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Alumni Newsletter Published by Department of Chemistry University of Kentucky

Spring 1985

Comments from the Editor

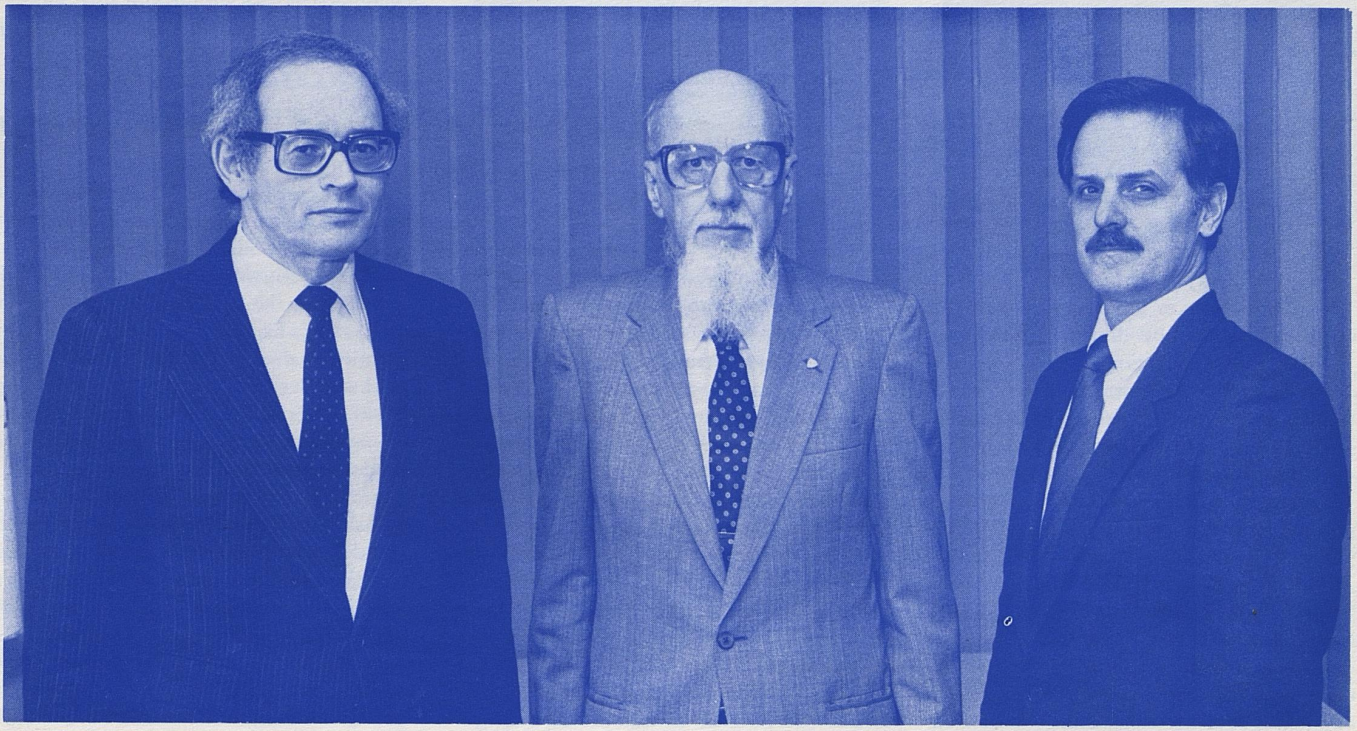
This issue of the newsletter primarily covers events and information for the academic year 1983-84. Highlights are covered in the message from our chairman, Bob Guthrie, and a report from Don Sands, Vice Chancellor for Academic Affairs. We are featuring a section on our alumni who graduated 1935-39. In addition to the many faculty grants listed in Bob Guthrie's comments and News from the Faculty and Staff, we received a gift of photographic recording paper from Ashland Oil (via David Wesley) to the Mass Spectrometry Center, and substantial additions to the Anna S. Naff Endowment Fund, A. S. Behrman Fund, and contributions from our alumni.

The Tenth Symposium on Chemistry and Molecular Biology, supported by the fund in memory of Anna S. Naff was held on March 30, 1984. The topic of the symposium was "The New Embryology: Molecules and Mechanisms Determining Animal Form." Speakers were: Dr. Gerald M. Edelman, Nobel Laureate, Vincint Astor Distinguished Professor, The Rockefeller University; and Dr. Bruce A. Cunningham, Professor, Developmental and Molecular Biology, The Rockefeller University. On the tenth anniversary of the symposia, Dr. M. Benton Naff presented a brief history of the accomplishments of Anna S. Naff, which is included in the newsletter. We welcome any suggestions for topics and speakers for future symposia and hope you can attend the excellent programs that are made possible by the endowment fund.

We thank those who respond to our request for news which I hope you enjoy in our Alumni News Section. Enclosed is a form for your convenience in keeping us up to date and any change of address.

We are also grateful for the funds contributed by our alumni and friends which are used to support fellowships, equipment purchases, seminar speakers and refreshments for our seminars. These funds make possible activities which cannot be funded from state appropriations. If you wish to make contributions to the University to be used by the Department of Chemistry, please specify that the donation is for the Department of Chemistry Development Fund for the unrestricted use by the Department or specific programs in the Department. Donations may be sent to the Director of Development, William B. Sturgill Development Building, University of Kentucky, Lexington, KY 40506.

William F. Wagner, Editor



1984 Symposium on Chemistry and Molecular Biology: Left to right: Dr. Gerald M. Edelman, Dr. M.B. Naff, and Dr. Bruce A. Cunningham.

A Message from the Chairman

I am happy to report that Joe Wilson brought in a bumper crop of new graduate students this fall, 18 in all, with several more to join us in the spring. This was largely due to personal effort on Joe's part but was helped somewhat by the Chancellor's decision to remit a part of tuition fees for graduate teaching assistants. We are expecting that next year, tuition for graduate teaching assistants will be completely eliminated thus effectively increasing the stipend we can offer. Our stipends are still not equal to those offered by our competitors, but we are making progress.

This fall Dr. Dennis Clouthier joined our faculty. Dennis received his Ph.D. from the University of Saskatchewan and then did a postdoctoral under D. A. Ramsey at the National Research Center. in Ottawa. Dennis is a spectroscopist and helps to fill our critical need in the area of experimental physical chemistry. Already lasers, vacuum systems and 3-meter cells are popping up around the building like crocuses. Dennis' work will be aided by the availability of the department's new Fourier Transform Infrared Spectrophotometer obtained by Professors Niedenzu and Selegue with an equipment grant from the Department of Defense. Dennis' contagious enthusiasm has been inspiring for all of us.

We're hoping to add at least two new people next year. One of them will be Dr. John Richard. John got his Ph.D. at Ohio State as a biochemist but then did a postdoctoral stint of three years learning mechanistic organic chemistry under W. P. Jencks at Brandeis University. John then returned to biochemical studies for two years with I. A. Rose at the Fox Chase Cancer Center doing enzyme kinetics. He is presently the Herchel Smith Fellow in Organic Chemistry at Cambridge University. His research will add to a growing interest in biological chemistry within the department and will provide a useful interface with the physical organic group.

We're still looking hard to find an addition to the analytical faculty. Analytical chemists are in short supply and there is great demand. Also, modern analytical research tends to be expensive and a substantial initial investment by the University is required.

Several of our faculty have obtained major grants in the last year. Bill Ehmann is participating in a major study of the relationship of trace elements to Alzheimer's disease. This is being funded by the National Institutes of Health at $600,000. Laren Tolbert has had two grants funded, one from the National Science Foundation to continue his work in carbanion photochemistry and another from the Department of Energy to start in on a new project dealing with the involvement of carbanions in polyacetylene behavior. Also, Steve Yates' joint grant with members of the Physics Department to study nuclear structure was renewed by NSF for three years. Grant support is becoming increasingly more difficult to obtain but, with decreasing State support, it is critical that we continue to do well in this area.

As you may already know, the University has instituted a restricted admissions policy for the current academic year and this has already had the remarkable effect of raising the average ACT scores of our entering freshman by two units. Another major development will be the availability of $700,000 for academic scholarships to be used to attract outstanding high school seniors to the University of Kentucky next year. Several of us were involved in a university program to directly contact outstanding high school seniors to explain our undergraduate program in chemistry. It would appear that many potential chemistry majors have been told that there are better places in the State of Kentucky to pursue their goal. It is important that we disabuse them of this notion.

This past spring we initiated a series of meetings which allowed a group of our faculty headed by Bob Kiser and Jim Holler to discuss matters of mutual interest with area high school chemistry teachers. The culmination of these efforts was a topics course offered during the summer. The high school teachers specified a series of topics and almost all of our faculty contributed one or two lectures. The UK participants generously agreed to donate their income from this effort to the Departmental Development Fund. The course drew rave reviews from the high school teachers.

All in all I feel that the ratio of progress to resources is excellent. We sincerely appreciate the contributions and suggestions that many of you have made.

Robert D. Guthrie, Chairman

Academic Affairs at the University of Kentucky

The University of Kentucky is changing academically. Those of you who were here in the mid-sixties witnessed the transformation of the University into a modern research institution. Events in progress now have the potential for equally dramatic changes in undergraduate education.

