

Chem-news

Alumni Newsletter Published by Department of Chemistry University of Kentucky

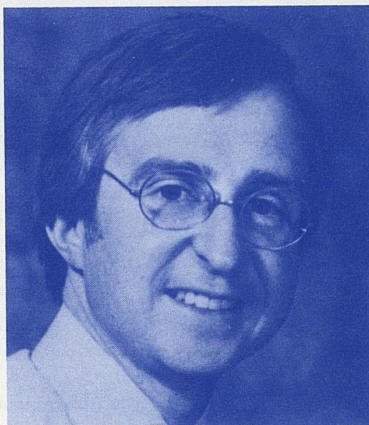


Spring 1988

New Chairman — David S. Watt

Professor David Watt has accepted a four-year term as Chairman of the Department, effective July 1, 1987. Dave received his bachelor's degree from Dartmouth College in 1967 and Ph.D. from Harvard University in 1972 where he worked with Professor E. J. Corey in the area of synthetic organic chemistry. After a postdoctoral position in biochemistry at Harvard, he held a number of positions at the University of Colorado, Pfizer, Inc., and the University of Wyoming before moving to the University of Kentucky in 1985 with a joint appointment in the College of Pharmacy and the Department of Chemistry.

His research interests include the synthesis and mechanism of action of various natural products, and his current research group has



David Watt, Chairman

six graduate students and five postdoctoral fellows. His research is supported by grants from the National Science Foundation and the National Institutes of Health.

A Message from the New Chairman

Like all my predecessors in this position, I have aspirations for this Department which reflect my confidence that we possess both the faculty and the students necessary to develop solid undergraduate and graduate programs in chemistry. At the undergraduate level, we must continue to emphasize that a career in chemistry can be rewarding. We hope to attract potential majors in chemistry through a generous, anonymous gift which led to an Undergraduate Scholarship Fund handled exclusively by the faculty. We have already made several awards to talented undergraduates, and we hope to use some of these funds to encourage undergraduate research participation this coming summer. We are actively seeking extramural support for such undergraduate research programs, and we

have recently created the "Chemistry Endowment Fund" with a long-term view of using the interest to support programs of this type.

The graduate program thrives but requires additional increases in teaching assistant stipends in order to continue to attract the best students. Although the University added a substantial increment to these stipends last year, still more is needed to raise our stipends to a level competitive with other institutions. In the future, we hope to use endowment funds to supplement graduate student stipends and provide much needed summer support for graduate students.

Under the able leadership of Bob Guthrie, the Department has hired five energetic and productive young faculty members, and we would like to hire two additional faculty in the

coming year. The success of these new research programs will depend on the initiative of the investigators, on a steady supply of good graduate students, and on access to modern instrumentation. The instrumentation in the Department has undergone some dramatic improvements in the last year with the availability of funds through a state bond issue. We have acquired two new high field NMR spectrometers: a Gemini 200 MHz and Varian 400 MHz instruments. The former instrument is a routine "hands-on" NMR which is available to investigators on a "sign-up" basis. In addition, we have also acquired a LAMMA, a laser actuated microprobe mass analyzer used for elemental analysis at the cellular level. A high power laser "burns" a 1-2 micron diameter hole in thin slices of

biological tissue and the ions produced are processed through a time of flight mass spectrometer. Analyses of most of the periodic table are possible.

Despite the hiring of new Assistant Professors, increases in teaching assistantship

stipends, and new instrumentation, we need your help. The funds which you provide to the "Chemistry Development Fund" provide a year-to-year source of funds which we use to augment woefully inadequate funding for research needs, seminars, and travel to scien-

tific meetings. The newly created "Chemistry Endowment Fund" will provide a long-term solution to these and other problems. We welcome your support of either or both of these programs.

Comments from the Editor

This issue of the newsletter covers events and information for the 1986-87 academic year and the first semester of the 1987-88 academic year. We were fortunate to lure David Watt full-time from the College of Pharmacy to assume the chairmanship for a four-year term. We are featuring a section on our alumni who graduated 1945-49 and a special section on the establishment of the Chemistry Endowment Fund.

