

Chem-News

Alumni Newsletter Published by Department of Chemistry University of Kentucky



Spring 1989

A Message from the Chairman

The Department has experienced a number of changes in the course of the last year. We have invested considerable effort in revising the General Chemistry program and with the able assistance of Professor Robert Kiser, the current Director of General Chemistry, we devised a two-track system. We will continue to offer the traditional one-year course sequence (CHE 105-107-115) taken by Chemistry majors, engineering students and pre-professional school students and we have also developed a one-year course sequence (CHE 104-106) which covers selected topics in

General Chemistry, Inorganic, Organic, and Biochemistry. Professors Butterfield and Patterson have volunteered to help launch these new courses. Since a number of students in our undergraduate program will only take one year of college chemistry, we feel it is appropriate to introduce them to several facets of the discipline which hopefully will enable them to read the popular press with a more critical eye.

We have also seen a continued growth in the Department's research effort and we now rank first in the College of Arts and Sciences

in extramural grants. We are pleased that several of our newest faculty, Assistant Professors Leonidas Bachas and John Richard, have received extramural NIH awards. We are also pleased to welcome Assistant Professor J. David Robertson to our faculty.

We very much want to thank the large number of alumni who contributed to our Endowment Drive and we look forward to seeing any of you whenever you are in the Lexington area.

David S. Watt, Chairman

Department Receives a Major Bequest from Col. A. Sidney Behrman

Col. A. Sidney Behrman, who died April 30, 1988, after a prolonged illness has willed his estate, ultimately amounting to over \$1,000,000, to the Department of Chemistry in memory of Professor Franklin E. Tuttle, who was head of the Department of Chemistry while Col. Behrman was attending the university. Col. Behrman was born in Covington, KY, December 15, 1892 and received a B.S. in Industrial Chemistry in 1914. While at the university he also took a prominent part in musical activities: a member of the Glee and Mandolin Clubs and piano accompanist to both and sang in church choirs. After graduation he taught science at Sue Bennett Memorial School in London, KY for one year before going to the Philippine Islands, where he taught school and later made a comprehensive survey of Philippine water supplies which was published in 1918. He enlisted in the Army in 1917 as Captain, Quartermaster Corps, and served in the Sanitary Corps in France where he was responsible for providing safe water supplies to the troops on the French front. After the Armistice he was assigned to



Col. A.S. Behrman

Germany to make a survey of public utilities in the occupied area and later in northern France. After his discharge from the Army in 1919 he started his productive career in the chemistry of water treatment with International Filter Company (Chicago).

He was recalled to active duty in World War II and after two years in classified assignments in Hawaii, Washington, DC, and elsewhere, he returned to Chicago to become Vice President, Director of Research of Velsicol Corporation, manufacturer of petroleum chemicals. Later he resigned and entered the consulting field. He was granted 56 U. S. patents mainly in the area of water treatment, the most important one issued November 11, 1924 covering the preparation of "gel zeolites", which dominated the field of ion exchange products for household softeners until 1944. The "gel zeolites" later found major use in the petroleum industry for catalytic cracking. His invention of a new low-density type of silica gel led to a microporous separator for electric storage batteries.

He was active in the ACS Division of

Water, Sewage and Sanitation and in 1957 received the Distinguished Service Award of that Division.

He was promoted to the rank of Colonel in the U. S. Army, April 13, 1949, and at age 60 retired on January 1, 1953.

Col. Behrman was buried May 10, 1988 in Arlington National Cemetery with full military honors.

[Now a personal note from the editor: I had the privilege of knowing Col. Behrman for several years during his active participation with the department. He was a generous contributor to our program becoming a University of Kentucky Fellow in 1980. He was in-

vited and delivered two outstanding seminars to our department — one at the age of 89 and the last at the age of 92 — both delivered without a single written note.

On May 10, 1985 he was inducted into the University of Kentucky Hall of Distinguished Alumni. I was fortunate to be able to visit with him on my frequent trips to Chicago and enjoy his wit and good humor. He still maintained an active research program in a private laboratory and his mind was teeming with research ideas. Before his final illness he was engaged in writing a textbook slanted toward industrial chemistry. He maintained an avid interest in choral music and enjoyed our trips

to hear the Chicago Symphony perform Verdi's Requiem and Beethoven's Ninth Symphony. He loved to travel, making frequent trips to Mexico and Spain where he practiced his Spanish. Annually he visited friends in California and Florida where he owned property.]

The Behrman funds have now been invested in a University Endowment Account and will be used principally to support graduate students. In order to attract the best possible students, we will utilize the interest from this endowment to enhance our financial offers to incoming students.

Comments from the Editor

This issue of the newsletter covers events and information for the 1988 calendar year. We are featuring a section on our alumni who graduated 1950-54.

The Fourteenth Annual Symposium on Chemistry and Molecular Biology, supported by the fund in memory of Anna S. Naff was held March 28, 1988. The topic was Structure and Function of Small RNA Viral Pathogens. Speakers were: Michael G. Rossmann, Hanley Distinguished Professor of Biological Sciences, Purdue University; Mark A. McKinlay, Director of the Department of Microbiology, Sterling-Winthrop Research Institute; Roland R. Rueckert, WARF Professor of Molecular Virology, University of Wisconsin-Madison; Eckard Wimmer, Professor and Chairman, Department of Microbiology, State University of New York at Stony Brook.

The Department sponsored a Regional Undergraduate Poster Session on April 16, 1988. Jim Holler reported that there were sixteen participants from seven regional schools.

During 1988, the Department awarded eight B.A., eleven B.S., four M.S., and seven Ph.D. degrees. The Department has published a brochure listing all of our faculty with a brief description of their research interests, which is used for recruitment of graduate students. If you would like a copy, please send a request to the Department.

Thanks to those of you who respond to our request for news which I hope you enjoy in our Alumni News Section. We urge you to keep us informed about your activities on the enclosed form and **please let us know of any change of address.**

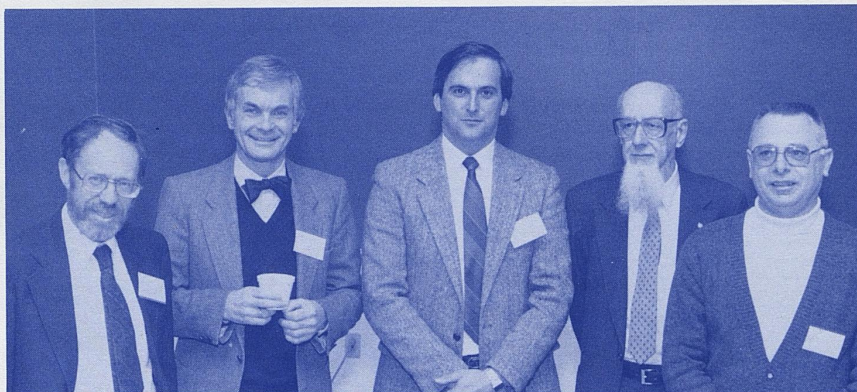
The Department has a **Guest Book** in the main office. We urge all our alumni who visit us to sign. We look forward to a visit from you when you are in Lexington. You will find many changes in the central campus — a lot of new buildings. Across Rose Street from the

Chemistry Building, a new Faculty Club and Mining and Mineral Resources Building have recently been constructed.

I would like to add my thanks for your contributions which make possible many activities and support of students that is not available from state appropriations. Please be sure to specify that any contributions you send are for our Endowment Fund, Development Fund, or other restricted funds in Chemistry. Dona-

tions may be sent through the Director of Development, William B. Sturgill Development Building, University of Kentucky, Lexington, KY 40506. We had planned to list those who have contributed this year, but the Development Office was unable to supply us with an accurate list. Next year we hope to do so.

Bill Wagner, Editor



1988 Symposium on Chemistry and Molecular Biology

Left to right: Michael G. Rossmann, Eckard Wimmer, Mark A. McKinley, M. Benton Naff, Roland R. Rueckert



Mining and Mineral Resources Building — Rose Street and Clifton Avenue

Special News from the 1950-54 Alumni

We are pleased to present the responses from the following alumni in answer to our request to bring us up-to-date on their activities since graduation.

1950

Harrison R. Cooper, B.S. About the only anecdote I can recall concerning my training at UK chemistry as related to experience as a graduate was in my first job with B. F. Goodrich where I was assigned to the quality control laboratory in Akron. They used a dropping mercury electrode as an analytical instrument for zinc analysis to evaluate spec's on received shipments. The device was a bit troublesome and I managed to fix it based on having built one of them in a class at UK ("instrumental methods"). The lab supervisor mentioned that UK graduates were the only people that could figure out those things.

Since that job, I went on to a couple other big company posts, interspersed with graduate school bouts in chemical engineering, and then started my own business in 1970. I have been specializing in on-stream composition analyzers for industry. Most recently we have introduced the first-of-its-kind magnetic resonance analyzer just beginning commercial use in Florida phosphate. I participated in a UK sponsored coal conference in April 1987, where I discoursed on methods for on-line quality measurements for coal. My wife came with me and we had a quite pleasurable time.

Zane G. Kaufman, M.S. The following letter to Bill Wagner was received: I remember you quite well, I believe that you came to the University of Kentucky just prior to my leaving in 1950. About five of us took instrumental under you.

When I left UK, I took a job as analytical research chemist with Calco Chemical of American Cyanamid at Bound Brook, NJ. It was a good job, but I quickly became disenchanted with the severe pressure and left in 1953. At York, PA I was assistant metallurgist with York-Shipley for a year and then took a position at York Junior College (now York College of Pennsylvania). In 1960 I was offered a job at Lock Haven State College (now Lock Haven University) where I first taught Principles of Chemistry and then Analytical Chemistry and Instrumental Chemistry. I will retire on December 30, 1988.