In this academic year, the University of Kentucky took the major step of implementing a policy of selective admissions. New freshmen admitted in the fall of 1984 had to demonstrate that they were capable of meeting the academic standards of the University; the principal admissions criteria were ACT scores and high school grades that would predict a C average after one year at UK. As our graduates can attest, the University always has maintained high standards for degree candidates. Now, though, even enrolling here is limited to students deemed likely to succeed. UK's historic commitment to providing educational opportunities for all high school graduates has not been abandoned; the Community College System will remain open admissions, and Lexington Technical Institute has been converted into a full-scale community college to serve as an entry to higher education for local students. But the main campus (which in current parlance is known as the Lexington Campus, to distinguish it from the Medical Center and the Community College System, each of which has its own chancellor) is able to devote its resources to students with the ability and motivation to thrive in the stimulating environment of a research university.

Selective admissions has come to the University at a time of generally declining enrollments in higher education. It may seem even foolhardy to move to selective admissions when the number of traditionally college-bound eighteen-year-olds is diminishing. In our first experience with selective admissions, the size of our freshman class dropped from about 2,700 to about 2,300. But the mean ACT composite score rose from 19.7 to 21.7, making this the best freshman class in the University's historyé We think that it is imperative that we make selective admissions work and demonstrate that the University of Kentucky is the premier institution in the Commonwealth in both graduate and undergraduate education.

For many years, the University of Kentucky has been rather complacent about enrollment. Availability of dormitory space imposed some restraints, but mostly we stretched to accommodate all the students who wanted to give the flagship university a try. We now find it necessary to exert ourselves to attract students in the numbers we need and of the ability to benefit from what we have to offer. To cope with these new demands, the Office

of Admissions and Registrar has been reorganized, and a new Director of Admissions has been hired. A new University Registrar is being sought also, and the person selected for this job will be responsible for modernizing and automating our student records and registration systems.

Scholarship programs are vital to our efforts to attract academically superior students to the University of Kentucky. Besides being powerful recruiting tools, academic scholarships are a means of proclaiming the importance to this University of academic achievement. For the fall of 1985, the scholarship funds available to us will be approximately ten times those we had two years earlier. We have tapped temporary sources of money to meet our immediate scholarship needs, and our efforts now must be directed toward building an endowment that will generate at least $700,000 annually for academic merit scholarships. In just three months this fall, UK alumni contributed more than $50,000 to our Academic Excellence Scholarship Fund, so we are optimistic that we can attain our goals.

Kentuckians have contributed fully to the national expressions of concern about the quality of education, although the Commonwealth has not accepted that at least one of the problems with education is a lack of money. Still, we are pleased that there may be growing public awareness of the importance of education. Here at the University, we have been examining our educational programs to see how they might be improved, and a thorough revamping of our General Studies program will be proposed to the faculty this spring. It is difficult for a large comprehensive land-grant university such as ours to agree on a curriculum to be required of all its students. But there are some basic skills and a core of knowledge that our graduates should have, and our new University requirements will attempt to impart these. Kentucky students entering college in 1987 and thereafter will be expected to have completed a pre-college curriculum in high school, so part of the general education base will have been completed before these students arrive here.

Those of you who were familiar with our computing facilities as recently as two years ago would be amazed at the rapid developments that have taken place in that area. Our instructional computing facilities have grown from nothing to three Prime computers (two 850's and a 9950), and our mainframe computer now is an IBM 3081-K. Many colleges and departments have their own minicomputers and the campus is suddenly teeming with microcomputers. Among the beneficiaries of this computer expansion is our Library system, which next fall will start using an automated catalog and checkout system.

As I hinted above, the State has not seen fit to invest new money in education in any form, much less in higher education. Yet, many good things are happening here. Our faculty, our staff, our students, and our alumni have all pitched in to do whatever they can to make the University a better institution. We may be poor in financial resources, but we are rich in people, and that is the real and abiding strength of the University of Kentucky.

Donald E. Sands, Vice Chancellor
for Academic Affairs

Graduate Student Recruiting

The last newsletter contained a request for help from alumni in distributing information on our graduate program to universities and colleges in their areas. We are grateful for the response we received and encourage others to help us in spreading the word.

The class of new graduate students entering in the Fall of 1984 was the largest in recent times. Eighteen new students started in late August. Eight had received bachelor's degrees from Kentucky colleges, one from China, and nine from colleges in Pennsylvania, Indiana, Illinois, Tennessee, Michigan, and Iowa. Their performance on the "Proficiency Exams" — ACS standardized entrance exams — was better than in recent years and most have done well in their first semester of course work. Four more new students entered in the spring semester of 1985. We are encouraged by both the quality and quantity of the 1984-85 group.

If you would like to distribute our poster and booklets to colleges near you or to make personal contact with departments or students, please send a postcard to Dr. J. W. Wilson, Department of Chemistry, University of Kentucky, Lexington, KY 40506.

Anna Lea Schoulties Naff

Anna S. Naff: left—1946 in Lexington, right: 1972 NIH Library Staff Photo.

Anna Lea Schoulties was born on a farm in northern Kentucky on November 29, 1920. During her early education at Cold Spring High School her favorite subject was mathematics. She was the salutatorian of her class. After finishing high school Anna worked summers and studied for two years at Eastern Kentucky University. She worked for a year at Williamson Heater in Cincinnati before transferring to the University of Kentucky's Department of Home Economics. Her graduation in 1944 was "with distinction".

Receipt of a Haggin Fellowship enabled her to undertake undergraduate and graduate work in chemistry. She received a Master of Science degree in 1946; a publication based on her thesis appeared in 1947.

Anna was married to Benton Naff in December, 1946, in Portland, OR. In 1946-47 she taught chemistry at the University of Kentucky and in 1947-50 at Oregon State University.

While her husband was located at Bowling Green State University in Ohio, Anna attended the University of Michigan in Ann Arbor, earning a Master of Arts degree in Library Science. At that time (1953) she began research with the Owens Illinois Glass Company exploring the properties of epoxy resins and silicones. Her investigations resulted in

an important practical contribution: the invention of an organic ink for use on glass, patent issued 1958.

When the family moved from Ohio to Washington, DC in 1955, Anna's research continued, but in an academic environment. She assisted her husband in the acquisition of grants and produced a number of chemical research publications (1955-63).

During her husband's 1964-65 sabbatical, Anna served as a librarian at Brown University. A year later she continued her library work, first at the National Bureau of Standards and then at the National Institutes of Health. Her experience in Acquisition and Cataloging provided significant professional advancement and she continued at NIH until the end of her career. Anna died September 21, 1973.

American Crystallographic Association Meeting

The annual American Crystallographic Association Meeting was held May 20-25, 1984 in the Department of Chemistry. Don Sands served as the Chairman of the Local Committee with the assistance of Carol Brock, Phil Fanwick, and Larry Scheurich in our department. Mary Richardson, who received her Ph.D. degree in 1967 and is a Professor at Brock University, St. Catharines, Ontario, was the Program Chairman.

Approximately 300 scientists attended to hear 173 papers plus an additional five presentations in the Workshop on Crystal Packing. All sessions were well-attended in spite of the fact that three sessions ran parallel to one another every day except the first.

The Sayre team commanded large audiences. Three hundred people sat spellbound while Anne Sayre recounted the story of Rosalind Franklin and DNA, and presented Rosalind as a scientist who gained much satisfaction from her accomplishments rather than as a tragic figure deprived of the Nobel Prize. David Sayre, in his address to 230 people at the banquet, recounted the history of crystallography and speculated on future developments. David was interviewed by two local TV stations; they were more interested in his connections with FORTRAN and Lexington's Sayre School than with the science of crystallography.

John Stezowski's symposium on Molecules in Motion was a huge success and drew substantial audiences for all 11 presentations. Speakers came from the U.S., Switzerland, England, Germany, and Canada, and lent a truly international flavor to the whole meeting. The symposium went hand-in-hand with the workshop organized by Wally Cordes on Crystal Packing and Non-Bonded Forces, attended by approximately 100.

Michel Van Hove and Gabor Somorjai assembled the program in surface crystallography, which attracted 50-60 people to many of its sessions. This is clearly an area in its infancy, as Somorjai pointed out in his invited lecture.

The Patterson award addresses by Hauptman and Karle attracted about 150 people, as did Lipscomb's talk on aspartate transcarbamylase.

Other special sessions and their attendances: Databases 25-40; Neutron Studies of Catalysts 30-40; Macromolecular Phasing 40-70; Solving Difficult Structures 100 (approximate). Several sessions of contributed papers drew audiences of 20-40; and there were groups of people in the poster sessions practically all day long.

The meeting closed Thursday evening. About 100 people attended the final session, Crystallography for Fun and Profit, organized by Hugo Steinfink.

Special News from the 1935-39 Alumni

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

1937

James W. Higgins, B.S., sent the following information: After graduation in June 1937 I started as a chemist for Swift and Company, Chicago. Then, after service in the Army in World War II, I returned to Swift R. and D. Department. This led to various technical sales positions, etc. I retired just last year from one of the Esmark (Swift) Divisions.

James B. Irvine, B.S., Industrial Chemistry. He was an analytical chemist with Hercules Powder Co. in 1937. From 1938-40 he was a developmental chemist with Quaker City Chemical Co. in Philadelphia. He served as a textile chemist with Collins and Aikman Corp. 1940-45, before joining Quaker Chemical Corp., Conshohocken, PA where he stayed until he retired from them the second time at age 68. He wrote: Thank you for your plan of ferreting out facts about long gone students. I've enjoyed reading the subsequent chronicle of some of my college day friends.