The Thirteenth Annual Symposium on Chemistry and Molecular Biology, supported by the fund in memory of Anna S. Naff, was held April 24, 1987. The topic was Electron Transfer in Metalloproteins. Speakers were: Harry B. Gray, Arnold O. Beckman Professor of Chemistry and Director of the Beckman Institute at the California Institute of Technology; Brian M. Hoffman, Professor of Chemistry and Biochemistry, Northwestern University; George McLendon, Professor of Chemistry, University of Rochester; and William H. Orme-Johnson, Professor of Chemistry, Massachusetts Institute of Technology.

The Student Affiliates of the ACS again sponsored a competition for 57 high school chemistry students on April 4, 1987. Besides receiving awards for scoring high on the examinations students also are awarded credit for general chemistry if they enroll at UK.

The Department, under the leadership of Jim Holler, sponsored a Regional Under-



1987 Symposium on Chemistry and Molecular Biology

Left to right: M. B. Naff, H. B. Gray, G. McLendon, B. M. Hoffman, W. H. Orme-Johnson.

graduate Poster Competition on April 25, 1987. Over 20 poster presentations were presented from seven regional schools.

Our thanks go 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.

I would like to add my thanks for your contributions which make possible many activities and support that is not available from state

appropriations. Please be sure to specify that any contributions you send are for our Chemistry Endowment Fund or Development Fund or other restricted funds in Chemistry. Donations may be sent through the Director of Development, William B. Sturgill Development Building, University of Kentucky, Lexington, KY 40506. When you come to Lexington, please stop by the Department for a visit.

Bill Wagner, Editor

UK Chemistry Endowment Fund

A new endowment fund for the Department of Chemistry has been established in the University of Kentucky Development Office. The fund is to be used primarily for both graduate and undergraduate research fellowships. The Department is grateful to Marshall Frazer for being the prime mover in suggesting and helping form the basis for the fund. Marshall was asked to prepare the accompanying autobiography so all of you will know something about the person who initi-

ated the plans for the Chemistry Endowment Fund. A special mailing to all alumni and friends giving details about the fund is being prepared and should reach you in February.

The margin between a good and an outstanding program is often the outside support received from alumni, friends, and private corporations, which offers a degree of flexibility to the Department and provides support and recognition for excellence among students and faculty. In the past contributions to our

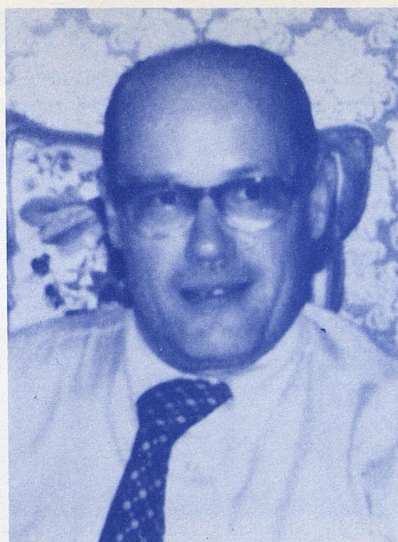
Development Fund and other fellowship and program funds have been of great assistance. The establishment of an endowment fund will assure us of a continuing source of income to supplement any annual contributions. All contributions should clearly be specified "for the Chemistry Endowment Fund" in order for the funds to be credited to the proper Development Office account.

Marshall G. Frazer, Ph.D., 1968. It all started in Nashville, TN with a birthday gift

for my tenth birthday in 1947, of a Gilbert chemistry set. This was rapidly expanded into a chemistry laboratory in the basement where I did experiments in electrolysis of water and HCl, attempts at gunpowder production, sulfuric acid manufacture, and H₂S generation much to the displeasure of my father upstairs. In high school, I succeeded in adding such elements and compounds as metallic sodium, elemental phosphorus, and MnO₂ for chlorine generation as a result of their being discarded by the science teacher.

Four years at Vanderbilt University resulted in a B.S. in chemistry and an interest in organic chemistry. After graduation in 1959, I spent the summer with Allied Chemical Company in Wilmington, DE and then began an 18-month employment with E. I. duPont de Nemours, Company in the textile fibers department at their plant in Waynesboro, VA in the Shenandoah Valley. My employment at duPont was interrupted by six months on active duty in the U. S. Army, after which time I continued with duPont until September of 1961.