Over the years while teaching, I have been a consulting chemist for a candy manufacturer, a small chemical company, and a school district. I have been a semi-professional photographer and semi-professional musician. I play piano, organ, and string bass.

I made a start toward an advanced degree

in Educational Administration at the University of Maryland and then this job at Lock Haven terminated that effort. I also worked about eight years, mostly part time, on a Ph.D. in soil chemistry at Penn State but I suddenly realized that I had waited too long in that my time was being restricted from the things that I liked best. I was never a hot shot student, but I was and am a good chemist, and I hope a good teacher.

My wife worked as a chemist for a small chemical company here in Lock Haven for about ten years.

Our older daughter, Susan Kaufman Hafey, J. D. (who was born in Lexington) has a private practice at Manassas, VA. Our younger daughter, Amy Gretchen Schol, Ph.D., has a B.S. from the University of Southern California, an M.S. from University of California, San Diego, and a dual Ph.D. in Biomedical Engineering and Electrical Engineering from Carnegie-Mellon. She works for Siemens AG Medical Systems in Connecticut and MRI R&D and has married a German engineer who also works for Siemens AG. Currently, they are in Erlangen, West Germany, which is corporate headquarters for Siemens AG.

I have very good memories at the University of Kentucky especially of Lyle Dawson who was, in my opinion, a master teacher and a gentleman. I did get off a letter to him before he died. He honored me by answering that letter. I remember Meadows, Cavagnol, and Long who was pushed out, as I remember, because he refused to run a research program or take on graduate students. I was the last one to work for James Schreyer on potassium ferrate. I think I understand that he left to work at Oak Ridge. I wondered if the William A. Schreyer mentioned in your letter might have been a brother to James Schreyer? Jim had a brother as I remember.

I worked at the Experiment Station Fertilizer Lab which was run then by a guy named Allen. He used to get mad as blazes at me because I could run so many fertilizers per day. He would constantly try, without success, to find an error in my work. For some weird reason, I ended up doing some research for a guy named Poundstone (perhaps Allen had a hand in this) and I developed a method for phosphorous using ammonium vanadate. It was a neat method and the statistics on it were good. Well, I forget when, but this Allen in one of the Ag journals wrote that this method that I developed was no good (he did not mention me by name). Unfortunately, I could not find a copy of the work that I had done on the method, so I had to grit my teeth and take it.

My wife, Ruth, worked in the Soils Lab at the Experiment Station before the baby was born. Weekes, I believe was in charge at the time. I saw Weekes many years later at a meeting and I went over to talk to him, but he was not at all interested in talking about the Experiment Station at UK so the conversation stopped before it started. I believe that Ockerman worked for Weekes after he (Ockerman) got his degree. You will remember that Ockerman died tragically in a traffic accident.

I have run into Saul Gordon at meetings a few times. He has done very well, his wife typed my thesis.

Gerald (Jerry) W. Recktenwald, M.S., and Elizabeth (Libby) Link, B.S., married in 1955. After graduation Libby joined Devoe Reynolds Paint Co. in research and patent preparation. Jerry obtained a Ph.D. from Indiana University, Bloomington, IN. Jerry's career has been varied and fast paced. He joined GE's Major Appliance Laboratories in Louisville from 1955-1965 where he developed the urethane process for foaming refrigerators. In 1965, the family moved near New Haven, CT where he was manager of the Rigid Urethane foam group for the Olin Corp. He and his group developed a unique foam product that was the basis of a new plant near Allentown, PA. After working on the process and plant designs, he accepted the position as plant manager to build and start-up the new facility.

The family moved to Allentown, PA in 1970. After the start-up was completed in 1972, the Recktenwalds decided to stay in Allentown where Jerry joined Air Products and Chemicals, Inc. as manager of New Ventures. The major activity was the invention and commercialization of Airopak, a process for the fluorination of plastic containers. As Manager of Laboratory facilities he lead the construction of a 110,000 sq. ft. laboratory building and planned other expansions that are now underway.

Since his retirement in 1986, Jerry continues as a computer buff, is working to help establish an Industrial Museum in Easton, PA and is a volunteer tax counselor for the elderly.

Since marriage, Libby has confined her chemistry to the kitchen and garden. She is a member of the Allentown Shade Tree Commission and a District Director of the Pennsylvania Garden Clubs.

Libby and Jerry have two daughters, Donna, a mechanical engineer with Bell Labs, in New Jersey, and Pamela, an M.D. presently in Omaha, NE. Libby and Jerry live at 314 N. 28th Street, Allentown, PA 18104.

Paul G. Sears, B.S. in Industrial

Chemistry (1950), Ph.D. (1953). I had the privilege of doing my graduate work in physical chemistry under the supervision of Dr. Lyle R. Dawson, with whom I subsequently collaborated in research for several years. I served at UK as instructor (1953-54) and assistant professor (1954-57) prior to taking a position as research chemist with the Inorganic Division of Monsanto Chemical Company in St. Louis in July 1957. My exploratory research at Monsanto dealing with inorganic molten system reactions led to several patents. Though my research at Monsanto was progressing very well, I accepted an opportunity to return to UK as associate professor in August 1959 and was promoted to professor in 1962.

Through the years I have taught many large classes in general chemistry as well as several upper division and graduate courses in both inorganic and physical chemistry. I have had the privilege of teaching and working with a few thousand very able students at UK and hopefully I have had an effect on them and will be remembered by them. It was both an honor and pleasure for me to receive a UK Greek Community Outstanding Teaching Award in 1968 and also a UK Alumni Association Great Teacher Award in 1980.

My research interests at UK, though dormant the last five years, have focused on conductance and dielectric constant studies in nonaqueous media and also the synthesis, characterization, and use of many new nonaqueous solvents, several of which have exceptionally high dielectric constants and very broad liquid ranges. Through the research accomplished by very able undergraduates, graduate students, and postdoctoral scholars in research groups led by Dr. Dawson and myself, the UK Department of Chemistry has received considerable international recognition for research in the field of nonaqueous solvents.

At UK outside the Department of Chemistry, I have served two years as chairman of the University Senate Council, nine years as a faculty member on the UK Board of Trustees, and ten years as a member of the Board of Directors of the UK Athletics Association. Among many interesting experiences, I was a member of the Presidential Search Committee in 1968-69 when President Singletary was appointed and was the staff officer working with the Presidential Search Committee in 1986-87 when President Roselle was appointed.

I served half-time as Faculty Assistant to the President during 1970-82 and since July 1982 have been involved in full-time administrative staff activities as Special Assistant for Academic Affairs in the Central Administration. I presently have responsibility for coordinating changes in the UK Governing Regulations and Administrative Regulations and

for maintaining these regulations up-to-date, coordinating the processing of new degree program proposals, maintaining a current inventory of more than 300 degree programs, handling Academic Common Market matters, handling inquiries or requests from the Kentucky Council on Higher Education academic affairs staff, and serving as advisor to UK administrators and faculty concerning regulations and academic affairs.

On the personal side, in 1951 I married Juanita Reed Crawford, a classmate in some chemistry courses and a 1950 UK graduate with a major in medical technology. We have a daughter, Elizabeth, and Juanita has another daughter, Anne, through a previous marriage. We are very much a UK family since, Elizabeth, Anne, and their husbands also are UK graduates. I will be 65 next September and, although no firm decision has yet been made, I am tentatively thinking in terms of retiring at the end of 1989.

Stanley M. Tarter, B.S. After working two years as an analytical chemist with Schenley Industries, I entered the law school at the University of Cincinnati. After graduation, I worked as a patent attorney for two years with AK20 and for twenty-five years with Monsanto Company. I retired from Monsanto in 1982 and have been in the private practice of intellectual property law ever since. I have Dr. Meadows to thank for suggesting that a B.S. in chemistry and J.D. in law would be a good marriage. Also, I have Dr. Barkenbus to thank for teaching me organic chemistry which I still use in my work.

Gordon Wilson, Jr., M.S. After completing experimental work and thesis for the M.S. degree in August 1949 I went to the University of Minnesota, Duluth Branch, as an Instructor in September. Returning to the UK campus in December I managed to pass the final oral examination on the last day before Christmas vacation and my degree was awarded in June 1950.

June of 1950 also saw the Korean "Police Action" start and by September, at age 25, I found myself in the U. S. Army at the request of my local Draft Board. After a few weeks of basic training at Fort Knox, KY, I spent the rest of two years and one day teaching pseudo-chemistry at The Chemical Corps School. The School moved from Army Chemical Center, MD, to Ft. McClellan, AL during this time and in Alabama I found my wife to be.

Returning to Minnesota in 1952 (how could a nice Alabama girl stand that weather?) I taught two more years and then went to Purdue University for doctoral studies. During the summer of 1953 I worked in the laboratory of a brand new oil refinery near Duluth, a very educational experience.

Leaving Purdue in the fall of 1957 I joined a Dow Chemical Co. in Midland, MI. For

four years I was involved in various aspects of research in the polymer field and continued to do some work for Dow for several years after leaving in the fall 1961.

September 1961 found me back in Kentucky, joining Western Kentucky University ("State College" at that time) in Bowling Green. My old home town and baccalaureate school had changed dramatically in the years I had been away (or I would have never "come home"). For the next 25 years I taught primarily organic chemistry and for 13 of those years was Department Head. The department grew from my being the fifth member to a faculty of 20 by the time I retired 31 May 1986.

