., Westhollow Research Center, POB 1380, Houston, TX 77001.

Klaus Saegebarth, PhD '57, has become director of agrochemicals research for DuPont Company's Biochemicals Dept., Wilmington, DE 19898.

William Wasserman, PhD '54, Seattle Central Community College, Seattle, 98122, is Ch'm-elect of the Puget Sound Section, ACS. He is on the ACS committee on chemistry in the 2-year college (2y C3), also program Co-chair (with Margaret Ellis, BS, MS. U of W) on 2-year college activities for the 1983 National ACS Mtg. to be held in Seattle.

Edward Youngman, PhD '52, transferred from Modesto, CA, to Houston with Shell Development Co. in Sept 1979. He retired in April and has returned to Modesto.

The Sixties

William Baker, PhD '69, now manager of Polymer Research Section, Chemical Res. Lab., 3M Center, St. Paul, MN 55105.

Charles Berney, PhD '62, is a senior scientist in the Dept. of Nuclear Engineering, MIT and was recently elected to a 2-year term on the executive committee operating on behalf of scientists using the National Center for Small-Angle Scattering Res. at Oak Ridge Nat'l Lab., Oak Ridge, Tenn.

Douglas Bond, BS '67, (PhD '73 UCLA) Dept. of Chem., Riverside City College, Riverside, CA 92506, spent 1978-79 on leave at Oxford Univ.; recently chairman of Div. of Chem. Educ. Comm. on Chemistry in the Two Year College.

Almut F. Breazeale, PhD '66, new address: DuPont Co., PPD-Elastomers Division, Chestnut Run, Wilmington, DE 19898.

Robert Buddemeier, PhD '69, moved from Univ. of Hawaii in 1979 to Lawrence Livermore Lab, P.O.B. 2162, Livermore, CA 94550. He was divorced in 1978.

James Champoux, BS '65, (PhD '70 Stanford) now Assoc. Prof., Dept. of Microbiology here, has been awarded a Guggenheim Fellowship. He will spend this academic year working at MIT with Dr. David Baltimore, a Nobel Laureate and a world renowned virologist.

Kenneth Daugherty, PhD '64, now Prof. of Chemistry, North Texas State Univ., Denton, TX 76203. He has his own consulting firm, KD Consultants, and is a Lt. Col, in the U.S. Army Reserve-Chemical Corps.

Darryl Des Marteau, PhD '67, is on leave from Kansas State Univ., at Heidelburg Univ., with Prof. Conrad Seppelt.

C. Donald Fisher, PhD '65, is now Vice Pres.—Reseach, Van Straaten Chemical Co., 630 W. Washington Blvd., Chicago, IL 60600.

John Laity, PhD '68, after 3 years at Emeryville, 3 at Wood River IL, and 4 at Houston all with Shell he became Director of Research at Shell Development's Biological Sciences Res. Center at POB 4248, Modesto, CA 95352.

David Lando, PhD '69, is now head of Integrated Packaging Dept., Bell Labs, Allentown, PA.

Max Lustig, PhD '62, now at Rocketdyne, Mail Stop BA 26, 6633 Canoga Ave., Canoga Pk, CA 91304, where he is Staff Scientist.

Bernard Malofsky, PhD '64, is Assoc. Dir., R & D, Loctite Corp., 705 Mountain Rd., Newington, CT 06111.

Bruce Ronald, PhD '69, Idaho State Univ., Pocatello, ID 83201, worked with Dr. Pocker at UW during the past summer.

Tai Yong Yum, PhD '69, is manager of Tech. Serv., Hops Extract Corp., 305 N. 2nd Ave., Yakima, WA.

The Seventies

Artemis Antipas, PhD '79, working at Boeing; home address 4555-15th NE, Seattle, 98105.

Larry Butler, PhD '72, with EPA, POB 219, Wenatchee, WA 98801, working with a new Waters HPLC and Tracor Capillary GC. Papers presented: "Persistance of Methylparathion in Soil Following Spillage" at 34th NW Reg. Meeting, Richland, June 1979 and "Reductive Degradation of Dieldrin and Endrin in the Field by Acidified Zinc" at 15th Midwest Reg. Meeting, St. Louis, Nov. 1979.

H. H. Chang, PhD '74, change of address: Quaker Oats Co., Inc., 617 W. Main Street, Barrington, IL 60010.

Gary Forrest, MS '71, (PhD '76, MIT), is the recipient of the first Philip Morris Continuing Study Fellowship for advanced studies in industrial applications of lasers at Stanford Univ. (April-October 1980). Philip Morris Inc., POB 26583, Richmond, VA 23261.

Stephen Gehrig, BS '74, (Divinity '79, Colgate Rochester Divinity School, Rochester, N.Y.) will serve as deacon at St. Stephen's Episcopal Church, Longview, WA.