My graduate studies at the University of Kentucky began the Fall semester of 1961. With the helpful guidance of Dr. Ellis V. Brown, my studies included a major in



Michael G. Frazer

organic chemistry, minors in biochemistry and microbiology, and research with him in heterocyclic organic chemistry.

After graduation in December of 1968, I began a two-year postdoctoral fellowship at Duke University with Dr. Charles Bradsher.

At Duke, I met and married my wife, Virginia, who was a graduate student in chemistry. For the academic year 1970 to 1971, we were in Nashville, TN and I held a second postdoctoral position with Dr. Donald Pearson of Vanderbilt University. From July 1971 until July 1973, I was a Fellow in Clinical Chemistry at Norton Children's Hospital in Louisville, KY.

In December of 1973, I began my employment in the Division of Endocrinology at the Vanderbilt University Medical Center. Over the years, my responsibilities have included supervision and direction of a laboratory concerned with blood plasma analyses for hormones such as angiotensin I, angiotensin II, aldosterone, and many prostaglandins. My research activities have included studies of the causes of hypertension, prostaglandins in the function of the lung, and the development of analyses of hormones. At present, my faculty position at Vanderbilt is that of a Research Associate.

Virginia and I have two children. Stanton is nine years old and attends the third grade. Andrew is six years old and goes to kindergarten. My main hobby is growing cactus plants for fun and sometimes pain if I don't watch out.

UK's New President

David P. Roselle became the ninth President of the University on July 1, 1987, succeeding Otis A. Singletary. For the previous three and a half years he served as provost of Virginia Tech in Blacksburg, VA. Roselle has a Ph.D. in mathematics from Duke University and was a professor at the University of Maryland and Louisiana State University. In 1974 he became a professor of mathematics at Virginia Tech. In 1978, he was recognized for his teaching excellence. He also served as dean of the graduate school and research. At Virginia Tech he was known as an innovator by his colleagues and has been recognized nationally for his initiatives in computing and information systems. His appointment as President of UK was enthusiastically supported by the faculty.



David P. Roselle, President

National Chemistry Day Celebration

The Lexington Section of the American Chemical Society celebrated back-to-back on November 5 and 6, the 75th Anniversary of the Section and National Chemistry Day. The Anniversary celebration featured a visit from Anna J. Harrison, the first woman President of the American Chemical Society, who addressed the Section on the evening of November 5. As part of the evening's activities Dr. Harrison presented a charter to the newly established SA-ACS group at Transylvania University. A 75-Year History of the Section was distributed to all members.

On the evening of November 6, about 150 visitors from the Lexington community visited UK for a Chemistry Open House in celebration of the first National Chemistry Day. (In numbers, nothing like the 20,000 that come to basketball games, but nevertheless quite an enthusiastic crowd.) Features that jammed the tour routes included Wib Mateyka and his glassblowing demonstration and a spectacular laser show conducted by Dennis Clouthier and Tom Guarr. The grand finale was a fast-moving chemical demonstration show by Diane Vance, her husband John Moll, and two assistants, William Thomas and Kevin Cooke, that kept visitors entranced. Many said that they would come back — next year! We must do this again!

The program was organized and spearheaded by Audrey Companion, current Chairman of the Lexington Section of the ACS.



National Chemistry Day Celebration

Special News from the 1945-49 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. We hoped for a greater response and hope some of you will respond so we can include yours in the next newsletter.

1945

Richard H. Hunt, B.S. My college career at UK began with fall registration in 1942 — and I truly thought that it was going to end the same day that it began. That year saw the largest enrollment to that time in the University — about 4,000, I believe. After standing in what seemed like hundreds of lines for an equal number of hours in each, I had failed to become enrolled in a single class I had sought for my carefully chosen schedule. I went home wondering if it would be worth the

effort to return the next day and try to get into a class, any class. When I arrived the next morning there was a message to see my advisor, Professor Otto Koppius from the Physics Department. To my surprise and delight he handed me a complete schedule, signed and approved, containing every class I had sought. Overnight, additional sections of all those classes had been formed, and he had enrolled me in every one of them. It's easy to see why Dr. Koppius was one of my favorites throughout my college years.

