

ALUMNI NEWSLETTER

Department of Chemistry

University of Pittsburgh 1973



August 17, 1973

Dear Chemistry Alumni:

Greetings from Pittsburgh. We are sending each of you a copy of the 1973 Chemistry Alumni Newsletter. In it you will find: (1) *A Few Comments about Our Year* by W.E. Wallace, professor and department chairman; (2) *Spectroscopy Today in Our Department* by Professor Foil A. Miller; (3) *Alumni Giving and the New Building* by W. Richard Howe, executive assistant to the chairman of the department; and (4) several short articles and *News Notes about the Faculty and the Alumni* by me.

The last page consists of a self-explanatory form, which will give us up-to-date information about you. Please fill it out and return it to me at your earliest convenience. These forms will be an excellent source of *News Notes* for the 1974 Newsletter.

We have scheduled a Pitt Social Hour at the Chicago ACS Meeting:

PITT SOCIAL HOUR
CHICAGO ACS MEETING
Tuesday, August 28, 1973
5:30-7:00 p.m., Room X
McCormick Inn

We hope to see many of you there.

With kindest regards,

Robert Levine
Professor of Chemistry

A FEW COMMENTS ABOUT OUR YEAR

by

W.E. Wallace, Ph.D. '41

Professor and Department Chairman

Although the academic year which has just been concluded was a busy one, it was less eventful than 1971-72. The 1972-73 year witnessed the retirement of Henry Frank, chairman from 1951 until 1963, and the addition of a number of new faculty members to the department, to mention only two of our "happenings."

This year, we are feeling two major effects - the slackening of growth in the University as a whole and the "waiting (and preparing) game," as our new building nears completion (*vide infra*). Once re-housed, we expect many new developments.

Judging by enrollment at the undergraduate and graduate levels, interest in chemistry is continuing. During the past year, twenty doctorates were awarded in chemistry, twenty-five degrees were awarded at the M.S. level, and sixty-three, at the B.S. level. There is sufficient demand for chemists at all levels that our personnel have not experienced real difficulties in being placed. The demand comes primarily from industry.

The forensic chemistry activity remains a strong component of the total chemistry program. Student interest is high, and demand for our graduates exceeds supply by a wide margin, as the staffing of the nation's crime laboratories continues.

This year, one new joint program was initiated with the Universidad de Oriente in Venezuela. The purpose of the program is to enable faculty members at Oriente to upgrade themselves academically. Chemistry faculty members at Oriente will be able to obtain M.S. degrees from Pitt, through participation in this program. A portion of the course

work is taken in Venezuela from Pitt professors, who teach courses at the same level as on the Oakland campus. This initial phase serves as a screening mechanism to select individuals from Oriente, who then come to Pittsburgh for completion of their studies leading to the M.S. degree. Fellowship support for qualified individuals is provided by the government of Venezuela. Bob Wolke, professor in the nuclear chemistry area, was the kickoff participant in this program, and spent the winter term in Venezuela.

The new building, which will house most of the chemistry department, is nearing completion. Plans have been made for the orderly evacuation of the eight buildings which now house the chemistry department and the consolidation of chemistry activities in the new building and in interconnected Alumni Hall. Completion of the building is scheduled for December 1973, and occupancy is to begin in March 1974. We will continue to make use of half of Alumni Hall. It has not yet been decided who will occupy the other half.

There have been two major equipment acquisitions during the current year, which are expected to have far-reaching consequences on the department's research activities. The spectroscopy group has acquired an x-ray photoelectron spectrometer at a cost of \$152,000, and the materials group has acquired a 120,000 gauss superconducting magnet system at a cost of \$62,500. In both cases, National Science Foundation funds were involved. The spectrometer will permit basic studies to be made on the electronic make-up of molecular compounds and solids. (See Professor Miller's article below for details.) The magnetic equipment will be used in the study of powerful magnetic materials which are being studied very intensively by the department's materials scientists.

Effective July 1, 1973, the department chairman was appointed, in addition to his appointment as chairman and professor of chemistry, a professor of metallurgical and materials engineering. This is one of several steps being taken in the university to promote constructive interactions between the sciences and engineering at Pitt.