In your letter to me you listed Bill Luther as one for whom you need an address. I saw Bill frequently, throughout the sixties and seventies because we were both active in the textile industry. Somewhere along the line Bill organized LUTEX, INC. LUTEX supplied fiber lubricants and tints to fiber manufacturers and yarn spinners. Bill and LUTEX had the industry wide reputations of being "the best".

A few years ago I "organized" a one man company (ROCKREATION, Inc.) as consultants in chemistry and as lapidarists. ROCKREATION, Inc. is retained on annual fee consulting basis by three textile processing companies.

The consulting work is permitted to occupy no more than two days per week. The remainder of this time is spent on lapidary work, golf, preparation for TV shows (minerals, fossils, gems, etc.), church work, workshops for earth science teachers and support for the Boy Scouts of America.

When I moved here in 1964 I had the pleasure of meeting my high school (University High on the UK campus) chemistry and math teacher, John LeRoy Keffer, who is also a graduate of UK. Roy guided me into the Industrial Chemistry course at UK. It was a great favor!

Over the past twenty years the Keffers and the Irvines have shared tables at a lot of dances and have played a lot of bridge and golf together. Roy retired from research at P. Lorillard and is now an active stamp and coin dealer. He is considered by banks and estate appraisers to be the number one stamp expert in this part of North Carolina.

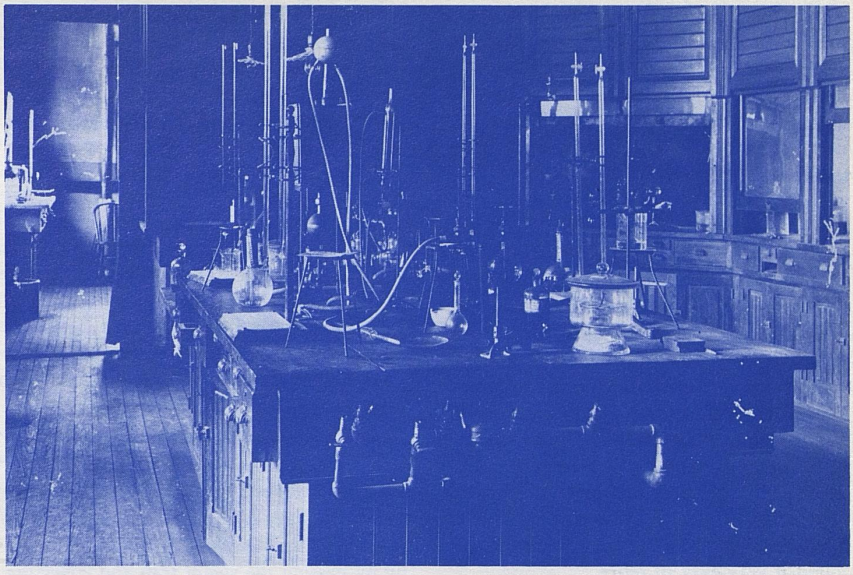
In corresponding with the graduates from the thirties you are probably discovering a general feeling that "retirement" and/or "semi-retirement" are pretty good times of life.

Martha, who has kept me on track for 47 years, would have been a 1938 graduate of UK had I not persuaded her to marry me and finish her education at the University of Delaware.

We have one son who is a chemical engineer (University of Wisconsin) at Monsanto and another who is a mining engineer in Denver, CO.

C. Alfred Roswell, B.S. 1937, M.S. 1939. I started as a student at UK in 1933, having

been inspired to do chemistry by my University High School teacher James L. Keffer, a previous product of the UK Chemistry Department. It was a rough start. At registration I encountered the Mighty Maxson and I quote: "So you want to major in chemistry? Well we can't find you a job when you're through. Why don't you go to the College of Commerce? Anyway if Mitchell doesn't flunk you the first year I will get you the second year." Needless to say, I survived both Mitchell and Maxson. Dr. Stewart was a great help to me and I took more than the required analytical chemistry courses. I also worked for him in the storeroom, being paid 25 cents an hour by the N.Y.A. He also taught me glassblowing, a skill I found very useful later. There was some doubt on the part of my classmates that I would graduate on time as I took Bob Baker's qualitative organic analysis course in my last semester, a supposedly one semester course in which many incompletes were given. I was very proud of the A that Bob Baker gave me when I finished quite early.



The Old Experiment Station served as U.K.'s first chemistry building from 1889 to 1909.

Maxson was right. On graduation in 1937 I found that there were very few desirable jobs available. I decided at this point to study in Germany and I left in June for Heidelberg, Germany where I obtained a Scholarship for the following year. It was here that I met my future wife, an Irish girl studying languages on a fellowship from Trinity College, Dublin.

In the spring of 1938 Hitler marched into Austria. The signs of a future war were strong, so my parents suggested my returning to Lexington. I did so in April and shortly afterwards registered as a graduate student at UK. In the fall of the year I began working toward a Masters thesis under the jurisdiction of Dr. Barkenbus, not only an excellent teacher but also a wonderful person. Miss E. A. Mitts and I shared a problem in early 1939 that resulted in both of us getting our M.S. and a joint publication with Dr. Barkenbus. Both Baker and Barkenbus were very interested in distillation columns at this time. Baker had built a small spinning band column that, on testing with a carbon tetrachloride-benzene mixture, gave a very high theoretical plate value. As a result they decided to make one ten times as long. This was the column that Dr. Baker mentioned in the 1981 Chem-News.

I didn't finish my M.S. thesis work until mid-summer of '39. By this time Baker had left to complete his Ph.D. work at Wisconsin and as a result Dr. Barkenbus asked if I would like to help run the big spinning band still. I must have climbed the ladder that surrounded that still a thousand times, taking readings along the way and samples top and bottom, and still the theoretical plate value was only half what it should have been. It turned out that this was the right value: when we reran tests of all the small stills with the same hydrocarbon mixture used with the big still, the results were as expected, with the exception of the small spinning band still. It was one half of the value of that found with the carbon tetrachloride-benzene mixture. There was apparently a centrifugal effect. I still have autographed copies of the paper that was published by Baker, Barkenbus, and Roswell.

Late that fall a representative from Servel Inc., makers of the Electrolux gas refrigerator, came to UK looking for a chemist or engineer who had some knowledge of glassblowing. The result was that I found myself in January of 1940 in Evansville, IN working for Servel as a research engineer. By the fall of 1940 I had persuaded the Irish girl May Mac Ginnis to leave the Blitz behind in England and to marry me in October, just as I had left Servel to do further graduate work at Wisconsin. In June of 1941 I took a summer job with Servel and because of the war situation I stayed on at Servel doing research on various wartime projects. In 1943 Servel started a joint effort with Republic Aviation to build fighter planes and thus it began closing down its research.

At this point I took a position with the Naugatuck Chemical Division of U. S. Rubber Co. as a research chemist, at Naugatuck, CT. By the end of the war I had become sensitized to some of the chemicals I had worked with so the company moved me into chemical patent work. Since the best chance for any future advancement at that time was to become a patent attorney, I decided to look for a place in New York where I could attend night law school.

Dr. F. W. Wyman, a 1939 classmate of mine who was well on his way to becoming a lawyer, suggested that his position with Allied Chem & Dye Corp's patent department would be open. I joined Allied Chem & Dye in December 1945. Between commuting to downtown New York City, first from New Haven and later from Stamford, CT, and taking the midnight train home after law class, I got the feeling that I might meet myself coming out the front door some morning. The result was that a year later I decided to go back to the laboratory.

U.S. Industrial Alcohol Co. shared a joint research laboratory with the Air Reduction Co. in Stamford, CT, and it was with U.S.I. that I took a position as a research chemist in 1946. In 1948 U.S.I. and Airco parted ways and U.S.I. moved its research group to Baltimore, MD. I bought a farm in Howard County, ten miles from Baltimore, and for a while, with the help of my family, farmed part-time while working as an organic research chemist with U.S.I.

National Distillers bought out U.S.I. in 1952, and proceeded to cut the old U.S.I. staff by about 30%. I was transferred to a special National project, the production of sebacic acid from a sodium dispersion in iso-octane reacted first with butadiene to form sodium octadiene, a really hazardous compound. This was then reacted with carbon dioxide and at this point things no longer caught fire or blew up. National sold the Baltimore facilities of U.S.I. to the F.M.C. Company in 1958 but retained the pilot plant it had built for the sebacic acid project in 1955.

Not wanting to leave my farm and move to Cincinnati, OH, where National had its main research laboratory, I took a position for a short while with American Alcolac, a Baltimore Company. Then I rejoined my old group at F.M.C. I remained with F.M.C. un-

til 1972 when they closed down their research in Baltimore, moving most of their projects to their main research laboratory in Princeton, NJ. I took early retirement and kept busy for a while with my hobbies, amateur telescope making and astronomy. Also I obtained my amateur radio license.

In my later years at F.M.C. I had gotten more and more into the field of organic chemical analysis, particularly instrumentation analysis. When the state of Maryland built a new laboratory in 1973, quite near my home, for analysis of various fuels and their additives, they needed a chemist with a knowledge of analytical instruments to set up several new instruments and get them operating. As a result I joined the Gasoline Tax Division of Maryland. I worked with them until late 1975. At this time we sold our farm to Howard County to be converted to a park. This of course improved our retirement funds so I found it very easy to retire.