"Retired" is not quite the correct term since I elected Western's "optional retirement" program under which full retirement pay is received but half-time teaching is allowed. The pay, however, is not 50% but only 38%. But, (and this is most important!) there are no committee, council, senate, etc. duties. I plan to continue teaching half-time through the 1989-90 academic year and then really retire.

My wife and two children have a total of three degrees from Western Kentucky, but UK ties are present too. Our son (a native Hoosier) works for UK and our daughter (a Michigander) got her physical therapy degree from UK and works for the VA in Lexington.

I hope you and the whole department have a happy and productive New Year.

1951

William R. Boyd, B.A. I am answering your letter inquiring about graduates of the 1950-54 years because of my respect for you. I had the privilege of having you as a teacher for a second semester analytical chemistry course during the summer of 1949. There were only five of us in the class and I will always remember how you treated me with respect and kindness.

I will include some things about my life and you may print what you desire in the alumni newsletter.

I married a young lady from Oregon. We raised five children. I have been in the field of education during most of my life having taught Chemistry, Physics, and Mathematics in high school in the states of Washington and Florida and Campbellsville College in Kentucky. I received a master's degree from the University of Michigan in 1964.

Paul Sears and I are from Somerset, KY. I have always considered him my friend and would appreciate you relating to him my greetings. Both of you are great gentlemen.

Albert L. Stone, M.S. I was happy to receive your letter requesting information on chemistry alumni from 1950-54. I have worked for Tennessee Eastman Company since leaving UK. I worked in the Fibers Divi-

sion doing analytical development work and quality control work. I retired December 1, 1986, as supervisor of the analytical labs. The Fibers Division manufactured cellulose acetate yarn, Verel modacrylic yarn, and Kodel polyester yarn, and cellulose acetate cigarette filter tow.

During my career I was active in ACS and ASQC. I was ASQC certified Quality Engineer and Reliability Engineer.

My continuing education included a short course in infrared spectroscopy at MIT under Professor Lord of MIT and Dr. Bellamy of England. I also took some graduate courses in experimental statistics at UT.

Since retiring I have spent a lot of time playing golf on several courses in East Tennessee and Western North Carolina. I haven't made a hole-in-one yet but there is always a chance.

Since September I have been working for Eastman on contract to develop a Quality Manual for their Performance Plastics Business Unit. This includes a total quality system for the manufacture of high performance polyester plastics.

I have very fond memories of UK. I have often thought about the time Jim Wuellner, Gene Lindblad (or was it J. R. Gump), you, and I went to Keeneland for the horse races. Each of us put 50 cents in the kitty to make a \$2.00 bet. The best I remember we came out about even for the day. I haven't been to a horse race since. (Editor's Note: The horse Jim Wuellner picked threw the jockey at the starting gate and ran across the infield. That cost us \$2.00 in a hurry.)

I am married and we have one daughter. She is married and they live in Greeneville, TN. They have one son who will be three in January. We sure enjoy being with him.

I heard from J. R. Gump last Christmas. He is the only one from UK ('49-'50) that I have heard from in several years. I would like to hear what others are doing now. I enjoy receiving correspondence from the Chemistry Department. I would also like to hear about your family.

A. G. Tharp, B.S. 1951, M.S. and Ph.D. from Purdue. We finally caught up with him in the Philippines after tracing him from Long Beach State College. He wrote as follows:

What a surprise it was to get the letter from UK! I was sure that no one there had the slightest idea where I was since I have not received anything from there in years. How did someone come by my address in Quezon City? In fact, the last information that I got from UK was in the summer of 1962 when I visited the UK campus and talked to Paul Sears for a few minutes. At the time your letter arrived I was spending a couple of months in the states.

I started graduate work at Purdue University in September 1951. I was graduated with the Master of Science degree in August 1954

and with the Doctor of Philosophy Degree in January 1957. I left Purdue in August 1954 and went to the University of California, Berkeley, where I did my Ph.D. research in absentia from Purdue and the Ph.D. research was finished in December 1955.

After finishing the doctoral research I went to work at Oak Ridge National Laboratory and remained there for 3.5 years. From ORNL I went to what was then Long Beach State College and remained on the faculty as a professor of chemistry for 28.5 years. While employed at California State University, Long Beach I served as a summer consultant at General Dynamics and what was then Lawrence Radiation Laboratory, Livermore. I served as a regular consultant at the Lawrence Radiation Laboratory, Livermore and at Sandia Corporation, Livermore for a number of years. My specialty was high temperature chemistry — usually at 2000°C or higher.

I retired from California State University, Long Beach, in January 1988. After teaching for such a long time as a teaching assistant and as a professor it simply became too psychologically tiring to continue, so I retired. I sold my property in California, bought a house in Kentucky, came to the Philippines, bought a lot, built a house and now fully or partially support a total of 28 Filipinos.

1952

William B. Kauffman, M.S., wrote the first letter in May 1988 and the second letter on January 13, 1989.

Amongst the mail when we returned from five months in Florida was the Spring copy of Chem-News. Now that I am retired I can sit down and read such things and I must say I appreciate the time and effort that goes into publishing such a newsletter. You and whoever else should be commended for keeping the publication going.

It hardly seems possible (although I can feel it every morning in my joints) that it was 36 years ago that I left Lexington. We have covered a lot of miles since then and met a lot of people.

My time at the University of Kentucky was well-spent. The basic principles of chemistry drummed into me by you and the other professors, have served me well over the years. I remember when I was asked at my oral exam what I intended to do after graduation and I indicated I was heading for the commercial side of the industry, there were some negative looks and comments from my inquisitors. I did spend a good deal of time on the marketing side but then spent, in the middle of my career, several years as a Technical Director managing a staff of Ph.D.'s. Using my commercial background to make research programs more meaningful — increase the chances of commercial success. So the technical background did come into play.

January 13, 1989: All of my business career

was spent with American Cyanamid Co. from 1952 to the present. It goes something like this: Ten years selling a broad range of industrial chemicals — mineral acids to cyanuric chloride and surface active agents. Lived in Connecticut, New Jersey, Boston, and Cleveland. In 1963 moved into New York headquarters to do sales development work for a department — introduction of new products out of research. Focused on a line of industrial biocides — arsenoso benzene (had to give that up from a toxicity standpoint), some guanidine compounds and a real winner, methylene bisocyanate. At the time, I promoted these products primarily to the oil production industry — water treatment for secondary recovery/water flooding. Moved on to product manager for monomers (acrylamide and acrylamide based products like N-methyl acrylamide) and surfactants (wettors, emulsifiers, dispersants and foamers). Concentrated on the emulsion polymer industry. Took on responsibility for technical service and then in the late sixties was made technical director for Process Chemicals Department with responsibility for technical research, market research and sales development. Probably the most rewarding job I had with a number of new products being commercialized. However, whether it was the work load, my commuting to Stanford, CT from New Jersey or some other reason, I had a heart attack in 1972. When I got back on my feet I went into a whole new business — developing, manufacturing and marketing adhesives and aluminum honeycomb to the aircraft industry — both commercial and military. This took me to Seattle, S. California, Dallas, St. Louis, etc., wherever they were making airplanes and helicopters (all helicopter rotors are laminates of aluminum and aluminum honeycomb with an adhesive bonding the whole together). That job lasted about four years and then I went back again to my old department to see if I could find some new products or businesses for them to get into. That's kind of like trying to find a pearl in an oyster bed — you have to open a thousand before you can find one good one! Spent a lot of time looking at products that could be used to make high solids slurries of pulverized coal which would be used in place of fuel oil by the electrical industry. When oil was \$35 a barrel it looked attractive but at \$18 a barrel, forget it! Looking for new business opportunities is very frustrating. Like doing research, great optimism in the beginning because one is unaware of the obstacles ahead but then as we get more knowledge of the subject and have tried the obvious, the options become fewer and fewer and you finally have to turn to something else.

A few years of that and I turned back to technical service focusing again on speciality monomers (cross linkable and modifying) and

surface active agents. About three years ago my heart problem resurfaced, I had a by-pass operation and about a year after that decided to retire. Probably the best thing I have done. I love to play golf so we bought a condo in Fort Myers where, for the past two seasons, we've spent five months of the year. Still keep our place in New Jersey for the late spring, summer, and fall.

The only characters from UK that I have encountered were Joe Smisko and Ken Brakebill. Ran into Joe in New Hampshire once on a golf course! He worked for PPG and I stopped in to see him in West Virginia and the Akron area.

Ken was with Monsanto doing sales development work (at least at that time) and we both had an interest in fire retardants. Had dinner with him in New Jersey and we had a few phone conversations after that. He retired.

That's my whole career. I must add that I have a good wife who has tolerated me for 35 years and we have three great children (two boys and a Betsy) and one grandson. They were all here for Thanksgiving — quite a gathering.

I do some consulting work. McCutchen's puts out two directories "Emulsifiers and Detergents" and "Functional Materials". They are headquartered about a mile from our house in New Jersey, so I do the technical editing and organization of the directories for them. Otherwise I tee it up two-three times a week and try to relax.

James A. Wuellner, Ph.D. I'm a retired, obsolete chemist now — since late '81. I was with the (now) Amoco Corp. for 30 years — ten as a bench research chemist, ten as an information scientist, and ten as patent advisor.

I bred, raised, and educated a gang of kids — six to be exact. In pursuit of their own lives and professions they have scattered across the country — from Oregon to Louisiana (my son, an independent geologist in Louisiana, has struck oil!).

I can't help you on locating any of the graduates listed. I myself would like to find Gormley. Last I heard he was in Canada.