SPECTROSCOPY TODAY IN OUR DEPARTMENT

by

Foil A. Miller, Professor
Ph.D. '42, Johns Hopkins University

Spectroscopy was one of the areas chosen for strengthening under the NSF-supported Science Development Program. The spectroscopy group now consists of Professor Foil A. Miller, Associate Professor David W. Pratt, and Assistant Professor J. Wayne Rabalais, all of whom have been added to the faculty within the past six years.

Professor Rabalais' current interest is in the relatively new field of photoelectron spectroscopy (PES), in which a molecule is ionized by a photon from either the vacuum ultraviolet or the x-ray region. Vacuum UV excitation removes outer electrons, whereas x-ray excitation (also called ESCA) is primarily used to study core electrons. The kinetic energy of the ejected electron is measured. Knowing the energy of the impinging photon and the energy of the ejected electron, one can determine the energy of the ion by difference. This ionization energy depends upon the orbital from which the electron was ejected. One thus has, for the first time, a direct experimental method for measuring orbital energies. This is obviously of great value in testing molecular orbital theories, and the technique also has very practical applications to analytical problems.

For two years, our department has had an instrument for UV-excited PES. This summer the department will receive a Hewlett-Packard instrument for x-ray-excited PES, which will give us a facility unexcelled in the country. Having two separate instruments, each the best available, will provide a unique capacity and capability for all kinds of PES. Industrial research groups may be interested in part-time use of these facilities through some cooperative arrangement. Dr. Rabalais will welcome inquiries.

Professor Pratt's research is in the areas of electron spin resonance (ESR) and electronic spectra. He has a well-equipped laboratory, which includes a Bruker and a small Varian ESR instrument. One line of study involves free radicals generated in an adamantane matrix by x-radiation. In another program, aromatic molecules are photo-excited to triplet states and their phosphorescence emission is then monitored. Microwave transitions in the triplet state are detected by observing the change in phosphorescent emission as the microwave transition is swept.

Professor Miller's research centers on infrared and Raman spectroscopy. We have good facilities for such work, including a far infrared instrument and equipment for obtaining laser-excited Raman spectra. He is interested in studying molecules for which vibrational spectroscopy can solve interesting problems of symmetry or bonding. For example, by careful measurement of the Raman depolarization ratios, his group has shown that the molecules $\text{Si}(\text{NCO})_4$ and $\text{Ge}(\text{NCO})_4$ are not quite tetrahedral. The NSi_3 skeleton in $\text{N}(\text{SiH}_3)_3$ has been shown to be planar by comparison of the N^{14} and N^{15} spectra. Other molecules studied recently include cyclopropanone and cyclobutadiene iron tricarbonyl.

Spectroscopy is not confined to these three people, of course; other faculty members use it in connection with their research. Professor

Johannes F. Coetzee has equipment for studying fast reactions by the temperature-jump technique; Professor Darel K. Straub is setting up to measure electronic spectra of single crystals; Professor Bodie E. Douglas does magnetic circular dichroism; and Professor Frederick Kaufman uses spectroscopy in his kinetic studies. Conventional infrared, nmr, and ultraviolet measurements are widely used in connection with synthetic and analytical studies. Spectroscopy is a vital tool in modern chemistry, and many aspects of it are an important part of our teaching curriculum.

PROMOTIONS AND APPOINTMENTS

We congratulate Joseph J. Taber (Ph.D. '55, University of Pittsburgh, administrative officer) on his promotion to professor of chemistry. Congratulations are also extended to Toby M. Chapman (Ph.D. '65, Polytechnic Institute of Brooklyn), K. Jeffrey Johnson (Ph.D. '68, Washington State University), and David W. Pratt (Ph.D. '67, University of California) on their promotions to associate professor of chemistry.

Three additions have been made to the department's personnel: Dennis Finseth (Ph.D. '73, University of Pittsburgh), as instructor in chemistry; Vance Bell (M.S. '73, University of Pittsburgh), as NMR and mass spectroscopist; and Robert Tobin, as scientific glassblower.

FOIL MILLER TO RECEIVE AWARD

Congratulations go to Foil A. Miller (Professor, Ph.D. '42 Johns Hopkins University) on the announcement that he is to be the fourth recipient of the Maurice F. Hasler Award, a prestigious international award in spectroscopy, sponsored by Bausch and Lomb and administered by the Society of Applied Spectroscopy. The award will be made in New York City during the November 1973 National Meeting of the Society of Applied Spectroscopy.