My wife, who after six children and sixteen years of domestic life went back to school and obtained a Ph.D. in languages, continued to teach for a while at the University of Maryland. She retired as an Associate Professor in 1982. We are both very proud of our children all of whom have done well. Our oldest son took a Hopkins degree in biology, then a Ph.D. in physical geography at the University of Maryland. He now has a position with the federal government. The next son did chemistry and received both his B.S. and Ph.D. degrees from Johns Hopkins University. He taught organic chemistry at Loyola College in Baltimore. He is now Dean of Arts and Sciences here. Our third son, an agriculture graduate of the University of Maryland, is now farming. Two of our daughters got degrees in languages and the other got a degree in sociology followed by an M.S. in special education.

1938

Willett H. Rush, Sr. B.S., graduated from Vanderbilt Medical School in 1941. In 1941 he married Martha Hawkin who received a B.S. from UK in 1938. He served with the U.S. Coast Guard to 1946. Since that time he has been in general practice and anesthesiology in Frankfort, KY. He has three children: Dr. Willett H. Rush, Jr., M.D. from UK in 1969, a urology surgeon in Frankfort; Martha W. Rush, B.S. and M.S. from UK and law degree from the University of Louisville, now with the Law College in Williamsburg, VA; and Dr. Robert Rush, graduate of the UK Dental School 1976, is practicing dentistry in Frankfort.

At UK he was a member of Alpha Tau Omega and Alpha Chi Sigma. His favorite professor was Dr. Barkenbus. He has missed very few UK football or basketball games since 1946.

He has been active in church, medical and civic affairs, past District Governor of Rotary Kentucky 671 and participated in Rotary travel throughout the world: Africa, South America, China, Russia, Australia, India, and most countries of the world.

John H. Holmes B.S., Industrial Chemistry, submitted the following: After graduation in 1938 I chose to continue my studies at the University of Michigan and changed my major to chemical engineering as the job market was less than rosy at that time. I received my M.S. in chemical engineering in February 1940 from the University of Michigan.

Fortunately, I was offered a job with duPont in their Engineering Department. It was an easy decision to accept the offer. I was assigned to a group working in their tetraethyl lead plant. One of my first assignments was to measure the steam consumption of a dryer by by-passing the steam trap and collecting the condensate in a drum of cold water. As I was leaving for the plant, my supervisor warned me to be careful as a man had been killed doing the same thing a year ago. This made me wonder why I had chosen chemical engineering. However, I obviously survived. I had a number of assignments while with duPont. I spent time in the home office in the construction division, was contract engineer during construction of the Morgantown (WV) Ordnance Works Ammonia plant, spent two years at the Louisville neoprene plant and finally was "requested" to help produce rocket powder at Indiana Ordnance Works across the Ohio River from Louisville. This plant had been in operation for a short time when the war was over and I was given a "reduction of force" by duPont.

I was then living in Louisville and hoped to stay there. I found a job as chief engineer for a small paint and varnish company who was ready to build a new plant. This assignment lasted for two years when the plant was placed into operation. I then joined Girdler Corp., an engineering/construction firm in Louisville. I served as process and project engineer in a variety of plants: hydrogen, synthesis gas, calcium carbide, anhydrous hydrogen chloride, ammonia, carbon dioxide, and dry ice, to name a few. During my employment with Girdler I also had two year stints as chief engineer on large construction projects: a heavy water plant near Terre Haute, IN, and the rehabilitation of the Alabama Ordnance Works smokeless powder plant in Childersburg, AL.

All engineering/construction firms have their ups and downs. Business was slow with Girdler in 1959 so I came north to Ann Arbor, MI with a small consulting engineering firm—W. L. Badger and Associates. While with them, I served as project engineer for the first demonstration plant built by the Office of Saline Water at Freeport, TX for the conversion of sea water to fresh water. I also worked on other plants and processes such as salt manufacture, environmental problems, pulp and paper projects, and cement plants.

Bechtel Power Corp. opened an office in Ann Arbor in late 1972 and I joined them in early 1973 and served as project engineer for a $350,000,000 — 800 megawatt electric generating station for Detroit Edison Co. This project consumed seven and a half years of my life and I retired from Bechtel in 1980.

I keep as busy as I wish in retirement. I am active in the Michigan Society of Professional Engineers, Kiwanis, am on the session of the church, take two or three trips each year, and seek bass and bluegills at my northern Michigan cottage. I am also president of a recently formed consulting engineering firm.

While in Morgantown, I met Grace Westfall and we were married a week after she received her law degree from West Virginia University. She passed away two years ago after a long illness. Our two children are both graduates of UK—John, Jr. with a law degree and Elizabeth with a degree in chemistry. They both live in Michigan and so I see them and the four grandchildren — Sara, Caroline, Jason, and Casey—quite often.

I look back on my many years associated with the university with a great deal of pleasure both as a student sequestered in Kastle Hall and because of my mother's long tenure as Dean of Women.

Some of the small things that I often remember from my four years in the Chemistry Department: Dr. Barkenbus' exceptionally fine lectures; Dr. Bedford's stacked up desk; Dr. Stewart's precise pacing during lectures; Mr. Gabbard giving me a 100 on a freshman chemistry test; Mr. Baker giving me absolute ethanol as an unknown **mixture** for identification in qualitative organic chemistry; and Mr. Mitchell's tough approach in the classroom.

It is difficult to put 45 years of one's life in a few pages so I have only hit a few high spots. I still have a soft spot in my heart for Lexington, KY and the University of Kentucky.

Allen S. Kenyon B.S. 1938, M.S. 1939. Extracted from Who's Who in Technology Today: He was an instructor at UK in 1940. He served in the U.S. Army Air Force 1942-46. After receiving a Ph.D. degree from Columbia University he accepted a position with Monsanto. He is a member of the ACS Polymer Division, Sigma Xi, Pi Mu Epsilon, and Phi Lambda Upsilon. He and his wife, Elizabeth, have four children: Margaret, Barbara, Elizabeth, and Thomas. In his letter, Dr. Kenyon elaborates: Thanks very much for your letter of April 10, 1984 requesting information of past alumni. It was a pleasure to read the news of former associates in your last newsletter because it brought back many fond

memories of people that I haven't heard from since leaving Kentucky.

My service in the Air Force was at Wright Field, Dayton, OH where I was assigned to the Photographic Laboratory, Materials Command. While in the Air Force, my work was with development of night aerial photography in cooperation with a professor from MIT. I left the service with a rank of major in 1946. I returned to Columbia University and completed a Ph.D. degree under Prof. V. K. LaMer in the field of light scattering of colloidal particles.

In 1947, I joined the Corporate Research Department of Monsanto Company and started research in polymer physical chemistry. Monsanto moved the Corporate labs to St. Louis, MO in 1961. I have just completed 37 years of research in the polymer fields. My present interest is in photon correlation spectroscopy with a special application to biological polymers.

During the years I have also been guest lecturer at a number of universities giving short courses in polymer physical chemistry.

At present I hold the rank of Fellow which is the highest level of technical personnel within Monsanto. My plans are to continue the polymer research until I have to retire at age 70.

Lewis O. White B.S., Industrial Chemistry, responded as follows: Can it be 46 years since graduation at UKé Of that 46 years I spent one year at MIT, 41 years at work with Exxon and four years enjoying retirement here in Baton Rouge. I went to MIT after graduation with fellow classmate Lewis Dodson Etherington and completed my Master's degree in chemical engineering in one year. I came directly to Baton Rouge to work for Exxon and have been here the entire time since MIT. I have worked closely with another UK chemistry alumnus, Lewis C. Dawson. L. D. Etherington also came to Baton Rouge several times while working with Exxon Research. (Interesting that the three of us have first name ''Lewis''—no significance.) I have not had contact with any other fellows from my class and will be interested in hearing from them.

In 1945 I married Mary Lee Mars of my hometown, Middlesboro, KY. We have two children, Olan Mars and Kathleen. At this point we have five grandsons, including twinsé Baton Rouge is a wonderful place to live. We love the host of friends, the wonderful Cajun food and the climate, after summer. Mary Lee and I are great travelers and we're off to some part of the world each year — sometimes twice/year. It gives me an opportunity to do some photography, which is one of my hobbies. Amateur radio is also a hobby which I enjoy very much. I often recall the years at UK and the Chemistry Department. We had some excellent teachers who trained us well—Professors Barkenbus, Stewart, Bedford, et al. Each impressed us with a way of problem solving which served us well in the years of work.

My days are so full in these retirement years, I don't see how I had time to go to work. Grandsons, friends, travel and lunch every day with Mary Lee at some restaurant or cafeteria sure keeps me busy! I still have time to teach a Sunday School class every now and then and keep up with the stock market—how is that for variety! We get back to the mountains of Kentucky in spring and fall of each year—dogwood blooms and the colored leaf show. I miss those hills and mountains—nothing but flat country here.

Incidentally, three (3) White boys from Middlesboro went to UK and then to Exxon. My brothers, Orville and Theodore, and I appreciate the training and education at UK.

1939

Margaret E. Griffing, replied: I too enjoyed the Chem-Notes with information about the early thirties. I graduated with the ''B.S. in Ind. Chem.'' degree in 1939. We started as 22 freshman in 1935 and graduated only three in 1939. I believe there was a hangover of two from the previous class and one who graduated in the summer.