1953

C. Kenneth Bjork, Ph.D., sent the following summary of his activities:

1953-54 — research chemist, Int. Minerals and Chemicals Corp., Mulberry, FL; 1954-present — The Dow Chemical Company, Midland, MI; 1954-59 — Research and Development Engineer, Metallurgical Laboratories; 1959-present — Patent Department, registered as patent agent in Patent and Trademark Office in 1960; 1963-70, Group Leader, Inorganics Section; 1970-78, Manager, Bioproducts Section; 1978-87 — Manager, International Section; 1976-87, Manager, Administrative Services (concur-

rent with International Section); 1987-present, Administrative Manager, Patent Operations.

He is a member of the American Chemical Society since 1948, served as a member of ACS Joint Board-Council on Patents and Related Matters, 1978-88 and Chairman of Subcommittee on Education, 1986-88. He was a Charter Member of ACS Division of Chemistry and the Law, serving as Program Chairman, 1983, and Chairman, 1984-86.

He has four U. S. patents and numerous foreign patents and the following publications: *J. Am. Chem. Soc.* **74**, No. 543-4 (1952); *Chem. Eng. News* **35**, No. 46, 72-6 (1957); Booklet on **Record Keeping** (The Dow Chemical Company); and Principal and Author of **Booklet on Patents for the Chemist** (ACS committee on Patents and Related Matters).

Ken has been a speaker at a number of career symposia, ACS Student Affiliate chapters, and college and university chemistry clubs on: Patents for the Layman, Protecting Intellectual Property, Non-Bench Careers for Chemists.

His wife, Joyce, is the attendance officer for the Midland Intermediate School District, serving 26 schools in the county. Their children, Jeff and Michelle, graduate this year. Jeff is going to Michigan State and Michelle has been accepted at several state schools but has not made a decision yet. She is planning a career in nursing.

J. D. (Fritz) Diehl, M.S., wrote to the editor as follows: For many years now I have received the Alumni Newsletter of the Department of Chemistry and I have put off responding for too long. Today I would like to tell you how much I always enjoyed reading the newsletter and finding news here and there about persons I have known at the time I was in Lexington. An exchange program initiated by President Donovan of the University of Kentucky, which permitted one student from the University of Heidelberg and one student from the University of Kentucky to spend a year at the partner university, had given me the opportunity to come to Lexington for the academic year 1952-53. I did a thesis under Professor Barkenbus and left after summer school 1953 with a master's degree. That required hard work, but nevertheless I remember that year with great pleasure. Dr. Dawson, Head of the Department, insisted that I take a course in American Cultural History in addition to my chemistry courses and I profited very much from that also. Professor Eaton (if I remember the name correctly), an expert on the history of the South, taught the course. Many pleasant memories are associated with the Cosmopolitan Club, where foreign students and Americans had opportunities to meet. All in all, that year had a decisive and very positive influence on my life.

I have particularly fond memories of Professor Barkenbus, with whom I corresponded until his death. For a number of years I corresponded with Frank and Alvine Brower and with Val and Lucy Midciff. Other names that come to mind are Paul and Stella Davis, Carlton Colcord, Olin Spivey, Ed Kline, Paul Sears, Pete Panzera, and Kenneth Bjork. Of course, I also remember you very well (unless there was another Dr. Wagner at that time). One of the first social events I participated in after coming to Lexington was a "roasted-Weiner party" you gave for the chemistry students. It was the first time in my life that I ate marshmallows. Some students tried to introduce me to poker and bridge that evening — without too much success I am afraid. I was more interested in your record collection and I remember that you put Mozart's "Klein Nachtmusik" on the player when I told you about my interest in classical music.

I am going to include a curriculum vitae which will show you what I have done after leaving Lexington. Partly by choice, partly forced by circumstances, I have become more a generalist than a specialist. I have published in the areas of organic chemistry, analytical chemistry, biochemistry, radiochemistry, radiation chemistry, food science and nutrition — without making earth-shaking discoveries in any of them, but I have always found my tasks interesting and the work worthwhile.

Johannes Friedrich ("Fritz") Diehl was born in 1929 in Germany. Studied chemistry at Heidelberg University (Dr. rer. nat. 1957), with one year of graduate work at the University of Kentucky (M.Sc. 1953). From 1957 until 1965 at Department of Biochemistry, University of Arkansas Medical School, Little Rock (Assistant Professor 1959, Associate Professor 1963). Research on biological function of vitamin E.

Since 1965, Director and Professor, Federal Research Centre for Nutrition, Karlsruhe, Federal Republic of Germany. Research on: effects of heat and radiation on vitamins in foods; wholesomeness of irradiated and other processed foods; radiation chemistry of food constituents; essential and toxic trace elements in foods; radioactivity in foods. Since 1971 Honorary Professor at Karlsruhe University, where he teaches food science. Author or co-author of about 180 publications.

Member: American Institute of Nutrition, Institute of Food Technologists, German Chemical Society, German Nutrition Society, Executive Committee of the International Union of Food Science and Technology (Treasurer 1978-1987, Vice President since 1987), Board of Management of IFIS (International Food Information Service) from 1971 until 1984 and again since 1987, FAO/IAEA/WHO Joint Expert Committee on the Wholesomeness of Irradiated Food 1969, 1974, 1980. Board of Editors of six scientific journals (Acta

Alimentaria, Radiation Physics and Chemistry, Lebensmittelwissenschaft und Technologie, Chemie, Mikrobiologie und Technologie der Lebensmittel, Zeitschrift für Lebensmitteluntersuchung und -forschung, and Zeitschrift für Ernährungswissenschaft).

Chairman of the Scientific Program Committee of the International Project in the Field of Food Irradiation, 1974 to 1981. Member of the WHO Expert Advisory Panel on Food Safety since 1987.

Francis J. Shell, Ph.D. I arrived in Bartlesville, OK in August of 1952 and I have resided here since then. I began working in the Phillips Research and Development Department as a research chemist. In 1957 I was transferred to the Production Department as assistant director of the Technical Division. In 1966 I became the director of the Division (now in the Exploration and Production Department). The following year the Division was transferred to Drilling Specialities Company, a wholly owned subsidiary of Phillips Petroleum Co. In 1980 I was made a Senior Chemical Associate in the Chemical Group of Phillips thus becoming only the second Senior Scientist in the department. I retired February 1, 1985.

My work with Phillips, regardless of the department, was always with oil-well cements, drilling fluids, stimulation fluids, and production chemicals and their use in the field. I also represented Phillips in these areas in the American Petroleum Institute. I was National Chairman of the Cement Committee from 1976 through 1978.

We had three children before I was graduated from the University of Kentucky. When Bob, who was born in Kentucky, was in Junior High School, Helen started working for the school system. When she retired 20 years later, she was manager of the Data Processing Center. Barbara, our oldest, is a professor at Eastern Montana College in Billings. She has published one textbook. She is married to Lorrin Walker and they have two children. Fran, the next, is a dance teacher in Oklahoma City. She and her husband, Roy Addington, have two children. Bob and Terrie live in Houston. He works for Cokesbury Book Store.

Retirement has been good to us. We travel some, mainly to Billings, Houston, and

Oklahoma City. Our church work and golf keep us busy. We still find time for a little bridge and I do a little consulting.

As you get older, you reflect a little. We enjoy thinking of the good times we had in Lexington. Two years ago last fall we took a bus trip to the Northeast. We stopped at Bardstown, thence to Lexington, and on to Ashland. I got to tell the group about Kentucky, especially Fayette County, Lexington, and the University of Kentucky. You would have been proud of me. I doubt if a member of the Chamber of Commerce would have done better.

We are planning a trip this spring that will bring us through Lexington. We hope to renew some acquaintances at that time.

1954

Ray T. Reynolds, B.S., received an M.S. in physics from UK in 1960. He served in the U. S. Air Force from 1955-1957. He worked for the American Geographical Society, Thule, Greenland, 1960-61 and the Los Alamos National Laboratory in 1961. He joined the NASA Ames Research Center, Moffett Field, CA in 1962 as Research Scientist, was named Chief of the Theoretical Studies Branch in 1969. He retired in 1988 and is serving as an Ames Associate to remain active in research on planetary science. He has 70 journal or book articles and another 75 reports and abstracts published. Honors he has received include the following: AAAS Newcombe-Cleveland Prize (1979), NASA Medal for Exceptional Scientific Achievement (1980), NASA Ames Honor Award (1985), and American Geophysical Union Fellow (1985).

Following are some of the special activities Ray has been involved with at NASA: Principal Investigator, NASA Planetary Geophysics/Geochemistry Program (1982-present); Principal Investigator, NASA Planetary Geology Program, (1966-1982); Principle Investigator, NASA Lunar Research Program (1963-1978); Member, NASA Uranus Science Working Group (1974-1975); Vice Chairman, NASA Outer Planets Entry Probe Study Group (1974-1975); Discipline Scientist, NASA Committee for Stratospheric Modeling (1974-1975); Member, Publications Subcommittee, Division of Planetary Sciences of

the American Astronomical Society (1972-1973); and Member, Basaltic Vulcanism Study Project (1977-1980).

He is a member of the American Astronomical Society Division for Planetary Studies, American Geophysical Union (Fellow), American Association for the Advancement of Science, Meteoritical Society (Fellow), and American Institute of Aeronautics and Astronautics.

1955

Benjamin L. Shely, B.S. We jumped the gun on Shely — our records showed him graduating in 1951 instead of 1955 so we will include his response that should be included in the next newsletter.