ANOTHER HONOR FOR HENRY FRANK

In last year's Newsletter, we told you that a special symposium on the Physical Chemistry of Aqueous Systems was held in Pittsburgh in commemoration of the seventieth birthday of Dr. Henry S. Frank, (M.S. '22, University of Pittsburgh, Ph.D. '28, University of California, Berkeley), Distinguished Service Professor Emeritus and department chairman, 1951-1963. We are now very pleased to inform you that the papers which were presented at the symposium will be published in Dr. Frank's honor in a special double issue of the *Journal of Solution Chemistry*.

TWO STAFF MEMBERS LEAVE PITT

Dr. Carolyn Maricondi, assistant professor, (Ph.D. '68, University of Pittsburgh) and Dr. Ken Daugherty, associate professor, (Ph.D. '64, University of Washington) are leaving our department at the end of August. Carolyn has enrolled as a full-time student in our law school, and Ken will become manager of research and development at General Portland, Incorporated, in Dallas, Texas. Both of these colleagues will be greatly missed since they are fine teachers. Additionally, it will be especially difficult to replace Ken, since he added a new dimension to our department with his research interests in materials, pollution and forensic chemistry. All of us wish Carolyn and Ken the best in their new endeavors.

THREE ALUMNI ARE HONORED

We extend our congratulations to C.G. King (Ph.D. '23), Raymond G. Rieser (Ph.D. '43), and Joseph J. Rothermel (Ph.D. '48) on being recognized for their outstanding accomplishments.

Dr. King, of the Institute of Human Nutrition, Columbus University, was elected permanent honorary president of the International Union of Nutritional Sciences at the Ninth International Congress on Nutrition in Mexico City, September 3-9, 1972.

Dr. Raymond G. Rieser, of PPG Industries glass research laboratories, was named winner of the 1972 Thomas Midgley Award, presented annually for outstanding chemical research related to the automotive industry. He was cited for research accomplishments in the windshield safety field, and was selected for the honor by the Detroit Section of the ACS.

Dr. Joseph J. Rothermel, senior engineering associate at Corning Glass Works, was named the 1972 recipient of the Eugene C. Sullivan Award, given annually by the ACS Corning Section. The award was made for outstanding service to the section as an officer and committee chairman.

ALFRED MOYÉ NAMED VICE CHANCELLOR

We extend our congratulations and best wishes to Alfred L. Moyé, dean of student affairs for the past year, on his promotion to vice chancellor, student affairs. He heads a staff of fifty and has overall responsibility for student activities, the University Counseling and Placement Centers, the International Student Office, the Student Health Services, and special student programs.

Dr. Moyé, 34, who is a Pitt Ph.D. ('68), is also associate professor of chemistry. It is interesting to note that three other members of our department are on the administrative staff of the University:

Dr. Jerome L. Rosenberg, dean, Faculty of Arts and Sciences, and professor of chemistry; Dr. Richard H. McCoy, associate dean emeritus, Faculty of Arts and Sciences, and professor of chemistry, and Dr. Tobias H. Dunkelberger, associate dean, College of Arts and Sciences, and professor of chemistry.

DOERING PRESENTS 1973 PHILLIPS LECTURE

Our Xi Chapter of Phi Lambda Upsilon and the Pittsburgh Section of the American Chemical Society co-sponsored the eighteenth annual Francis Clifford Phillips Lectures on May 30 and 31. These lectures are dedicated to the memory of Professor Phillips, founder and first chairman of the University's Chemistry Department.

Our lecturer this year was the world-renowned Dr. William von Eggers Doering, Mallinckrodt Professor of Chemistry at Harvard University, who spoke on "Internal Rotation in Thermal Reorganization."

"DOC" PLAYS BALL

George "Doc" Medich, a six-foot, five-inch, 225-pound native of Aliquippa, Pa., was graduated from our department as a premedical chemistry major in 1970. He is a pitcher for the New York Yankees and, during the off-season, he attends Pitt Medical School. "Doc," who plans to be an orthopedic surgeon, says, "I'm going to play this game as long as I can. I'll have a lot of years left after I finish playing to be a doctor." Good luck, "Doc."