Sidney Harris wrote a column about a great teacher from the University of Chicago who died with 'no survivors'. Harris said this man was a rare teacher who inspired his students to grasp the importance of his field, taught them to love the pursuit of learning and motivated them to contribute. Harris said every student who caught this vision was a ''survivor''. In this sense I am a survivor of Sarah Thorn who taught me at Henry Clay High School. She motivated me to work chemistry problems beyond the high school level. She provided the problems, checked my work, and explained my mistakes—not just on the basis of the answer but the point of failure which caused the mistake. By the time I entered UK I had worked all the problems in the freshman, qual, and quant books used at UK and all the supplementary problems sheets used at UK. Then when I entered UK, Professor Tuttle was retired but active. He became interested in me and he and I played a game for four years. He devised problems with caveats, efficiencies, yields, and multiple steps in an effort to ''catch'' me. Nobody ever had a better education in the fundamentals. Much more than stoichiometry was learned by this special training. I was a chemist because of Sarah Thorn.

And all of that on top of that magnificent professional course in chemistry. Professor Maxson tried to persuade me to drop the course because I was female. He was correct. I could not even get an interview when I finished. This in spite of the fact that I had high grades, honor societies and took a special exam to graduate ''with Departmental Honors in Chemistry''. Robert H. Baker was my advisor for this exam. I had taken courses to fulfill requirements for a teacher's certificate but the schools wanted the chemistry teacher to coach football. I applied to 25 graduate schools for a graduate assistantship in ''physical organic chemistry''. I was turned down without apology because they ''do not hire women''. Times have changed. I stayed at Kentucky and taught analytical chemistry under Professor O. J. Stewart and wrote a Master's thesis under Dr. Hume Bedford. Dr. Bedford taught me to make my own technical decisions and to take responsibility for my own plans and experiments. H. J. Rose graduated in the bottom of the class and couldn't get a job because of his grades. He persuaded his father to support him for an M.S. in organic chemistry with all ''A's''. Probably no one has gone further with ''just a B.S degree'' before his untimely death—Vice President of the Esso Companies through contributions and not influence. I am trying to tell you that after a successful career in chemical research and association with very talented people from many schools that there were elements in that B.S. in Ind. Chem. program that prepared the survivors for solving problems.

I went to Emery Industries as a chemical librarian and the following spring learned that Purdue University did not receive enough applications in the analytical chemistry field. I wrote and asked for a graduate assistantship in analytical chemistry and received it. I finished a Ph.D. in analytical chemistry under Professor M. G. Mellon in 1944. Most of the graduate courses were strong reviews with a little addition of work I had taken at Kentucky. My B.S. in Ind. Chem. required all of the physics courses that my twin sister had for a B.S. in Physics. I had thermodynamics from Professor O. T. Koppius and then thermo was a breeze at Purdue.

Advanced organic and organic qual analysis was another experience in independent study, planning, and experimentation. Dr. Baker and Dr. Barkenbus didn't pour it into our heads but some how motivated us to learn chemistry and solve problems. They kept in touch enough that the lessons learned were accurate. The independence and responsibility were nurtured by the same kind of demanding training at Purdue.

After Purdue I took a job with a company ''not ready for a woman'' and quit after two months and did a postdoctoral at Northwestern under Dr. Byron Regel.

In 1945 I went to work for the Ethyl Corporation to solve a number of accumulated problems in analytical chemistry. I worked for Ethyl Corporation until illness forced my retirement in February of 1981. I was fortunate to enter analytical chemistry just as it was entering a renaissance. I had the first

Beckman IR-2 in any industrial laboratory. During a very exciting career I was: Supervisor of Analytical Research and then Senior Research Associate. During the intervening years I supervised service and research groups in all areas of analytical chemistry except "wet chemistry". During this period IR, NMR, X-ray diffraction, emission spectroscopy, fluorescence spectroscopy, mass spectroscopy, gas chromatography, liquid chromatography, high pressure liquid chromatography, thin layer chromatography, combined GG-MS and introduction of computer control of instrumentation, and development of on-line analysis in plants came of age. I was fortunate enough to participant in the application and improvement of all problems in petroleum product development, in organic synthesis, in fundamental combustion studies, organic and inorganic chemical process development and in a variety of environmental problems involving automotive emissions, air pollution, safety monitoring in plants, drug synthesis, etc.

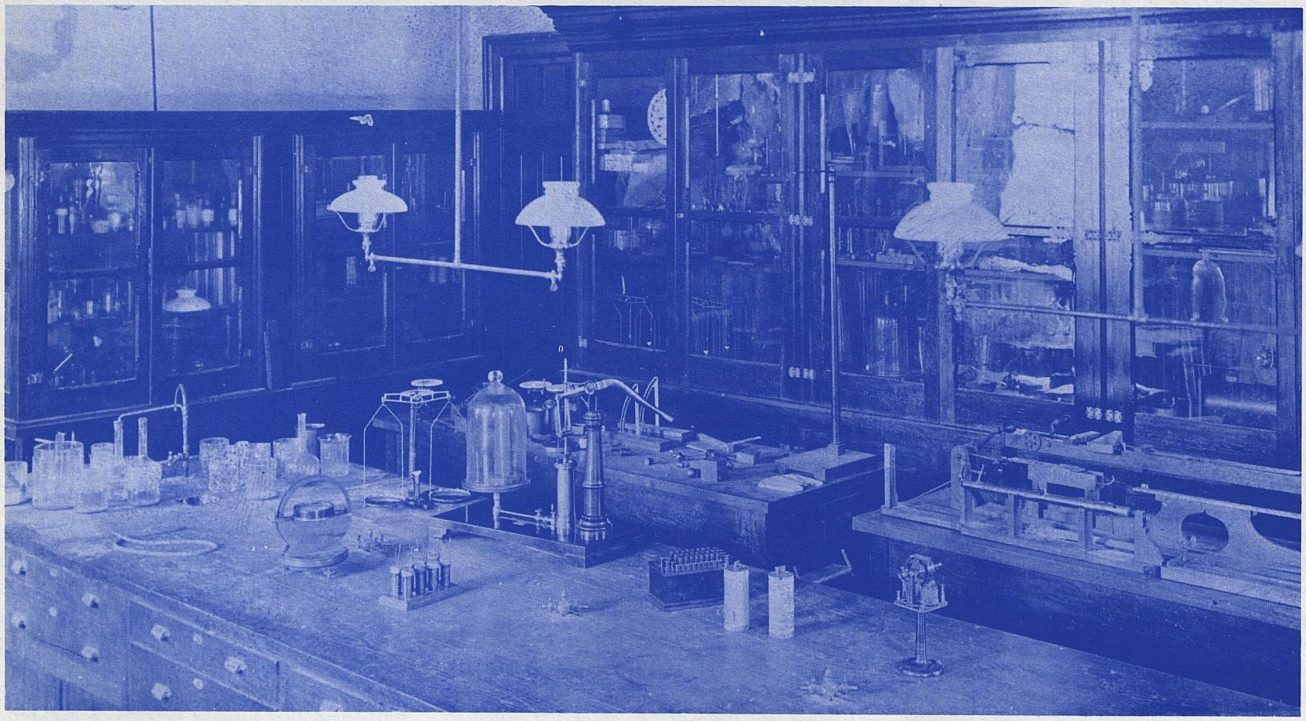
In addition to my duties of supervising analytical support to other research projects and the development of new analytical methods for this purpose I was assigned research problems involving fundamental combustion process in internal combustion engines, kinetic studies, photochemical rate measurements, use of radio tracers for difficult analyses and mechanism studies. From time to time I represented the Ethyl Corporation in a government-industry committee and for many years was active on the CAPE-24 committees for study of diesel exhaust. If you stop to consider the many developments that I had to become expert in without having any education (because they weren't available when I was in school) I think you may grasp my appreciation of the kind of education I received at UK. I hope that you have been able to grasp how the kind of training I had, equipped me to handle an explosion of technology—now that so much has been done I believe that universities will have to go back to educating chemists in the same fashion preparing them to solve the many important problems that are largely chemical by teaching them how to learn, motivating them to use the scientific method and to learn the materials they need when they need it.

I have enjoyed my excursion in memory and wish to remind those who remember, of what magnificent shows Professor Mitchell in Chemistry and Professor Webb in Physics put on to teach freshman courses. Experiments moved quickly, were often spectacular and clearly demonstrated the principles involved. Thank you for reminding me of a wonderful heritage.

Editor's note: Although Dr. Griffing did not want this published I am including it: In 1980, she received an award from the Ferndale Business and Professional Women's Club. Ethyl's director of research recommended her with the statement 'Ethyl has 1400 professional scientists nationwide and Dr. Griffing has few if any peers in her ability to take on a difficult problem and solve it.' Both Ethyl and the Coordinating Research Council asked her to consult in retirement. She is a member of numerous honorary and technical societies. She taught at Wayne University and Detroit University in night school.

Beaumont W. Whitaker, Jr., replied: The following is submitted in response to the request in your letter of 10 April.

Beaumont W. Whitaker, Jr., B.S. Chemistry, 1939 joined Ashland Oil as a laboratory analyst after graduation and later became a safety inspector and safety engineer with the Explosives Division of duPont. He joined the army in early 1942 and was assigned to the Chemical Warfare service. He was decorated for his contributions to the design of the Tank Mounted Flame Thrower, and decorated by the Navy for the Underwater Breathing Apparatus. He served in the Pacific for two years and while there received the Bronze Star Medal. After the war he joined a family operated automobile business in Frankfort and continued there for 13 years. In 1957 he joined the Nuclear Power Generation Division of Babcock & Wilcox, and continued with them until his retirement in 1979 as a senior executive in the division. Since retirement he has been active in researching and writing on family history and the Civil War. His wife is the former June Rupert and they have three daughters and five grandchildren.