He received an M.S. in inorganic chemistry from Indiana in 1957. He joined 3M in 1957 as a chemist in the Duplicating Products Division Laboratory until 1963 when he was promoted to Research Specialist in the Central Research Laboratories. In 1967 he became a Senior Research Specialist in the Imaging Research Laboratory, in 1969, the Applied Research Manager, Duplicating Products Division. In 1971 he was appointed Laboratory Manager of the Industrial Graphics Department, Printing Products Division, and in 1973 the Technical Director of the Division. From 1977-81 he served as Group International Marketing Director, Photographic and Graphic Arts Group when he became International Executive Director, Graphic Technologies Sector. From 1982 to 1985 he served first as General Manager, then Division Vice President of the Graphic Preparation Systems Division. In 1985 he was appointed Group Vice President of the Photographic and Graphic Arts Group. He was appointed Group Vice President of the 3M Imaging Systems Group. He is affiliated with the following professional organizations: Board of Directors, National Association of Printers and Lithographers (NAPL); Graphic Communications Association (GCA); Printing Industries of America (PIA); International Association of Photoplatemakers (IAP); American Management Association (AMA); Board of Directors, National Association of Photographic Manufacturers, Inc. (NAPM); Board of Directors, National Printing Equipment and Supply Association, Inc. (NPES).

Alumni News

Robert L. Anderson, B.S. 1948, has retired from the Union Carbide Corp. in South Charleston, WV after 37 years as an analytical chemist in industrial R and D. He graciously sent along to the department a copy of an excellent monograph on statistics that he has written, "Practical Statistics for Analytical Chemists" published by Van Nostrand in 1987.

Albert Tockman, M.S. 1950, informed us, "I've done many things since leaving UK including trading my lab coat for pin stripes, but I still haven't got a middle initial." [Sorry, Albert, we will try to remove the intruding C but our computer may not cooperate].

Thomas Gover, B.S. 1955, in an article in Newsprints in C&E News, May 23, 1988 received credit for implementing a program on "writing across the curriculum" at Gustavus Adolphus College in St. Peter, MN where he teaches. The school's catalog lists 75 courses, throughout the arts and sciences, in which writing is required and considered in grading. Gover chaired the committee that formulated the program which inspired the new book "Writing to Learn" by William Zinsser.

Joseph C. Thomas, M.S. 1955, Ph.D. 1961, writes: After completing a doctorate degree at the University of Kentucky, I took a position as a chemistry teacher with Florence State College which is now the University of North Alabama. Over the 27 years that I have been at the University of North Alabama it has been my privilege to serve eleven years as Head of the Science Department, two years as Associate Dean of the School of Arts and Sciences, and six years as Dean of the School of Arts and Sciences. In February of 1987 I was appointed Dean of Faculty and Instruction which is the Chief Academic Officer position at the University of North Alabama. With the acceptance of administrative duties, my teaching responsibilities in the area of inorganic chemistry were reluctantly relinquished.

John Ryan, Ph.D. 1957, wrote to Tom Smith last Christmas: It's hard to believe that it is now 37 years since I left Iowa to come here. I am retiring at year end but will continue to work part-time here and with a few people doing environmental assessments. Our family is all on the east coast but will be here for Christmas. We will spend the holidays at our newly remodeled cottage in Central Lake, MI.

David V. Boyer, M.S. 1965, M.S. in chemical engineering from the University of Rochester, is the manufacturing manager of

biochemicals for Eastman Kodak's Bio-products Division in Rochester, NY. He recently obtained an assignment to help design, construct, and operate a fermentation plant in Cedar Rapids, IA for Eastman Kodak. This facility is the first bio-technology manufacturing plant in the EKC organization. The plant will produce industrial speciality chemicals via fermentation technology.

Judith Y. Smith, A.B. 1966, is the assistant principal at Jordan High School in Durham, NC. She obtained an MAT in Chemistry from Duke University.

Michael S. Lupin, postdoctoral fellow 1968-69, took another postdoctoral appointment with J. C. Bailar at the University of Illinois, 1969-70. He returned to Israel in 1970 to the Dead Seas Works Ltd. Beer-sheva as a research chemist in the R&D Division and achieved the position of senior research scientist. From 1981-83 he was a research chemist with International Fertilizer Centre, Muscle Shoals, AL. Since 1986 he has held the position of chief chemist for Dead Sea Periclase, Ltd. in Israel. He has over 20 publications and 11 conference reports.

Louis Nunnelley, B.S. 1968, wrote a letter to Bill Ehmann who kindly has shared its contents with us:

It has been a long time since I have communicated with you and since I have enjoyed your Christmas letters I thought I would send you a note. I graduated from UK in 1968 and did a senior project in your lab. From there I went to graduate school at Oregon State University. I went there with the idea of working for Roman Schmitt, however I wound up working with Walt Loveland. I was a student there when Don Showalter came there for a postdoc. I graduated from OSU in 1974 with a Ph.D. in nuclear chemistry. I'm pretty sure I sent you a copy of my thesis.

From OSU I went to Livermore Lab for four months and then took a postdoc in the Physics Department at the University of Colorado. I worked on trace element transfer in artificial kidneys there and although the work was interesting I couldn't find a job. So at that point I took a job teaching physics and chemistry at a community college in Oregon. During the summers I worked with Bob Vandebosch at the University of Washington doing heavy ion reaction experiments at Berkeley. After teaching for four years I decided that a change was in order. The non-academic jobs in nuclear were mostly in weapons or managing reactor waste. Neither appealed to me so I went back to school (University of Wash-

ington) and in one year got a master's degree in electrical engineering. I sometimes refer to that as my vocational training.

At that point I joined the IBM development lab in San Jose, CA. I have been at IBM for six years now doing a rather wide variety of applied research relating to magnetic recording. I would have to say that this has been a very enjoyable job. The technical problems are interesting and challenging, there's usually lots of money for equipment and such, and I like the travel opportunities. I've averaged one overseas conference per year since I've been here. The trips were to Europe and Japan (I prefer Europe).

Along the way I got married. My wife works for Hewlett-Packard and I get a good deal on calculators, etc., etc.

Nabeel Haidar, Ph.D. 1970, is the Academic Dean at Beirut University College in Beirut, Lebanon.

Ed Montgomery, Ph.D. 1971, visited the department on August 19, 1988 on his way from Guam to Connecticut where the G. E. — Electric Boat Company is located. He is a commander in the U. S. Navy now serving in his seventeenth year.

Frederick G. Prahl, B.S. 1975, M.S. Chemical Oceanography, University of Washington, 1978, and Ph.D. in 1982. He is currently an assistant professor in the College of Oceanography at Oregon State University, Corvallis, OR. He went on a two-year postdoctorate to Bristol, England upon completing his Ph.D. (1982-1984) and joined the Chemical Oceanography faculty at Oregon State University as a Marine Organic Geochemist (May 1984). His current research interests are a study of molecular fossils in deep-sea sediment cores to decipher paleoclimatic conditions. He was married in 1981 and has one child, Louis Skjei, born September 22, 1987.

Dr. Thomas M. Barbara, B.S. 1976, Ph.D. Columbia University, has been appointed "NMR Relaxation Scientist" at Varian Associates.

Chingshun Cheng, M.S. 1976, is working for IBM in Austin, TX. In December 1987 he and his wife went to Hawaii, then on to Taipei for an extended visit including a celebration of his father's 70th birthday.

Byron K. Christmas, M.S. 1976, Ph.D. 1978. After 10 years at Celanese/Interez in Louisville, KY he took the position of Technical Manager at Borden in Cincinnati, effective May 2, 1988. He and his family will be relocating to West Chester, OH in Butler County, north of Cincinnati.

Meledath Govindan, M.S. 1978, Ph.D. 1981 from the University of Georgia, is a Professor of Chemistry, University of the Virgin Islands. In January 1981 he married Dr. Gaetha Nair of Delhi, India. He was promoted to the rank of full professor in December 1988. Currently he is directing a grant program sponsored by the NIH totaling over \$750,000 for 1988-91. He is changing his research interests from the synthesis of pyrrolizidine alkaloids to isolation and characterization of marine natural products. He is serving as faculty Senate Vice-Chairman for the 1988-89 academic year.

George Lovelace, B.S. 1978, graduated from the UK Dental School, June 1988 and is establishing a practice in Raceland, KY, northwest of Ashland.

Dennis W. Palmer, M.S. 1978, is now a chemist in the analytical group at Ecology and Environment, Inc. in Chicago, IL.

Carolyn (Sands) Loeff, B.A. 1979, recently was appointed Executive Director for Business and Economic Research, University of Kentucky; manager of grants and contracts, UK College of Business and Economics. She obtained a master's degree in business administration from UK in 1980 and pursued graduate work in economics, 1986-87. Before assuming her present position she was a graduate research assistant in the MBA program in the College of Business and Economics, 1979-80; research associate at the Kentucky Real Estate Center at UK, 1980-1983; senior administrative assistant, Kentucky Real Estate Education and Research Center, 1983-1984; grants manager/senior research associate, Center for Business and Economic Research, 1987-1988.

Daniel P. Martone, B.S. 1979, M.S. 1981, obtained a Ph.D. degree from Notre Dame, 1988 and has a postdoctoral appointment at LSU.

Beth Kleppinger, M.S. 1980, Ph.D. 1984, is an assistant professor at Berea College. She and Gene (currently teaching philosophy at Eastern Kentucky University and Berea College) have two sons.

Nanda Brahme, Ph.D. 1981, is a Research Scientist in biochemistry at Bio-Rad Laboratories in Hercules, CA.