NEWS NOTES ABOUT FACULTY AND ALUMNI

by

Robert Levine, Professor
Ph.D., 1945, Duke University

FACULTY

Edward M. Arnett (Professor; Ph.D. '49, University of Pennsylvania) reports that *Dr. Donald Bushman* and *Dr. H.C. Ko* have completed their postdoctoral studies here. Dr. Bushman is now with Armstrong Cork Co. and Dr. Ko is on the staff of the chemistry department at the University of Alberta. Also, three of his graduate students have been awarded Ph.D. degrees. They are *Richard Minasz*, now a postdoctoral fellow at the University of Buffalo; *Thomas Moriarity*, who is employed by the Celanese Chemical Corporation, and *Edward Mitchell*, who is teaching at Frostburg State College, Frostburg, Md...*James C. Carter (Associate Professor; Ph.D. '61, University of Michigan)* tells us that three of his students have obtained Ph.D. degrees. They are *George W. Luther III*, who is now on the staff of the chemis-

try and physics department of Newark State College, Union, N.J.; *Charles Falletta*, now on the chemistry staff of Denison University, Granville, Ohio, and *Edward L. Jozwiak, Jr.*, who is with PPG Industries, Inc., in Harmorville, Pa...*Johannes F. Coetzee (Professor, Ph.D. '55, University of Minnesota)* gave a plenary lecture at the United States-Japan Cooperative Science Seminar on "Electrochemistry in Nonaqueous Solvents and its Application to Analytical Chemistry" in Tokyo, March 19-23, 1973. This conference was co-sponsored by the National Science Foundation and the Japan Society for the Promotion of Science.

Theodore Cohen (Professor; Ph.D. '55, University of Southern California) informs us that six of his students have been awarded advanced degrees: *Captain Ronald Berninger (Ph.D.)*, who is a medical research officer at Fort Detrick, Md.; *William Gray (Ph.D.)*, who teaches at both the University of Maryland and Northern Virginia Community College; *Jeffrey Solash (Ph.D.)*, who is associated with the State University of New York, Downstate Medical College; *Janet Tarino (Ph.D.)*, who is temporarily out of chemistry and is enjoying herself as a housewife; *Mordecai Treblow (Ph.D.)*, who is acting chairman of the department of natural sciences at Mercy College of Detroit; and *Thomas Poeth (M.S.)*, who is a research chemist at Eastman Kodak Co., Rochester, N.Y...*Sam Danishefsky (Professor, Ph.D. '62, Harvard University)* reports that *James Quick (Ph.D. '72)* is now assistant professor of chemistry at Northeastern University, Boston, Massachusetts, and that *Ellis Hatch (Ph.D. '73)* is now associated with PPG Industries, Inc., in Springdale, Pa. Dr. Danishefsky has also given a number of lectures before three ACS sections (Cincinnati, Tarrytown, and Great Lakes Region); three pharmaceutical houses (Lederle, Eli Lilly, and Merck) and four universities (Rutgers, MIT, Minnesota and Toledo). He also gave two invited Gordon Conference lectures, one before the Heterocyclic Chemistry Section and the other before the Natural Products Section.

K. Jeffrey Johnson (Associate Professor, Ph.D. '68, Washington State University) presented an invited plenary lecture at the International Conference on Computers in Chemical Research and Education, which was held in Yugoslavia, July 1973. His travel expenses were underwritten by a special travel grant from the National Science Foundation...*Frederick Kaufman (Professor, Ph.D. '48, Johns Hopkins University)* spent part of his half-year sabbatical leave at Harvard University as Honorary Research Associate in the Center for Earth and Planetary Physics.