After that first quarter things settled down into a routine. The number of students soon dropped drastically due to the activities of local draft boards until there were only about a fourth as many students on campus. The small group of chemistry majors not taken into service progressed through the chemistry curriculum. I had selected the Industrial Chem-

istry course, which included just about every undergraduate course offered in the department. This was a real opportunity, because it brought me in contact with every staff member there at the time.

Freshman chemistry lectures were by L. L. Quill, who had just arrived as department head. R. N. Maxson taught qualitative analysis — he had taught my father and brother before me. Sadly, he passed away the following year. I had the pleasure of being a student lab worker for Professor J. R. Mitchell, preparing laboratory solutions and, with Tom Earle, helping prepare some of the classic lecture demonstrations Professor Mitchell was famous for. We learned lots of inorganic chemistry that way, which never appears in books. We were paid the magnificent sum of thirty-five cents an hour, but it was worth far more to us. We also took the time to attend

those lectures, carefully taking seats several rows back from the front when he lectured on hydrogen. We knew what was coming!

Quantitative analysis under Professor O. J. Stewart was an unforgettable experience. We learned to work problems by the "picket fence" method, to multiply and divide by "red neckties" and "9.47 bricks in McVey Hall", and to chant to ourselves as we worked, "cc's of one normal solution in one cc of solution". These may sound strange to students today, but they taught us to organize our thoughts, avoid extraneous data, and to use dimensional analysis as we worked simple or complex problems. They impressed quantitative analysis on us as deeply as the seven grooves Professor Stewart wore in the floor behind his lecture desk as he paced back and forth during his lectures. The value of this training came home to me later in graduate school at the University of Wisconsin. When I took the inorganic and analytical qualifying examination (with about 100 other graduate students from schools all over the country), I worked each problem, checked my answers twice, and turned in my bluebook in about 45 minutes. I waited almost 20 minutes until the next person came out of the exam room exclaiming about "those difficult problems". Most did not finish until the two hours allotted were over, and many had to repeat the exam. They should have studied under Professor Stewart!

P. chem under M. H. Bedford and organic and qual. organic under Charles Barkenbus were equally valuable. P. chem was not my thing, but the organic caught my fancy, and I went on to do my graduate work at Wisconsin in that field. All of these courses required hard work, but the memories I associate with them are of the teachers and their skill and patience in seeing that we learned scientific method and principles and how to apply them to chemistry and life.

Other faculty members who taught us were G. F. Grilliot, Simon Wender, Jacob Meadow and Lyle R. Dawson, who replaced L. L. Quill in 1945 as department head. The students I was most closely associated with were Tom Earle, Fred Hill, Lloyd Elkin, L. E. (Jack) Kidwell, and David Stanonis.

I finished my course work in August 1945, graduated at the summer commencement, and started graduate work at Wisconsin shortly after VJ day. Again I was involved with a massive enrollment, many times larger than my first day at UK, but this time I was on the other side. Along with about 50 other graduate assistants, I was giving freshman chemistry section assignments to the floods of veterans returning under the GI bill. I was a teaching assistant in general chemistry and qualitative analysis for most of my four years at Wisconsin and consider that among my more valuable experiences. You never learn a subject so well as when you teach it.

My graduate work was done under William S. Johnson in the development of methods of synthesis leading to structures related to the D-ring of the steroid nucleus. I took an M.S. in 1947 and completed my Ph.D. in 1949.

On August 1, 1949 I reported to work for Shell Oil Company at their Houston Research Laboratory, located within the Houston Refinery on the Houston Ship Channel. The laboratory was devoted to process research, and I soon found that even organic chemists frequently worked in steel vessels and pipe rather than glass. My work involved some organic synthesis, but over the years I worked with liquid chromatography, solvent extraction, radiochemistry (after a course at Oak Ridge), and many other fields. Most of these were applied to analytical research, and the greater part of my career with Shell was spent in that activity.