Mohammad Alauddin, Ph.D. 1982, has been promoted to Associate Professor at Wagner College, Staten Island, NY. He is currently involved in super conductor research.

Glenda Dahlquist, B.A. 1982, has completed her M.D. at the University of Louisville and is in residency in Indianapolis.

Richard Neill, B.A. 1982, M.D. at UK, 1986, is a third year resident in family medicine at Thomas Jefferson University Hospital, Philadelphia, PA. He plans to enter private practice in July 1989, probably in Philadelphia.

Kurt Haller, B.S. 1983, received his Ph.D. in physical chemistry at Northwestern, 1987 and has a postdoctoral appointment with IBM in Yorktown Heights.

Troy M. Harmon, B.S. 1984, M.S. in chemical physics at Cornell University 1986. In August 1986 he joined Summit Tech, Inc. in Watertown, MA, which is a small publicly held medical laser company. He is working on several clinical procedures involving the excimer laser in cardiology and ophthalmology. In August 1987 he married a wonderful girl who is pursuing her Ph.D.

degree at MIT in immunology.

Robert Howard, B.S. 1984, is attending UK Medical School.

Robin Minton, B.S. 1985, M.S. 1987, is employed at Mallinckrodt in Paris, KY.

Sara Swincy Mueller, B.S. 1985, is a physical science technician working with the Tobacco, Safety, and Quality Research Unit of the United States Department of Agriculture in Athens, GA. She married Thomas C. Mueller who currently is working on a Ph.D. in crop science studying, weed control and herbicides at the University of Georgia.

Joe Wyse, M.S. 1985, Ph.D. 1988, is a postdoctoral fellow with Dr. DeLuca in the UK College of Pharmacy.

Danna Evans, B.S. 1986, is a chemist in the Division of Materials Laboratory, Department of Transportation, Frankfort, KY.

Bill Sartain, Ph.D. 1986, has accepted a position as Senior Research Chemist, effective September 1988, with the USI Division of Quantum Chemical Company. The position involves developing catalyst for the production of polyolefins at the Process Research Center in Morris, IL.

Cecilia Clarke, B.S. 1987, was awarded one of the few UK Graduate School open competition fellowships for graduate studies for the 1988-89 academic year.

Amy Howell, Ph.D. 1987, has a postdoctoral appointment at the University Nottingham, England.

Kevin Woodrum, B.S. 1987, is working at the Mallinckrodt Chemical Plant in Paris, KY.

Student Awards, 1988-89

Charles Jones, senior chemistry major, received the Algernon Sydney Sullivan Medallion, Spring 1988, which is given annually to one man and one woman of the graduating class of the University of Kentucky, and to one other person who is not a student of the University. The award was given for academic achievement and an outstanding record of public service, volunteer work, and care for one's fellow man.

Benny Johnson was awarded a \$1000 Regional Scholarship sponsored by the Board of Trustees Group Insurance Plans of the American Chemical Society and funded by Independent Plan Coordinators, Inc. He is a senior chemistry major with a 4.0 grade point average and is serving as president of the ACS Student Affiliates Chapter.

1988 UK Graduate Student Fellowships

Cecilia Clarke: Graduate School Open-Competition Academic Year Fellowship
Yigang Fu: Graduate School Academic Year Fellowship
Jean Bowdan: Kentucky Resident Minority Fellowship, from the Graduate School and the Office of Minority Affairs
Martha Joseph: Title III Surface Mining Control and Reclamation Fellowship — Academic Year 1988-89

The following awards were made possible by your gifts from alumni, friends, and industry:

Undergraduate Awards 1988-89

Robert M. Boyer Memorial Fund:
Undergraduate Seminar Poster Session Awards:
First Prize: Charlene Wigglesworth, \$50
Second Prize: Russell Mumper, \$30
Third Prize: Bryan Payne, \$20
Thomas B. Nantz Memorial Tuition Scholarship:
Benny Johnson, full year
Stephen Harris Cook Undergraduate Summer Research Fellowship:
Michael Huang
Willard Riggs Meredith Award to Outstanding Senior:
Russell Mumper, \$100
Undergraduate Service Award:
Benny Johnson, \$50
Merck Index Award:
Charles Jones
Charlene Wigglesworth
Analytical Chemistry Award:
Waleed Qaisi

American Institute of Chemists Award:
Thomas Burke

Oswald Research and Creativity Award
Russell Mumper, Second Place, \$100
CRC Handbook Award for Outstanding Achievement in Freshman Chemistry:
Laura Hunt

Graduate Student Awards 1988-89

Outstanding Teaching Assistant Award:
Kevin Harbol, \$100
Outstanding Graduate Student Research Award:
Ray Gross, \$100
Joe Wyse, \$100
100% Plus Award:
Ashok Chavan, \$100

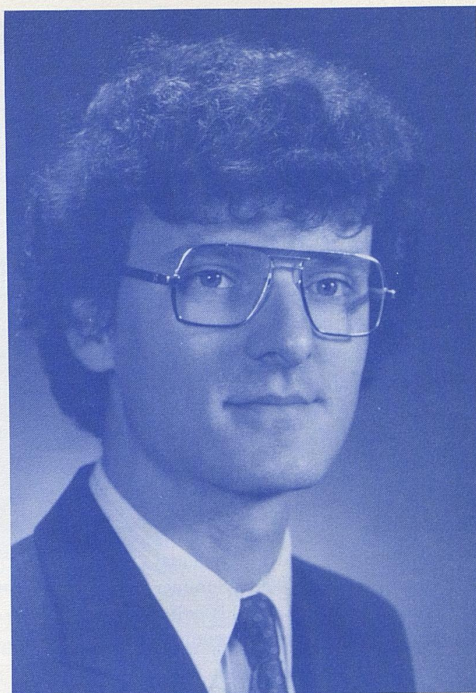
Thomas B. Nantz Memorial Scholarships:
Ashok Chavan, one semester tuition
Donna Palmieri, one semester tuition

Ashland Oil Foundation Summer Fellowships:
Cecilia Clarke
Darla Hood
Martha Joseph
Vanessa Wotring

Sigma Xi Outstanding Graduate Student Research Award
Joe Wyse, \$100

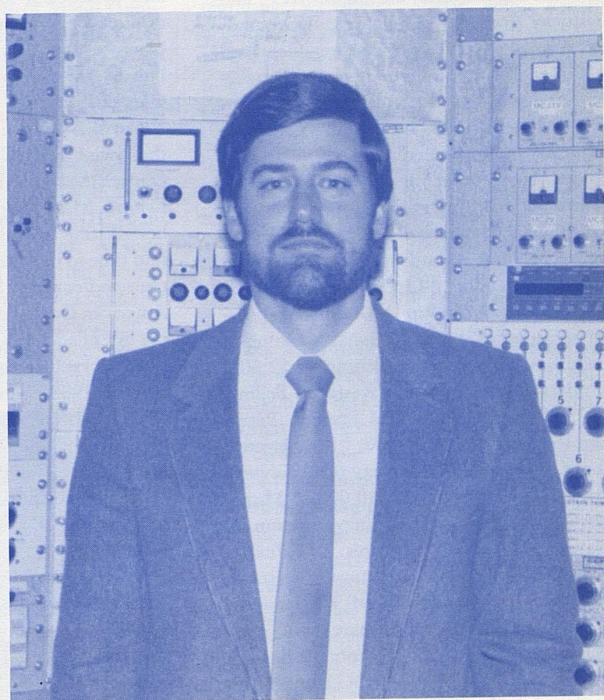
New Faculty

Robert A. Lodder has a joint appointment in the College of Pharmacy and chemistry starting the Spring semester, 1989. He received a B.S. in 1981 and a M.S. in 1983 from Xavier University, Cincinnati, OH. He recently completed his Ph.D. degree from Indiana University. He was employed as a programmer at Info Labs in 1983 and a scientific consultant for Bristol-Myers in 1987. He has co-authored 12 publications and 33 presented papers. His area of research has been mainly in near-infrared reflectance analysis.



Robert A. Lodder

J. David Robertson joined our faculty as an Assistant Professor, Fall 1988. He received a B.S. from the University of Missouri in 1982 and a Ph.D in nuclear chemistry in 1986 from the University of Maryland. He was a post-doctoral fellow in the Nuclear Science Division of the Lawrence Berkeley Laboratory 1987-88. He has co-authored eight published papers and several others in progress in his area of research in nuclear chemistry and presented papers at numerous professional meetings. His research interests are in developing a trace elemental analysis program based on particle-induced X-ray emission and particle-induced gamma-ray emission techniques, and neutron activation analysis of human tissue.