During the balance of his sabbatical, he visited a number of research institutes in Europe and Israel...*Robert Levine (Professor, Ph.D. '45, Duke University)* reports that he and his graduate student, *Vance Bell*, have completed two novel syntheses of the important analgesic, Demerol (meperidine). One of these syntheses is the subject of a patent application in the U.S. Patent Office...*Foil A. Miller (Professor, Ph.D. '42, Johns Hopkins University)* gave an invited plenary lecture at the Third International Conference on Raman Spectroscopy at Reims, France in September, 1972. During this trip, he also lectured at the C.N.R.S. Laboratory of Physical Chemistry at Vitry-Thiais and at the Institute of Physics at the University of Nancy. An ACS lecture tour took him to five local sections in the midwest...*David W. Pratt Associate Professor, Ph.D. '67, University of California at Berkeley)* tells us that *Dr. C.R. Chen* has completed his tenure here as a postdoctoral fellow in the magnetic resonance group and has joined the chemistry department at the University of California, Santa Barbara, as a postdoctoral research associate. Also, *John Dillon III (M.S., '71)* has resigned his position as instructor in chemistry at Virginia Military Institute and will enter graduate school in biochemistry in the fall...*J. Wayne Rabalais (Assistant Professor, Ph.D. '70, Louisiana State University)* reports that he presented an ACS short course in Pittsburgh entitled "X-Ray and U.V. Photoelectron Spectroscopy."

ALUMNI

Alan W. Abel (Ph.D. '67) writes that he is still associated with Chemical Abstracts Service, where he is a senior associate editor...*Manuel Aven (Ph.D. '55)* informs us that he is now manager, Physical Chemistry Laboratory, of General Electric Research and Development Center. This laboratory, which consists of about one hundred staff and supporting personnel is concerned with a wide spectrum of physical chemical problems...*Walter E. Behnke (Ph.D. '54)* and *Mary Eagle Behnke (M.S. '52)* tell us that Walt is a senior research chemist in the Products Development Division of Parke Davis and Co., Detroit. He has played violin with the St. Clair Shores Symphony for the past eleven years, has served on the symphony board, and is an avid backyard farmer. Mary, who refers to herself as a "senior housewife," works intermittently for the University of Michigan Survey Research Center as a survey interviewer and also serves as chairman of the Macomb County Board of Canvassers, which certifies election results...*Captain Ronald W. Berninger (Ph.D. '72)* writes that he is stationed at Fort Dietrick, Md., where he is serving as a medical research officer for three years...*Edward R.*

Biehl (Ph.D. '62) informs us that he has been promoted to professor of chemistry at Southern Methodist University, Dallas, Texas. Congratulations, Ed.

Catherine M. Bridgham (Ph.D. '32) writes that she retired in June 1969 as Professor Emeritus, after teaching at Youngstown State University for thirty-four years. Since retirement, she has been active in the American Association of University Women, the Youngstown Garden Forum, and the Ohio Extension Service...*Robert J. Capwell (Ph.D. '70)* informs us that he has been promoted to section leader and acting head of the Analytical and Physical Department, Research and Development Laboratories of NL Industries. Congratulations, Bob...*Milton N. Donin (Ph.D. '48)* tells us that he has been at E.R. Squibb and Sons since leaving Pitt. He is director of clinical services, and says that he hasn't had direct involvement in chemistry for twenty years, but is concerned with the clinical investigation of new drugs...*Julian Feldman (Ph.D. '50)* writes that he has been with U.S. Industrial Chemical Co., Cincinnati, for twenty years and works in the areas of catalytic organic syntheses. He is also active in the community theatre and stage photography...*Eugene G. Haas (Ph.D. '35)* informs us that he is retired and living in Santa Rosa, California. He says that he is in good health and is keeping busy taking courses in German and woodworking, singing with a choral group, and taking trips with fellow retirees...*Charles L. Jewell (Ph.D. '68)* writes that, after leaving Pitt, he was a postdoctoral fellow at Case Western Reserve University. He is now employed in the department of chemistry of Mount Sinai Hospital in New York. We extend our belated congratulations to Charlie on his marriage to Carol Ann Uhrick in June 1972.

C.G. King (Ph.D. '23), who is professor emeritus of chemistry at Columbia University, informs us that he is still active and is associated with the Institute of Human Nutrition, Columbia University, College of Physicians and Surgeons.