Chemistry laboratory in the Experiment Station, @ 1895. Note the gas lights.

Alumni News

Marvin Dunn, B.S., 1932, M.S. 1938, sent an article telling about the brick he received from Vatican City. In 1975 Pope Paul, VI ordered the Holy Door of Patriarchal Basilica of Saint Peters closed on the feast of Christmas to be opened again on the 1950th anniversary of the redemption of the human family, which occurred in 1983. Marvin came across a little story in the Catholic "Sunday Visitor" that the bricks were being given away on a first come — first serve basis. He sent a request to have one sent to Brescia College in Owensboro and one to himself if available. He received brick number 1405, which he plans to keep unless Brescia College did not receive one.

James H. Saunders, B.S. 1944, received a Ph.D. degree from the University of Illinois in 1946. He is General Manager of Research and Development at Monsanto Fiber and Intermediates Co. in St. Louis.

Phillip S. Landis, M.S. 1947, Ph.D., 1958 Northwestern, was a candidate for Director at Large for the ACS. He retired from his position as manager of the applied products research group at Mobil Research and Development Corp. in Paulsboro, NJ. He has held numerous positions with the South Jersey Section and national ACS.

Howard K. Zimermann, a former faculty member from 1949-52, taught at Texas A & M College 1952-61. Since 1961 he has been with the University of the Pacific where he is a Professor of Chemistry. He has had an active teaching and research career and sent a copy of his 1965 Faculty Research lecture presented at the University, in which he relates his approval to an integrated research program to promote the excellence of an educational process at both the undergraduate and graduate levels.

Jack R. Boylan, B.S. 1954, received an M.S. in chemistry in 1966 from the University of Cincinnati, and a M.B.A. from Xavier in Cincinnati in 1971. He has worked at Emery Industries for 25 years with marketing and primarily research assignments, including plastics, resins, and synthetic lubricants. He is presently Director of Derivatives Research. He and his wife, Esther, have three grown children and two grandchildren.

William D. Williams, Ph.D. in 1954, is a Professor of Chemistry and Chairman of the Physical Science Department at Harding University, Searcy, AR. He received the Distinguished Teacher Award in 1969 and has taught all the undergraduate courses over the years except biochemistry. He was a freshman at UK in 1946 when the general chemistry lab looked very much like the picture in the last newsletter. Dr. Meadow was his freshman instructor who was a "demonstrator of the old school". Bill has a collection of over 150 chemistry books published before 1860.

Lewis B. Barnett, B.S. 1955, received an M.S. in 1957 and Ph.D. in 1959 from the University of Iowa. He is an Associate Professor of Biochemistry at Virginia Polytechnic Institute and State University in Blacksburg, VA, directing 300 students in their undergraduate program.

John Ryan, Ph.D. 1957, Director of Corporate Research at Dow Corning in Midland, MI, is spending the winter of 1984-85 at MIT as a visiting scientist.

Thomas L. Dawson, M.S. 1958, Ph.D. 1960, was appointed Group Leader in the analytical section of Research and Development at Union Carbide's South Charleston Technical Center. Activities within the group include mass spectrometry, electron microscopy, infrared, NMR, and surface analyses (ESCA and Auger).

Roland McClain, B.S. 1958, was promoted to Staff Scientist in August 1983 and is supervisor of Resins Technical Service at Celanese Specialty Resins Co., Jeffersontown, KY. He has major responsibility of promoting and adapting the use of aerospace-type plastic composites into automotive uses in order to attain weight savings, better component reliability and fuel economy.

Achmad Amiruddin, Ph.D. 1961, was recently elected Governor of the Celebes in Indonesia. He was formerly President of Hasanuddin University.

Richard Cox, Ph.D. 1966, has been promoted to Director, Analytical Research Division of Phillip Morris Co. where he supervises over 50 professional employees in all aspects of analytical research.

Mary Bernadean Jones, B.A. 1966, obtained an M.D. in 1971 from UK. She is a Fellow of the American Academy of Family Physicians and practices in rural South Georgia. She has a daughter, Emily, age 7, and is active in horsemanship events.

W. Duke Myers, A.B. 1964, received an M.D. from the University of Louisville School of Medicine in 1968. In 1982 he was promoted to Clinical Professor of Medicine at Texas Tech School of Medicine and was voted Outstanding Clinical Professor by the graduating medical class. He became Chief of Medicine, Methodist Hospital in 1983 and Chief of Staff, St. Mary of the Plains Hospital 1984, both in Lubbock, TX.

William O. Smith, Jr., B.S. 1966, Ph.D. 1976 in Plant Pathology at UK is now Plant Pathologist at Smithsonian Institution, Environment Research Center in Rockville, MD.

John W. Collins, B.A. 1967, received an M.D. from UK College of Medicine. He is an assistant professor in the Department of Ophthalmology and Director of Ophthalmic Plastic and Orbital Surgery at the UK College of Medicine. He has a son, John, Jr., who is enrolled at UK.

William J. Geimuer, B.A. 1968, after obtaining an M.D. from UK served a pediatric residency at Michigan State, 1975-77, and received an allergy fellowship at Thomas Jefferson University 1977-79. He has been in private practice allergy since 1979 in Wilmington, DE. He is a Fellow in the American Academy of Pediatrics and a Fellow in the American Academy of Allergy and Immunology.

John Morgan and **Kisdhore Nadkarni** postdoctoral fellows working with Dr. Ehmann in 1968 were recent visitors in our department.

Dale T. Blankenship, B.S. 1969. His first position at the University of Cincinnati was to synthesize inhibitors of photosynthesis for Dr. Winget and his study of electron transport and ATP formation. He also was enrolled in the graduate program at the University of Cincinnati College of Civil and Environmental Health Engineering, 1972-73. From 1974 to 1982 he moved to the Department of Biological Chemistry at the University of Cincinnati College of Medicine where he performed protein and peptide separations, amino acid analyses, and protein-peptide sequencing for Dr. Freischeim. He also took graduate courses in the department. He moved to the Molecular Biology Department of the Lilly Research Laboratories in Indianapolis in 1982 where he is a Biologist working with the recombinant DNA group doing micro-sequencing, for Dick van Frank, of pharmacologically active proteins and peptides. He is co-author of numerous publications in the area.

Thomas Fangmen, Ph.D. 1969, is the Science Supervisor at the New Providence, NJ School District. He is trying to improve science teaching, K-12 and also is teaching an Advance Placement Chemistry. He and his wife have moved to a six-acre plot in the country. They have two Vietnamese foster sons, Trung, who has been with them for three years, entered East Stroudsburg University to major in computer science. Thang came in 1983 and is a tenth grader in the local high school.

Ward Rice, B.S. 1972, obtained a Ph.D. in biochemistry, 1976, and an M.D., 1978 from the University of Chicago. He is a

research scholar of the Division of Neonatology at the University of Cincinnati and staff neonatologist at the Children's Hospital and University Hospital in Cincinnati. He recently became a diplomate of the American Board of Pediatrics, and the sub-board of Neonatal-Prenatal Medicine.

Ronald K. Sensmeier, M.S. 1972, is still associated with the Department of Biochemistry at Purdue University.

Karen Cisler, B.S. 1973, is a chemist at the Institute for Mining and Minerals Research, associated with the University of Kentucky.

Maw-Suen Ma, Ph.D. 1975, has taken a position with Consumer's Power Co. in Midland, MI.

Ray Guffey, B.S. 1976, M.S. 1978, after receiving a Juris Doctor degree is a patent advisor for the Naval Research Laboratory in Washington, DC. The position involves preparing and prosecuting patent applications related to research at the laboratory.

Can B. Hu, M.S. 1976, is now a staff polymer scientist at Proctor and Gamble Co. in Cincinnati.

Chingshun Cheng, M.S. 1977, M.S. in Chemical Engineering 1980, joined Allied Chemical Buffalo Research Laboratory as a Research and Development Chemical Engineer. In 1981, he joined IBM at Endicott, NY as a Process and Equipment Engineer and currently is working as a Test Development Engineer involved in setting up module assembly (contains chips and ceramic substrates), test strategy, and methodology.

Sharon (Cronch) Laumer, Ph.D. 1977, and her husband, Helmut, recently returned to UK for a visit.

Gerald Maxwell, B.S. 1977, received an M.S. from Wright State University, Dayton, OH in 1982 and is completing work for a MBA degree from the University of West Florida, Pensacola, FL. After graduation from UK he worked as a Microelectronic Materials Chemist at HQ Foreign Technology Division, Wright Patterson AFB, OH. He then took the position of Product Development Engineer, manufacturing explosives at the Elgin AFB in Florida. Currently he is Program Manager, Captain (USAF), of the Infrared Seeker Missile Program at Elgin AFB, FL.

Lawrence R. Williams, B.A. 1978, after receiving an M.D. from the University of Louisville in 1983, is serving an internship in anesthesiology at the University of SC.

Albert J. Filo, M.S. 1979, is working for Bell Laboratories in Allentown, PA.