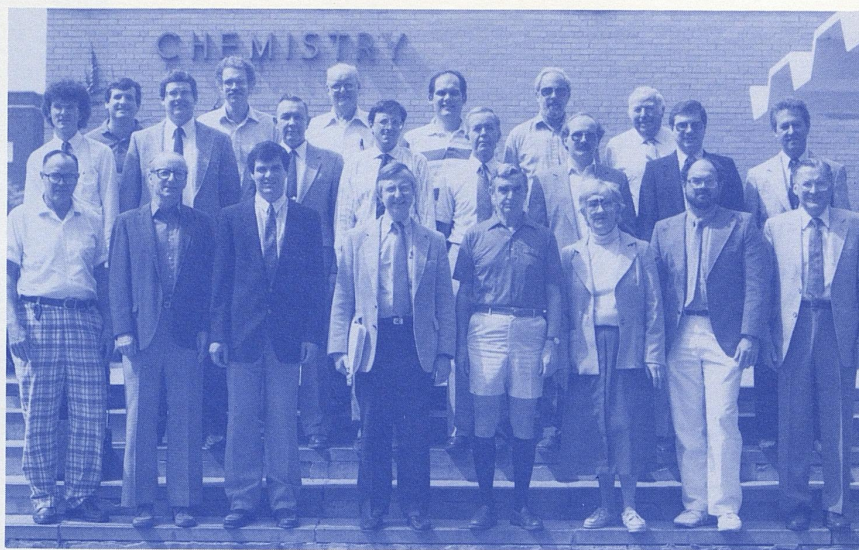
J. David Robertson

News From the Faculty and Staff

Jeffrey Appling participated in the Fifth Great Lakes Symposium on Photochemistry in Bowling Green, OH, May 1988, and the Gordon Conference on Multiphoton Processes in New London, NH, June 1988, where he presented posters on his research. He presented departmental seminars at Georgia Institute of Technology, Atlanta, in March 1988 and at University of Cincinnati in April 1988. The university awarded him a Special Summer Faculty Research Fellowship, 1988. Grants received in support of his research include: Petroleum Research Fund, \$18,000, "Rotational Alignment in Collisional Energy Transfer"; The American Philosophical Society, \$3,440, "Laser-Molecule Interactions"; UK Research Committee, \$2,910, "Energy Transfer Processes of Laser-Excited Molecules"; UK Major Research Equipment Fund, \$21,750, "Laser Wavelength Extension System" (with Clouthier and Guarr); and Petroleum Research Fund, \$4,500, "Summer Research Fellowship". He and his wife, Paula, had their first child, Lucy Irene, on November 12, 1988.

Leonidas Bachas attended the following meetings: SEACC '88, Knoxville, TN, Third Chemical Congress of North America, Toronto, Canada; Gordon Research Conference on Analytical Chemistry, New Hampton, NH; International Conference on Biological and Synthetic Membranes, Lexington, KY; and Kentucky Academy of Sciences, Richmond, KY. A total of 13 presentations were delivered in 1988 including an invited paper "Careers for Foreigners in the Academic Environment", June 6, 1988, at the Third Chemical Congress of North America in Toronto, Canada. He received one of two Starter Grant Awards out of 39 applications from the Society of Analytical Chemists of Pittsburgh. He also received a First Award of NIH. Grants received in 1988: "Optical Sensors for Potassium and Sodium", Biomedical Research Support Grants, National Institutes of Health — University of Kentucky, \$2,500; "Undergraduate Summer Research Fellowship", American Chemical Society, Petroleum Research Fund, \$2,500; "Ion-Selective Fiber Optic Sensors", Society for Analytical Chemists of Pittsburgh, \$10,000; "Mono-Substituted Conjugates in Enzymeimmunoassays", National Institutes of Health, \$343,065; and "Luminescence Spectrometer", Major Equipment Fund, University of Kentucky, \$27,900 (with Guarr).

On September 23, 1988, Stephanie Bachas-Daunert was born. Wife, Sylvia Daunert, was appointed to the chair of the Subcommittee on Symposia and Forums of the Younger Chemists Committee of ACS. She organized



1988-89 Faculty: left to right

First Row: John Patterson, W. T. Smith, Leonidas Bachas, Dave Watt, Paul Corio, Audrey Companion, Jim O'Reilly, Bill Ehmann.

Second Row: Robert Lodder, Jeffrey Appling, Bob Kiser, John Richard, Joe Wilson, Dennis Clouthier, Steve Yates, Bob Guthrie.

Third Row: Tom Guarr, Jack Selegue, Bill Wagner, Jim Holler, Stan Smith, Bill Plucknett.

Asent: Carol Brock, Allan Butterfield, Kurt Niedenzu, Merle Pattengill

and presided a forum on "Career Opportunities for International Students" that took place at the Third Chemical Congress of North America in June 1988 in Toronto, Canada.

Carol Brock currently is on sabbatical at the Swiss Federal Institute of Technology (Zurich) working in the lab of J. D. Dunitz (where Mary Richardson is well remembered). She is working hard, but manages to find time to indulge in sports requiring mountains and/or snow. She presented papers at the American Crystallographic Association Meeting in Philadelphia, June 1988, and the European Crystallographic Meeting in Vienna, August 1988. Seminars were presented at IUPUI (Indianapolis), Xavier University (Cincinnati), the University of Milan (Italy), and University of Berne. In June she was one of the invited speakers at the retirement symposium for Dave Curtin (University of Illinois).

Recently Carol was elected to a three-year term as Secretary of the U. S. National Committee for Crystallography, a committee of the National Research Council.

Allan Butterfield attended the national meeting of the American Society of Hematology in Washington, DC where he presented a paper, "Effect of Spermine on the Physical

State of Erythrocyte Membrane Skeletal Proteins and Cell-Surface Carbohydrates". He was the invited plenary speaker at the International Membrane Technology Conference, Sydney, Australia (November 1988) where he presented three papers.

Allan organized an International Symposium on Biological and Synthetic Membranes in Lexington. One hundred twenty scientists and engineers from nine countries and seventeen states attended. He will edit a book, "Biological and Synthetic Membranes", to be published early in 1989 by Allan R. Liss, Inc. Four papers were presented by Allan: "Modulation of the Physical State of Cell-Surface Carbohydrates by Interaction of Spermine and Hemin with Skeletal Proteins on the Cytoplasmic Side of the Membrane", "Effects of Polyphosphates on Erythrocyte Membrane Skeletal Proteins", "Effects of the Potential Alzheimer's Disease Drug, 1,2,3,4-Tetrahydro-9-Aminoacridine, on the Physical State of Erythrocyte Membranes", and "The Influence of Hematocrit on Water Transport Across Erythrocyte Membranes by $^1\text{H-T}_2\text{-NMR}$ Methods". Allan presented an invited plenary lecture, "Biological Membrane Principles" at the North American Membrane Society, Syracuse University, June 1988.

Allan has research grants from NSF/EPSCoR (PI) and from the Tobacco and Health Research Institute [Co-PI with Mike Jay, (PI), Pharmacy]. He received one of seven grants out of 260 applications from the NSF for a Planning Grant for a Center of Membrane Sciences, \$35,000. The Center for Membrane Sciences now has 16 faculty members and Allan is involved in recruiting chemistry faculty. Seminars were presented at the Ohio State University, Indiana University Medical School at Gary and Warren Wilson College, Swannanoa, NC.

His daughter, Nyasha, is a freshman at the University of Maine and organized the Dukakis campaign in northern Maine. His wife, Marci, is still working on the brain injury unit at Cardinal Hill Hospital.

Dennis Clouthier traveled to the Massachusetts Institute of Technology, George R. Harrison Spectroscopy Laboratory, March 3-27 and June 13-27, 1988 to conduct a series of experiments at the National Science Foundation National Laser Facility. The experiments were a great success, yielding the first high resolution spectroscopic data on selenoformaldehyde. Recent work on the photophysics of thioformaldehyde was presented by Jim Dunlop and Dennis Clouthier at the Great Lakes Symposium in Photochemistry, May 14-15. A new grant entitled "Studies of the Pyrolysis of Organic Sulfur Compounds" (\$18,062, 05-02-88 to 05-01-89) was funded by the U. S. Department of Energy through the Consortium for Fossil Fuel Liquefaction Science. Dennis' DOE grant "Laser Spectroscopy of Combustion Intermediates" was also renewed. During the summer of 1988, the lab was busy with research activities including visits by Dr. David Moule and two students from Brock University, Canada, who worked on a collaborative project and Dr. Richard Judge of the University of Wisconsin-Parkside who spent most of the summer here, working on an emission spectroscopy problem. Dennis recently received notification of the funding of a PRF Visiting Faculty Fellowship (\$4,500) which will fund a return visit of Dr. Judge for the summer of 1989. Dennis' promotion to the rank of Associate Professor has been approved

effective July 1989. He and his wife, Debbie, are expecting their first child in June of 1989.

Bill Ehmann is Co-PI on a new NIH grant with Ed Kasarskis in Neurology. They are studying trace element relationships to ALS (Lou Gehrig's disease). Bill is also Co-PI on another NIH Grant with Bill Markesbery and on the NSF-EPSCoR Grant with Steve Yates, Jesse Weil, and Mike Jay. Bill presented an invited paper on his AD and ALS work at the American Nuclear Society Meeting in San Diego in June 1988. Nancy is still busy as coordinator of the Meals on Wheels Program. Sons Bill and John have returned to graduate school at Utah State University and the University of Washington, respectively. Kathleen is a clinical dietitian at Humana Audubon Hospital in Louisville and Jim is still working with a rare coin dealer in Lexington.

Charlie Griffith is celebrating his twenty-fifth year as Laboratory Supervisor of General Chemistry, having joined the department on August 15, 1964. [Editor's Note: He has trained and outlasted nine Directors of General Chemistry.]

Tom Guarr presented the following papers: "Photoinduced Long-Range Electron Transfer in Binuclear Complexes", (invited talk), with R. Lin, June 1, 1988, 20th Meeting of the Central Region of the American Chemical Society, Morgantown, WV; "Photoinduced Long-Range Electron Transfer in Binuclear Complexes", with R. Lin, June 8, 1988, Third Chemical Congress of North America, Toronto, Canada; and "Synthesis, Characterization, and Electrocatalytic Activity of Electropolymerized Films of Metal Complexes", June 10, 1988, Third Chemical Congress of North America, Toronto, Canada. In addition, he attended the 1988 Gordon Conference on "Electron Donor-Acceptor Interactions".