In 1956 I was made Group Leader of the Physics Group which included mass spectrometry, NMR, and X-ray fluorescence. I remained with this group until 1970 when I was assigned to Head Office (which moved to Houston at that time). After four years there, I went back to the laboratory in the new Westhollow Research Center (also in Houston). There I worked again in radiochemistry, developed analytical methods for new chemical products, and finally was assigned as analytical liaison in the toxicology laboratory. In 1985, after 35 1/2 years with Shell, I retired.

I was married to Martha Wilkerson of Port Neches, TX in 1952. We have two sons, Earl and John. Earl is married and lives in Austin, TX where he is in business for himself providing computer/legal services. John is not married. He works in medical biological research in Houston, but recently has spent considerable time at Woods Hole, MA at the Marine Biological Laboratory. We have no grandchildren, but are frequently visited by a host of grand dogs and cats. Martha writes poetry (one volume privately published) and I enjoy building furniture, photography, and struggling with a computer. I do some volunteer work with a church-related social ministry, and we enjoy our church activities.

1947

Pat Clements Ewing, B.S. I worked as a chemist for Kentucky state government at the Health Department and the Highway Department, Division of Materials. In between my jobs, I had six children. I'm now retired and have taken up golf.

1948

Robert L. Anderson, B.S. in Industrial Chemistry. Others have shared their remembrances of student days at UK, and each of us has favorite instructors. Professor John Mitchell taught my general chemistry class. He was a master at presenting chemistry by

demonstration. As a lab assistant I helped him prepare his demonstrations and was amazed at the planning and effort required to present such effective lectures. Professor Stewart's methods of calculations were mentioned in last year's newsletter. In addition to "floor sweepings", I recall the presence of "red neckties" and "the figure that all chemists know" in his problems. He said that your secretary could perform the calculations once you had formulated the equations. Alas, I never found such a secretary. Perhaps this was covered in a graduate course? I also assisted Professor Stewart in his quantitative lab sections. This led to my first publication — a lab manual describing the experiments and calculations for his class — and my first exposure to a good editor. One experiment in organic chemistry was the preparation of methyl orange. As I was finishing the preparation, the beaker tipped over, spilling the contents all over the bench. At that worst possible moment Professor Barkenbus entered the lab. He never said a word, just grabbed a hose, flushed the remains over to a drain, and left! To this day I have an aversion to methyl orange, for both technical and emotional reasons.

After receiving my B.S., I went to work in June 1948 for Union Carbide Corporation in the analytical section of their R/D Department at South Charleston, WV. I remained in this department until my early retirement in January 1986 in one of Carbide's retirement incentive programs. During those 37 years I worked as an analytical chemist, project leader, specification specialist, and group leader. My duties included the development of specifications and methods of analysis for raw materials used to produce a wide variety of industrial organic chemicals, methods for process streams to permit process control and improvement, and specifications and methods for the refined products. The analytical methods included wet chemical techniques and various instrumental methods such as gas chromatography, atomic absorption, and UV, visible, and IR spectroscopy. I also supervised skill centers employing liquid chromatography, electron microscopy, NMR, and X-ray fluorescence techniques.

Special assignments included:

— Coauthoring a report on uses of gas chromatography in the analysis of organic chemicals. This was intended to aid customers in the proper use of the technique. However, in addition to distribution to customers, the report was used in short courses presented by professional groups and was included in the Supplement to Analytical Toxicology Methods Manual, edited by H. M. Stahr, Iowa State University.

— Developing and teaching an in-house course on statistics for analytical chemists. This led eventually to publication of an introductory book on statistics: Practical Statistics for Analytical Chemists, Van

Nostrand Reinhold, 1987.

— Representing Union Carbide on ASTM Committee E-15 on Industrial Chemicals from its founding in 1959 to my retirement. I held various offices in this committee including chairman and was granted the Society's Award of Merit. Since retirement I have remained active as an affiliate member of the committee.

Retirement has also enabled me to enjoy my interests in personal computing, photography, music, volunteer work, and travel.

Edward J. Griffith, M.S., 1948, Ph.D., 1951. Thank you for your letter of October 15, 1987. It was surely pleasing to hear from you again. I think of you often and the years I spent at the University. Your request is a tall order. I have spent an active life and it has been almost 37 years since I left Lexington. I'll put things in chronological order and you can edit and delete as you see fit.