Larry Grina, PhD '70, new address: Texaco Inc., POB 509, Beacon, N.Y. 12508.

Peter Hedges, BS '78, is a chemist at Olympia Brewing Co., POB 947, Olympia, WA.

Jeanne S. Hsu, BS '79, is a Teaching Fellow at the Univ. of Pennsylvania and will probably be working in NMR related studies.

Richard Kirchner, PhD '71, granted tenure, made Assoc. Prof. and elected chairman of chemistry, Manhattan College, Bronx, N.Y. 10471. Also Vice-Chair of the Organometallic Section, New York Academy of Sciences.

David Kohler, PhD '76, transferred from Special Products Div., Chevron Res., Richmond, to El Segundo Lab., 324 W. El Segundo Blvd., El Segundo, CA 90245.

Anand Kumar, PhD '75, promoted to Senior Scientist supervising 8 people involved in R & D of electroanalytical methods of analysis for clinical application. Awarded two patents. Technicon Instruments Corp., 511 Benedict Ave., Tarrytown, N.Y. 10591.

Peter Kwan, PhD '79, is now working for Ameron Corporate Res. and Devel., 4813 Firestone Blvd., South Gate, CA 90280.

Zatis Murphy, PhD '70, is with Shell Development Co., Westhollow Research Center, POB 1380, Houston, TX 77001.

Spyros Pavlov, PhD '70, is manager, Div. of Environmental Sciences and Technology, Science Applications Inc., 13400 B, Northrup Way, Suite 36, Bellevue, WA 98005. Also research Ass't Prof., Seattle Univ.

Edwin Ray, PhD '74, Dean of General Studies, Fort Morgan Comm. Coll., Fort Morgan, CO 80701.

Daniel Syrdal, PhD '72, in the law firm of Carmody, Monroe, Perry & Syrdal, Fourth and Blanchard Bldg., Seattle, WA.

Edward Valente, PhD '77, will be teaching at the Univ. of N. Carolina, Chapel Hill, NC 27514.

At the University of Washington mixer held Tuesday, August 26, at the autumn meeting of the American Chemical Society in Las Vegas, Nevada, were seen Bill Batschelet (1977), Larry Butler (1972), Hsien-Hsin Chang (1974), Ed Gruger (1956), Elizabeth Leovey (1975), and Tracy Rold (1977). Later, they and two wives, Anita butler and Jan Rold, as well as current graduate students Ron Haaseth and Mike Maroney, plus Dr. Boris Weistein, all had dinner together.

WE REGRET THE PASSING OF . . .

Walter R. Carmody, BS '23, died in Seattle, October 2, 1979. Dr. Carmody obtained his PhD from Catholic University, Washington, D.C. He taught analytical and physical chemistry at Seattle University from 1947 until his retirement in 1970.

William H. Duewer, PhD '71, who did his thesis under Dr. Rabinovitch, died from injuries in a sea-cliff accident in California in April 1980. He had been at the Lawrence Livermore Lab for several years.

Wesley G. Nigh, PhD '65, died Dec. 13, 1979 in Tacoma of a massive coronary. He had taught organic chemistry at the Univ. of Puget Sound and was to have been the next chairman of the department.

John L. Shackleford, BS '34, died in Seattle in October 1979. Before retirement he was a water and environmental chemist for the State Dept. of Social and Health Services.

Roger W. Truesdail, PhD '26, died November 10, 1979 in Los Angeles. After teaching in Oregon and California he founded Truesdail Laboratories in 1931. Located in Los Angeles with branches in Honolulu and San Diego, they now have 75 employees covering consulting and testing in chemistry, engineering, metallurgy, microbiology and forensic science.

GRADUATE AND UNDERGRADUATE DEGREES

DOCTORAL DEGREES (16)

Stuart A. Allison, PD with Prof. Schellman, Dept. of Chem. U of Oregon, Eugene 97403. (1980)

Abdulrahman Attiyat, Dept. of Chem. Yarmouk Univ., Jordan. (1979)

Barrie D. Barton, PD Dept. of Chem., West Virginia Univ., Morgantown, WV 26506. (1979)

John F. Burkhalter, Haliburton Services, Chem. R & D Div., Drawer 1431, Duncan, OK 73533. (1980)

Robert W. Gerlach, Nat'l Bureau of Standards, Washington, DC. (1980)

Louis T. Hahn, Owens-Corning Fiberglas, Technical Center, Granville, OH 43023. (1979)

Willem R. Leenstra, Asst. Prof. Dept. of Chem., Univ. of Vermont, Burlington, VT 05401. (1979).