It has been announced that *Alexander Lewis, Jr. (Ph.D. '51)* has been named president of Gulf Oil Corporation Foundation, a recently-formed subsidiary of Gulf Oil Corporation. Congratulations, Al...*James P. McKaveney (Ph.D. '57)* writes that he is manager of analytical services at Occidental Petroleum Corporation, Claremont, California...*Richard Obrycki (Ph.D. '67)* tells us that he is senior scientist, analytical and research services, at Koppers Co., Monroeville, Pa., and is associated with the University as assistant director of the University of Pittsburgh Bands...*Carl Osuch (Ph.D. '55)* informs us that he is still at the University of Dubuque, Dubuque, Iowa, where he

is head of the chemistry department and acting chairman of the science division...*J.C. Rosaiah (Ph.D. '65)* writes that after leaving Pitt, he went to SUNY at Stonybrook as a postdoctoral fellow and instructor of chemistry. He then joined the staff of the chemistry department at the University of Maine at Orono, where he is now associate professor...*Francis J. Rattay (M.S. '70)* tells us that he entered the U.S. Air Force in November 1970 and, upon his discharge two years later, he joined Mobay Chemical Co. in Pittsburgh as an application research chemist...*Thomas E. Robbins (Ph.D. '48)* writes that he is still with Koppers Co., Monroeville, Pa., as manager, Organic Materials Research Section...*Sylvan Sax (Ph.D. '53)* informs us that he is chief biochemist at Western Pennsylvania Hospital in Pittsburgh...*Gary Singerman (Ph.D. '65)* writes that he is a co-author of a treatise on heterocyclic chemistry, entitled "Condensed Pyridazines Including Cinnolines and Phthalazines" Congratulations, Gary.

Vincent J. Sodd (Ph.D. '64) tells us that he is acting chief of the Nuclear Medicine Laboratory, Cincinnati General Hospital...*Jay R. Sommers* writes that he is now assistant manager, Surgical Specialty Development Division of Johnson and Johnson. He is responsible for the development of nonwoven fabrics and disposable apparel...We extend our congratulations to *Eugene Stefl (Ph.D. '47)* who, we are informed, has been named vice president and general manager of Fluorodynamics, Inc., Newark, Delaware...*George L. Stragand (M.S. '50)*, as many of you will recall, was our microanalyst from 1945 to 1953. He writes that, after leaving here, he was a research chemist with U.S. Steel Corporation until his retirement in 1970. Since then he has been doing substitute teaching in the public schools around Elizabeth, Pa. His main hobby is doing voluntary work in the local historic town cemetery...*M. Sundaralingam (Ph.D. '61)* tells us that he is professor of biochemistry at the University of Wisconsin-Madison. His research is concerned with the determination of the structures of biologically important molecules by x-ray diffraction...*Peter T. Thompson (Ph.D. '56)* informs us that he has been promoted to the rank of professor of chemistry at Swarthmore College. Congratulations, Pete. He also tells us that he is spending a sabbatical year at the University of Delaware, working with Professor R.H. Wood on solution chemistry...*James R. Wells (Ph.D. '67)* writes that, in May 1972, he was promoted to research supervisor in the newly-created Polymer Intermediates Department of duPont in Orange, Texas. Congratulations, Jim...*Gilbert Witschard*

also informs us that *C.T. Liu (Ph.D. '64)* has left Hooker and is now with Stauffer Chemical Co.

(Ph.D. '63) tells us that he is a senior research chemist at Hooker Chemical Corporation. He

ALUMNI GIVING AND THE NEW BUILDING

by

W. Richard Howe

Executive Assistant to the Chairman
of the Department

The response to the department's request for alumni support has been very gratifying to date. On behalf of the department, I would like to thank all of you who named the chemistry department as the recipient of your 1972-73 Alumni Annual Giving Contribution.

The uncertainty of the University's State allocation has placed an increased value on those funds made available to the department via Alumni contributions. Your gifts will be used as partial payment for the cost of relocating our department and for making those minor physical plant modifications that could not be included in the original construction contract. As in the past, your annual alumni contribution can be designated for this purpose by marking your 1973-74 annual giving envelope as shown below.

I would like to extend an invitation to you to visit our new facility after March 1, 1974. If you would like to arrange a tour, please contact me at 624-5005. In next year's Newsletter, we will announce the schedule of events associated with the dedication of the new Chemistry Building.

My gift to PITT through the 1973-1974 Annual Giving Fund is \$ _____

Amount herewith \$ _____. Balance \$ _____ (Payable anytime before June 30, 1974)

Please allocate my gift to:

<input type="checkbox"/> The College	<input type="checkbox"/> General Studies	<input type="checkbox"/> Public Health
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