Jean Dean Coffman, B.S. 1980, after working four years at Monsanto in Nitro, WV in quality — assurance research and environmental monitoring, is now pursuing a Masters degree in Library Information Science at UK. Her husband is a charter airline pilot.

Peter Doorley, M.S. 1980, on March 16, 1983 was presented the Second Annual Technical Award for the most outstanding contribution to the technology of the Humko Chemical Division Witco Chemical Corporation. The award was for four major projects completed in 1983, which were antioxidant identification and characterization, glycerine quality problems, dimethyl phthalate processing and raw material specifications, and bitrex and its by-products characterization. He received two $100 savings bonds and his name was engraved on two permanent plaques, one at the Technical Service Center and other at the Audubon Woods Office. He and **Mathilda,** M.S. 1980, had a new arrival, spring 1983, a boy, John Francis.

Patrick Leung, M.S. 1980, received an M.D. from the UK College of Medicine and is taking a residency in neurology, eventually to pursue research on Alzheimer's disease.

Nanda M. Brahme, Ph.D. 1981, is working as a postdoctoral research associate on joint projects between the University of Texas at Austin and the Upjohn Company, Kalamazoo, MI. The projects include the investigation of the biosynthesis of antibiotics using stable isotopes and NMR spectroscopy; synthesis of deoxyoligonucleotides and using them in drug-DNA interaction studies.

Jimmy Feix, Ph.D. 1981, published a landmark paper in Biochemistry on a new kind of phospholipid motion employing ELDOR at the National Biomedical ESR Center at the Medical College of Wisconsin.

Julie Lin Pickard Rogers, B.A. 1981, worked at the University of Florida studying the kinetics of the metabolism of lipoproteins (1982-83). She was a research assistant of the University of Alabama in Birmingham working on chemotheropeutic drugs and radiation studies on treatment of small cell lung carcinoma. She is entering the University of Alabama School of Law.

Mohammad Alauddin, Ph.D. 1982, has joined the faculty of Wagner College in New York City.

Joe Cook, M.S. 1982 is enrolled in the Armed Forces Medical School in Bethesda, MD.

Amiya Ghatak-Roy, M.S. 1982, is pursuing a Ph.D. at Texas A & M University.

Kenneth R. Davis, Jr., B.S. 1982, is a Process Engineer with General Electric in Frankfort, KY responsible for the development of plastics processing and compounding.

Kurt Haller, B.S. 1983, is a graduate student in the Department of Chemistry, Northwestern University.

Deceased Alumni

Dr. David Randall, B.S. 1937, died in September 1979. He was a retired consultant living in Leland, MI.

Pete Panzera, B.S. 1947, M.S. 1949, Ph.D. 1953, died in 1983. He was a retired Professor at Murray State University. Less than a year prior to Pete's death, his wife, Sarah preceded him in death.

Student Awards

The following student awards for the 1983-84 academic year were made possible by gifts from alumni, friends, and industry.

Undergraduate Awards:

Robert M. Boyer Memorial Fund:
Undergraduate Seminar Poster Session Awards:
  Mark Hail $50 and Troy Harmon $50
  Honorable Mention: Philipp Niedenzu and Mitchell Skaggs

Thomas B. Nantz Tuition Scholarships:
  Linda Osborne, Academic Year 1984-85
  William Sartain, Fall 1984
  Gary Kaufmann, Fall 1984

Stephen Harris Cook Undergraduate Summer Research Fellowship:
  William Banks $800

Meredith Award to Outstanding Senior:
  Troy Harmon $100

Alumni Development Fund:
Undergraduate Service Award:
  David McGee $50

Merck Index Award:
  Mark Hail

Analytical Chemistry Award:
  Steven Edelstein

American Institute of Chemists Award:
  Mervin Wood

CRC Handbook Award for Freshman Chemistry:
  Sandra L. Nation

Graduate Student Awards:

Alumni Development Fund:
Outstanding Graduate Student Research Award:
  Steven McClanahan $100

A. S. Behrman Fund Award:
  A. Outstanding Teaching Assistant Awards:
    Joseph Schomaker $75
    Janina Baranowska $75
  B. 100% Plus Award:
    Andrzej T. Rajca $100

Ashland Oil Foundation Summer Fellowships

Funds provided by the Ashland Oil Foundation provided seven summer fellowships for the following students in 1984: Bennett Farmer, a graduate student worked with Dr. Butterfield on the relationship between ultrastructure and the dynamics of the red blood cell membrane. James Goodrich, an entering graduate student from Centre College, continued studies with Dr. Selegue on the acid-base behavior of certain phosphorus ligands coordinated to iron. Mark Hail, a graduating senior, continued his development of a computer controlled stepper motor driven buret for conductometric titrations under the direction of Dr. Holler. William F. Kluttz, a first year graduate student started a project with Dr. Walter T. Smith to prepare compounds similar to natural components of nucleic acids which may have anti-cancer properties. Peter Nickias, a graduate student, worked with Dr. Selegue on the synthesis of metallocumulenes. Philipp Niedenzu continued his studies of the synthesis of unsymmetrically substituted pyrazaboles with his father, Kurt Niedenzu. Linda Osborne, a senior who is entering our graduate program, investigated the fragmentation processes in metal acetylacetonates by mass spectrometric techniques with Dr. Kiser.

News from the Faculty and Staff

Carol Brock served on the Local Committee for the annual meeting of the American Crystallographic Association held on campus May 20-25, 1984. At the meeting she presented two talks based on her research on crystal packing effects and lattice energy calculations. She participated in the Gordon Research Conference on Orientational Disorder in Crystals in January 1984 where she presented her research at a poster session. Carol served as Chairman of the Nominations Committee and Chairman of the Small Molecule Special Interest Group of the American Crystallographic Association in 1984.

D. Allan Butterfield presented invited papers at the Southeast Magnetic Resonance Conference, East Tennessee State University and the American Academy of Neurology National Meeting in Boston, MA. He also participated in an invited seminar at the University of Maine, Department of Chemistry on "ESR Studies of Erythrocyte Membranes". He received a grant from the National Alzheimer's Disease and Related Disorders Association to support his research on choline transport alterations in Alzheimer's disease and has continuing support from a NIH grant for graduate student training. Allan is in his second year as Director of General Chemistry. He has found this position challenging. Allan's wife, Marci, continues as a registered nurse on the Brain Injury Unit of Cardinal Hill Hospital. Their daughter, Nyasha, was chosen as a Tates Creek Junior High School cheerleader after keen competition.

Bill Ehmann is continuing his research on trace element relationships to neurological diseases with continuing support from the Muscular Dystrophy Association and graduate student support from a National Institute of Aging Traineeship. Drs. Ed Kasarskis and Bill Markesbery from the College of Medicine are Co-Principal Investigators in these studies. Bill recently received word that a proposal to NIH for longitudinal studies on Alzheimer's disease with Bill Markesbery will be funded for four years, starting in December.

He presented papers at the Conference on Aluminum Analysis in Biological Materials at the University of Virginia (June 29-30, 1983), the Annual IMMR Research Review Conference, Lexington (January 23, 1984), and the Annual Meeting of the Society for Neuroscience in Boston (November 4-6, 1983). He was co-author of presentations at the International Conference on Neurotoxicology of Selected Chemicals, Chicago (September 11-15, 1983), and the DOE Contractors Review Meeing, Pittsburgh (June 5-7, 1984).

In addition to the work on neurological diseases Bill is continuing his study of organic oxygen in coal in the second year of a DOE grant with Drs. Chuck Hamrin and David Koppenaal. Environmental studies related to eastern oil shale retorting are also in progress under support from IMMR. Two visiting scientists from the Peoples Republic of China and one postdoctoral fellow from India by way of McMaster University in addition to four graduate students are now working in the radiochemistry group.

Bill finished his second two year term as Associate Dean for Research on July 1, 1984 and decided to return to full-time research and teaching. He will take a sabbatical leave in the spring semester of 1985 and hopes to attend several international meetings during this period. His wife, Nancy, is now the Coordinator for the Meals on Wheels Program in Lexington. Former group members may be interested to know that his eldest son, Bill, has joined the staff of the U.S. Geological Survey in Reston, VA as a geologist.

Charles Griffith has completed 20 years service as Laboratory Supervisor of General Chemistry. His wife, Gloria, has been teaching at Central Kentucky Vocational-Technical School in Lexington for 17 years. She was the first advisor of the Phi Beta Lambda Chapter established at Central in 1970 and the chapter has won several state awards and two national awards. His daughter, Susan, received an M.D. degree from the UK Medical School, May, 1982, and is a senior resident in family practice at UK.

Bob Guthrie met with the Commission on Physical Organic Chemistry in Lyngby, Denmark in August 1983 and presented Draft No. 3 on Symbolizing Reaction Mechanisms. He attended a meeting of the Council for Chemical Research in Boston, MA, October 1-4, 1983 and a meeting of Chemistry Chairmen of Southeastern Ph.D. Granting Institutions in New Orleans on March 29, 1984. Bob presented a seminar at Ethyl Corporation in Baton Rouge and gave a poster presentation at the Gordon Conference on Radical Ions, in Wolfeboro, NH.

Wilbur Mateyka as president of the American Scientific Glassblowers Society, has attended sectional meetings of the society in Chicago, Ann Arbor, Montreal, and New York City, and a Board of Directors meeting in Toronto.