Linda B. Marshall, Asst. Prof., Chemistry, Cal. State Univ., Long Beach, CA 90801. (1979)

Lyle B. Peter, Dept. of Chem., Seattle Pacific Univ., Seattle WA 98119. (1979)

John E. Stein, NOAA, 1801 Fairview Ave. E., Seattle, 98112. (1980)

Paul A. Steiner, Bio-Rad Labs. 2200 Wright Ave., Richmond, CA 94804. (1979)

Mary J. Tompkins, with Chevron Research, Richmond Cal.; address: 2380 Aberdeen Way, Richmond, CA 94806. (1980)

Man-Yee Tsang, Nuclear Physics Lab. GL-10, UW, Seattle 98195. (1980)

Mark G. Winosky, Owens-Corning Fiberglas, Technical Center, Granville, OH 43023. (1979)

Fredrick C. Wolters, c/o Prof. Rabinovitch, Dept. of Chem. UW. (1979)

Stanley D. Young, PD, Dept. of Chem., Cornell Univ., Ithaca, NY 14853. (1979)

MASTERS DEGREES (16)

Ibrahim A. Alam, Grad. School, UW, Chemistry. (1979)

Dennis J. Bonciolini, 3511-70th Ave. W., Tacoma, WA 98466. (1979)

Daniel M. Dabbs, Grad. School, Metallurgy, UW. (1979)

Andri Elia, Grad. School, Chem. UW. (1980)

Mahmoud El-Hinnawi, Grad. School, Chem., UW. (1980)

Abbas Esmaili, Grad School, UW. (1980)

Abdulatif M. Ghaith, Grad. School, Chem., UW. (1979)

Edward L. Gulberg, Grad. School, Chem., UW. (1979)

Rodney L. Hill, 4104 Rocky Rd., #1073, Dallas, TX 75234. (1979)

Tim A. Kelly, Grad. School, Chem., UW. (1979)

LuAnn M. Lawton, Medical School, UW. (1979)

Walter J. Loker, Grad. School, Chem., UW. (1979)

Steven M. Lovejoy, Grad. School, Chem., UW. (1979)

Noriyuki Nonaka, 2-11-9 Takeda, Kofu, Yamanashi, Japan. (1980)

Cathleen J. Webb, Grad School, Chem., UW. (1980)

Julie Ann Zalikowski, 9060 Lilly Ct., Thornton, CO 80229. (1979)

UNDERGRADUATE DEGREES

There were 26 Bachelor Degrees, certified to ACS, awarded during the year (20 Men, 6 Women) and 20 not certified (16 Men, 4 Women).

The following are going to graduate or professional schools:

William J. Brunton, Arizona State, Chemistry.

Charles K. Bulley, UW, Medicine.

Roger L. Campbell, UW, Dentistry.

Bruce T. M. Chau, College of the Pacific, Osteopathic Medicine.

Gerald S. Fairfull, UW, Chemistry.

Myrl Fisk, UW, Civil Eng.

Scott Kelly, St. Louis Univ., Medicine.

Christopher S. Lewis, Dentistry.

David J. MacDougall, North Texas State, Osteopathic Medicine.

William Martin, MIT/Woods Hole Oceanographic Inst., Oceanography.

Ronald S. Sletten, UW, Environmental Studies.

Robert J. Tilley, Columbia Univ., Medicine.

Daniel A. Zak, Baylor Univ., Medicine.

CAN YOU LOCATE THESE ALUMS?

The list with the approximate dates of degrees and the last known localities follows:

Anderson, Thomas H., PhD '52. NASA, Moffett Field, CA.

Campbell, John M., BS 60's (PhD, Alberta).

Carter, Melvin, PhD '66, NASA, Moffett Field, CA.

Cottingham, Robert, PhD '57, Beaunit Corp., Res. Triangle Pk., NC, 27709.

Draves, Carl Z., PhD '24, 30 Lahey St., New Hyde Park, NY 11040.

Everett, Armgard, PhD '66, Houston, TX.

Gill, William, PhD '72, Seattle,

Jelinek, George, PhD '67, Albuquerque, NM.

Lowen, Leslie, PhD '42, Detroit.

Miller, Richard, PhD '66, Michigan State Univ.

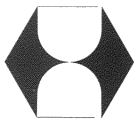
Peacock, Alton, PhD '43, Beaunit Corp., Res. Triangle Pk., NC 27709.

Rosa, Eugene, PhD '65, Shell Oil Co., Houston, TX.

Shen, Roderick, PhD '52, Mobil Oil Co., New York.

Tejada, Sylvestre, PhD '64, Manila, P.I.

Westman, Thomas, BS in 1950, St. Louis.



UNIVERSITY OF WASHINGTON
DEPARTMENT OF CHEMISTRY, BG–10
SEATTLE, WASHINGTON 98195

Nonprofit Organization
U.S. Postage Paid
Permit No. 62
Seattle, Washington

Return Postage Guaranteed

Address Correction Requested