Grants received to support his research include: "Electrochemically Controlled Drug Release from Redox Polymers", NIH Biomedical Research Support Grant; A supplemental grant to support a visiting faculty member during the summer of 1989 from the American Chemical Society Petroleum Research Fund; "Luminescence Spectrometer", UK Major Equipment Fund,

\$27,900 (with Bachas); and "Laser Wavelength Extension System", UK Major Equipment Fund, \$21,750 (with Appling and Clouthier).

Tom reports no major changes in his personal life. In fact 1988 was the first year in the last five that they did not move. He and Amy have simply been enjoying watching Joseph grow up.

Bob Guthrie presented the following papers: "Hydrogen-Deuterium Isotope Effects on Radical Anion Scission", Third Chemical Congress of North America, June 5-10, 1988 and "Secondary Deuterium Isotope Effects for Diagnosing Mechanism of Radical Anion Scission", Gordon Conference on Radical Ions, Wolfeboro, NH, June 1988.

The document that Bob has been working on for several years entitled "System for Symbolic Representation of Reaction Mechanisms" has recently become the official IUPAC rules for naming reaction mechanisms. It appears in the January volume of *Pure and Applied Chemistry*.

Bob received a Research Opportunity Award Grant "Delineation of Different Modes of Bond Scission for Radical Anions" from Research Corporation, \$22,000 with University of Kentucky match of \$25,000.

Two sons of the Guthries' will graduate from college, Spring 1989.

Jim Holler presented papers at the MUACC 1988 meeting on "New Stopped Flow Mixing Systems for Automated Analysis" and at the Pittsburgh Conference 1988 on "Temporal Optimization of the Integrating Ratemeter". His wife, Vicki, became a pharmaceutical representative for FISIONS, Inc. Their oldest son graduated from high school. Jim has finished two more rooms in their log house.

Bob Kiser assumed the position of Director of General Chemistry, September 1988. He and Barbara spent over two weeks in July touring five cities in the Soviet Union.

Wilber Mateyka has been blowing glass for the department and the university for 25 years, since coming to the department on July 1, 1964.

Mark T. Mojesky and his wife, Sandy, are expecting their first baby in late May. He will be traveling to Bowling Green, KY to present a seminar entitled, "Mass Spectrometry and the Power of the ZAB" at Western Kentucky's Department of Chemistry.

Kurt Niedenzu presented the following lectures in Europe while on sabbatical leave: "Pyrazole Derivatives of Boron", Free University of Berlin, West Germany, May 1988; "Reactions of Boron Heterocycles with Pyrazole", University of Goettingen, West Germany; and "Some Recent Studies of Boron-Nitrogen Compounds", University of Muenchen, West Germany. He also gave two lectures at the first BUSA (workshop of U. S.



Dr. Clouthier in his new laser-spectroscopy laboratory

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boron chemists) in Dallas, TX, April 1988: "Studies of Unsymmetrical Substituted Pyrazaboles" and "Novel Relatives of the Pyrazaboles".

Grants received to support his research: "Studies on Boron-Nitrogen Macromolecules", Office of Naval Research, \$299,777, renewal for three years; Alexander von Humboldt Foundation, West Germany, DM 12,000, travel grant for re-invitation to Germany of former Alexander von Humboldt Prize winner; and NATO, BF 228,000, international pilot study program on inorganic materials synthesis in collaboration with Professor A. Meller of the University of Goettingen, West Germany.

Merle Pattengill co-authored a paper entitled "Classical Trajectory Studies of Gas Phase Dynamics and Kinetics Using *ab initio* Potential Energy Surfaces", co-authors R. L. Jaffe and D. W. Schwenke. Presented "Supercomputer Algorithms for Reactivity, Dynamics and Kinetics of Small Molecules" at Villa Colombella, Colombella (Perguia), Italy, August 30 — September 3, 1988.

Bill Plucknett and Evelyn plan to visit their son, Albert, who has joined the Peace Corps in Tunisia.

John Richard received an NIH First Award to study solution and enzymatic reaction mechanisms for the next five years. He is hard at work spending the money. During the last year John presented his work at the 22nd Reaction Mechanisms Conference in Pittsburgh and at the 14th International Conference of Biochemistry in Prague, Czechoslovakia.

Paul Sears — please see his news under the Special Section on 1950-54 alumni.

Jack Selegue spent the 1987-88 academic year on sabbatical at the Max-Planck-Institut für Kohlenforschung in Mülheim a. d. Ruhr, West Germany, with the help of a research fellowship from the Alexander von Humboldt Foundation. He enjoyed the "normal business hours" of working at a German research institute, which gave him more time to spend with his family (son Paul was born in August 1987). Travel opportunities included two weeks on the Bodensee (Lake Constance) and Oberpfalz (Northern Bavaria), travel in the Ruhr area, Munich and other parts of West Germany, plus short trips to Holland, Belgium, France, and Switzerland. He delivered five invited lectures in Germany and Switzerland (mostly in English) on: "Metallacumulenes and Carbides: Carbon-Rich Organotransition Metal Complexes", Eidgenössische Technische Hochschule (Swiss Federal Institute of Technology), February 17, 1988, Zürich, Switzerland; University of Freiburg, February 18, 1988, Freiburg, West Germany; University of Bayreuth, June 21, 1988, Bayreuth, West Germany; University of Munich, June 22, 1988, Munich, West

Germany; and Max-Planck-Institut für Kohlenforschung, July 14, 1988, Mülheim a. d. Ruhr, West Germany. His U. S. Department of Energy research grant was renewed for three years, and some research support continues to come from NSF-EPSCoR.

Ramon Smith is replacing David Stevens as our new Stores Supervisor.

Stan Smith continues to spend his time with the Magnetic Resonance Imaging and Spectroscopy Center (MRISC) and the NMR Spectroscopy Center. During the past year Stan has been involved with the installation of a 500 MHz system in the Combs Research Building at the Medical Center, a 300 MHz system in the new Pharmacy Building, and the 400 MHz and routine 200 MHz systems in the Chemistry Building. Connection of each of these systems to stand alone VAX or SUN data stations and to each other and the MRISC instruments and computers via ETHERNET is roughly half completed. When completed UK will have one of the most modern, extensive and complete NMR/computer systems in the country.

As acting director of the MRISC Stan has been extensively involved in the design of a new \$6,000,000 building construction of which is scheduled to begin this spring. He was also heavily involved in planning for and selection of new clinical imaging equipment being installed this spring. Along the way Stan has been involved in development of a variety of research activities using the 4.7T animal imaging/spectroscopy system.

In his spare time Stan continues to be actively involved with SCUBA diving and instruction. This spring he is busy with the plans for his son Michael's wedding in which he is going to be best man.

David Stevens, after 8 1/2 years of service in the Chemical Stockroom (the last two as Stores Supervisor), has accepted a position with the U. K. Small Business Development Center.

Robert T. Sullins, Assistant Professor, resigned to accept a position with Hewlett-Packard in Houston.

Steve Yates co-authored three talks and served as a session chairman at the International Workshop on Nuclear Structure of the Zirconium Region, Bad Honnef, West Germany, April 24-28, 1988: "Fast First-forbidden Transitions and Subshell Closures in the Region of ^{96}Zr "; "Doppler-Shift Lifetime Measurements in ^{96}Zr "; and "Single-Particle Excitations and Collective Vibrational Modes in ^{96}Zr ". He co-authored two talks at the Third Chemical Congress of the North American Continent, Toronto, Canada, June 5-11, 1988: "Nuclear Structure of ^{200}Pt from In-Beam Conversion Electron and 8-ray Spectroscopy" and "Studies of the Heaviest Stable Mercury Nuclei from Inelastic Neutron Scattering (INS) Spectroscopy". The

following paper was presented at the International Conference on Contemporary Topics in Nuclear Structure Physics, Cocoyoc, Mexico, June 9-14, 1988: "Structural Evolution of the Heavy Platinum Nuclei: Studies with Various In-Beam Reactions".

Steve presented a seminar entitled "Nuclear Chemistry: Definition or Contradiction?" at San Jose State University, September 27, 1988, and a seminar entitled "Nuclear Structure Studies with the Inelastic Neutron Scattering (INS) Reaction" to the Nuclear Chemistry Division at Lawrence Livermore National Laboratory, September 28, 1988.

Current funding for his research include: "Studies of Coexistence at Double Subshell Closures of Nuclei", (with R. A. Meyer and G. Molnár), National Science Foundation, U. S.-Eastern Europe Cooperative Science Programs, \$34,500, 1986-1989; "Nuclear Methods in Chemical and Biological Sciences", (with J. L. Weil, M. Jay, W. D. Ehmann), EPSCoR Program of the National Science Foundation, \$759,141, 1986-1991; "Neutron Induced Reactions, Collective Nuclear Structures, and Nuclear Astrophysics", (with M. T. McEllistrem, J. L. Weil, and M. A. Kovash, Physics), National Science Foundation, \$560,036, 1987-1989 (and approved for one additional year); and "Accelerator Upgrade", (with M. T. McEllistrem, M. A. Kovash, and J. L. Weil, Physics), National Science Foundation, \$129,500, 1987-1989.

He is continuing the international research collaboration between UK and the Institute of Isotopes, Budapest, Hungary and has had two Hungarian visitors for two months each at UK. He made two one-week visits to Budapest in the past year.

Steve serves as Councilor of the Lexington Section of ACS. Linda still enjoys selling coats and dresses at Hess's at Fayette Mall on a part-time basis. They adopted a ten-year old girl named Michelle Lynne.

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