Kurt Niedenzu presented a paper at the National ACS meeting in St. Louis, MO in April 1984. He has received a $194,000 grant from ONR to support his research on "Studies of Macromolecules Derived from Pyrazolylboron and Related Boron-Nitrogen Species". He also received a DOD instrument grant to purchase a FT-IR spectrometer.

Jim O'Reilly presented a paper at the Midwest Universities Analytical Chemists Conference in Youngstown, OH, October 1983. He was an invited speaker at the "Symposium in Memory of Philip J. Elving" held during the Great Lakes/Central Regional ACS Meeting in Kalamazoo, MI, May 1984. He also presented papers on his research to the Northern Kentucky University Student Affiliates ACS Chapter and the Upjohn Company in Kalamazoo. Jim continues as soccer referee for local youth, high school, and college games. He is a clinician for the local youth soccer league and a certified USSF Referee Instructor after attending a clinic in Knoxville, TN, March 1984.

Jack Selegue presented a paper at the International Conference on Organometallic Chemistry, Callaway Gardens, GA, October 10-14, 1983, and two papers at the ACS National Meeting in St. Louis, April 8-13, 1984. He co- authored two papers presented by his graduate students at the Kentucky Academy of Science Meeting in Louisville, November 11, 1983. He gave seminars at the University of Louisville, April 20, 1984, and Centre College, March 26, 1984. He received a grant from the Institute for Mining and Minerals Research (funded by a grant from the U.S. Bureau of Mines) to support research on "Heteronuclear Clusters Incorporating Early and Late Transition Metals". Jack and his wife, Edith, took a 6,500 mile vacation camping trip in May 1984, hiking the Grand Canyon, traveling up the Pacific coast to Oregon, and visiting Yellowstone National Park on the return trip. He is serving as the ACS Lexington Section Social Chairman.

Stan Smith was promoted to the rank of full Professor, effective July 1, 1984. He has presented numerous papers and taught short courses at the following places and programs: Varian NMR Short Course, Palo Alto, CA; National Cancer Institute, Frederic, MD; Merck, Inc. Rahway, NJ; NMR Users Conference, Dow Chemical, Midland, MI; NOVA Program, IBM Corp., Lexington, KY; Twenty-fifth Experimental NMR Conference, College of American Pathologists, Purdue University; Second National Meeting, Society for Magnetic Resonance in Medicine, American Associates of Physicists in Medicine. He served as Chairman of the NMR Imaging Program at the Eastern Analytical Symposium in New York. Stan was elected vice-president of the Bluegrass Dive Club and has been certified as "Rescue Diver"—one of only 15-20 in Kentucky. He is a member of Nautical Research Guild ("Professional" model ship builders association) and attended the national convention in Alexandria, VA. His son, Michael, graduated from the UK College of Architecture. His wife, Beth, is working at the UK Council on Aging. They have moved to a renovated house on Oldham Avenue, close to Cooperstown.

Tom Smith gave a lecture at the Gordon Research Conference in July 1983 at Holderness School in New Hampshire on the pyrolysis of proteins and amino acids—based on research done with John Patterson. He taught summer school at the University of Maine at Orono, 1984, and afterwards enjoyed a vacation at Acadia National Park.

Laren M. Tolbert spent the spring semester of 1984, at the University of California-Berkeley, where he was on sabbatical leave. He worked with Profesor John H. Clark on picosecond proton transfer dynamics. He presented papers at the spring ACS meeting in St. Louis, and during July 1984 at the International Symposium on Carbanions in Durham, England, and at the IUPAC Symposium on Organic Photochemistry in Interlaken, Switzerland. He also attended the Mechanisms Conference at Duke University in June 1984.

Steve Yates co-authored three papers presented at the National ACS meeting in Washington, DC in August 1983; two papers at the Nuclear Division of the American Physical Society, Notre Dame, October 1983; two papers at the National ACS meeting in St. Louis, April 1984, where he was co-organizer of the Symposium on "Recent Developments in Nuclear Models and Spectroscopy" and served as a chairman of one session. Two papers were presented at the International Symposium on In-Beam Nuclear Spectroscopy in Debrecen, Hungary, May 1984, where he also served as a session chairman. Following that meeting he visited the Institute of Nuclear Physics in Cracow, Poland, the Institute of Isotopes of the Hungarian Academy of Science in Budapest, Hungary where he presented an invited lecture, and the Kernforschungsanlage Juelich, West Germany. He was an invited participant in the Argonne National Laboratory's faculty institute "An Update on the Breeder Reactor Program and Associated Issues", August 8-18, 1983 at Argonne West, Idaho Falls. Steve was interviewed and a videotape was made by UKTV for distribution throughout Kentucky as a part of "The Major Choice" series that will be used primarily for advising high school students interested in a career in chemistry. He is Chairman-elect and Program Chairman of the Lexington Section of the ACS, and Chairman of the Subcommittee on Undergraduate Awards of the Division of Nuclear Chemistry and Technology of the ACS. He and three Physics professors have received a grant of $210,775 for 1984 from the NSF for neutron induced reactions, nuclear structure studies with neutrons, and nuclear astrophysics. The grant has also been approved on scientific and technical merit for two additional years.

Personnel Changes

Dr. Dennis J. Clouthier joined our faculty as an Assistant Professor effective the 1984-85 academic year. He received a B.Sc. in 1975 and a Ph.D. in 1980 from the University of Saskatchewan. He was a Research Associate at the Herzberg Institute of Astrophysics, Ottawa, Ontario from 1980-83, conducting research in laser spectroscopy. He studied the laser spectroscopy of flames as a Combustion Scientist at the Atomic Energy of Canada, Pinawa, Manitoba, Canada, 1983-84. His research program at UK is a study of the spectroscopy and photophysics of organo-sulfur, selenium, phosphorus, and boron compounds using Fourier transform interferometry and high resolution pulsed laser techniques. He has co-authored 23 papers in his research area.

Ramona Hauser is the new addition to our glassblowing shop. She came to us from Pullman, WA, where she was a glassblower at Washington State University. The addition of Ramona will enable our glass shop to provide services to the whole campus. She has a B.S. degree in physical sciences with a major in chemistry from Washington State.

Dr. James Kincaid, Assistant Professor, resigned to accept a position as Associate Professor at Marquette University, Milwaukee, WI. His departure leaves the Department with only two professors in analytical chemistry.

Many of our alumni will recall Penny A. Purdue, the Technician/Analyst in the Mass Spectrometry Center since September 1971. Her husband, Dr. Peter Purdue, of UK's Statistics Department, assumed a Rotatorship with the National Science Foundation in Washington, DC beginning this fall, and Penny resigned her position with us to accompany Peter to Washington. Penny already well knows her way about the Library of Congress and the National Archives and is enjoying the many opportunities that Washington presents. Obviously Penny and her many years of cheerful and very competent assistance will be missed by all of us. We wish them the very best in their new activities in our nation's capitol. If you should be in the vicinity, stop by 6 Don Mills Court, Rockville, MD, and say hello to Penny and Peter.

Mark T. Mojesky joined us in October 1984 as the new Technician/Analyst (now Senior Research Laboratory Manager) in the Mass Spectrometry Center. Mark has a B.S. in chemistry from Catawba College and an M.S. in chemistry from Western Kentucky University. Prior to assuming his present position, Mark was a Principal Laboratory Technician for two and a half years in Dr. S. K. Chan's laboratory in Biochemistry. Mark has been busy learning the operation, vagaries and maintenance of the ZAB-2F mass spectrometer and its DS2050 data system, and already is producing quality analytical services for the faculty and students.

Mary Schwendeman, formerly a secretary in the Mass Spectrometry Center, returned to Lexington and the Department of Chemistry as secretary to Larry Scheurich, Laboratory Manager.

Recent Graduates

During the 1983-84 academic year the department awarded eight B.S., fifteen B.A., four M.S., and three Ph.D. degrees. Those who received the B.S. degree are: Susan Alkhoja, Lexington; Rustin Arnold; Larry DeLong, in graduate school at LSU; Troy Harmon, graduate school at Cornell; Robert S. Howard, UK Medical School; Vida Sheen, UK Medical School; Samuel Warren, Louisville Medical School; Mervin Wood, Jr., graduate school at Emery University.

The following B.A. majors are enrolled in the UK Medical School: Richard Blake, James A. Day, Jr., Brent Murphy, and John Sharp. Shelley Stafford is a graduate student in chemistry at Murray State University; Robert Dorzback is employed at a hospital in Louisville; and Michael White is attending the University of Louisville Medical School.

The M.S. degrees were awarded to James Gregory, employed at Texas Gas Transmission Co., Owensboro, KY; Jafariah Jaafar is a lecturer in the Department of Chemistry, University Technology, Malaysia; Theresia Kusuma is continuing at UK toward a Ph.D. degree, Howard Elmore, deceased.

Ph.D. recipients were Mahfuza Ali, who moved to Minnesota with her husband; Thomas Hodgkins is an Instructor, Department of Chemistry, University of Wisconsin, La Crosse; Elizabeth Kleppinger is a postdoctoral fellow working with Dr. Yates and also is teaching part-time in the department.

Information Please

Name_____

Degree and Year_____

Home Address (if different from that on this mailing)_____

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Your present position or title_____

Organization_____

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Degrees received from other institutions after leaving U.K._____

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News concerning your career and other news of interest for the next Newsletter_____

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Please return to: Dr. Robert D. Guthrie
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