In April 1951 I joined the Basic Research Group of the Phosphate Division of Monsanto Chemical Company in Anniston, AL. It was my job to perform research specifically to be published. It was a golden opportunity.

In 1952 the group was transferred to Dayton, OH. I continued to publish as Dr. John Van Wazer and I attempted to put condensed phosphate chemistry on a sound theoretical basis. By 1956 we had accomplished our original goal and I became the first Scientist in Monsanto's then new Inorganic Division.

In July 1957 the group was again transferred. This time we moved into the new research complex in St. Louis, MO and I was requested to leave phosphate research and to do some basic studies on ammonium nitrate. The studies of the thermodynamics to the phase transitions of ammonium nitrate proved to be an almost instant success and by 1960 I was given the DuBoise Award for my first significant industrial product.

In 1961 I became interested in tailings waste and the science of tailings ponds. In the manufacture of elemental phosphorus in Tennessee a clay fraction of the ore is settled in gigantic lakes. The colloid chemistry of systems was intriguing and I have spent a small but ongoing part of my career in this study and I still devote part of my time to this study. The culmination of the work was a patented process to use electroendosmosis to compact clays in tailings ponds. The process was covered by C & E News about two years ago.

In 1962, as a result of the publications, John Wiley and Sons invited me to become an editor of a series of books, *Topics in Phosphorus Chemistry*. After twelve volumes the cost of the books became prohibitively expensive and Dr. Grayson, my coeditor, and I concluded that it was unfair to Wiley to continue to publish the books.

During the 1960s I worked on a variety of detergent and dentifrice projects and returned to do some basic studies in the chemistry of pure fractions of polyphosphates. In 1967 I was promoted to Advanced Scientist. In 1968 I became interested in the role of phosphorus and phosphates in the environment. This work culminated in the editing and publishing of the *Environmental Phosphorus Handbook* in 1972.

In 1972 IUPAC invited me to deliver the main lecture on phosphate chemistry to the International Conference in Prague. In this same time frame the University of Maryland invited me to give a series of lectures on the role of phosphorus on the primitive Earth and to publish a series of papers dealing with this subject. The papers proved to be the most popular I had ever published and were probably the least scientific.

In 1974 the Ciba Foundation invited me to lecture in London on the world status of phosphorus in a new international symposium they were using to parallel their medical symposia. It was in 1978 that I conceived of and obtained patents for a new biodegradable substitute for asbestos. In this system phosphorus was substituted for silicon in a structure similar to asbestos. Unlike asbestos the phosphate fibers were thermodynamically unstable in the presence of water and the phosphatase enzymes of the lungs speeded the process. Monsanto developed the process to the point we had a small plant in production but because the new product was a safe substitute the threat of lawsuits was judged too great just because it was an asbestos substitute and the project was abandoned.

Two months after the first phosphate fibers were made my wife of more than 30 years, a non-smoker, developed lung cancer and died in 1981. Much of my time and efforts were devoted to attempting to find ways to comfort and save her life. A short time after the loss of my wife a young man lost control of a truck on a wet street colliding with my car. Although the accident did not disable me permanently, the loss of my right lung slowed my progress to a crawl.

When Monsanto announced the fact that they were abandoning the phosphate fiber the announcement received international attention. Mankind does not have a safe mineral fiber and the loss of a safe fiber because of the threat of lawsuits attracted concern. Maybe the fiber will be produced elsewhere.

During the 1984-86 period I was elected President of the American Alumni Association of Samford University for an unprecedented two terms. Samford University is in Birmingham, AL and is where I received the B.S. degree before attending Kentucky.

Monsanto does have a true scientific ladder. I am the oldest person on the scientific ladder and have been a Scientist or Fellow

longer than anyone else in the history of the company. It has been a great life and Monsanto has treated me wonderfully well.

Today I am employed as a Senior Fellow in the Detergents Division of the Monsanto Chemicals Company. It is my plan to retire on May 2, 1990. At this time I shall continue to live the life of an old widower and hope to become the envy of every old man in St. Louis.

Richard L. McConnell, B.S. During the summer of 1948, I worked at Tennessee Eastman Company in Kingsport, TN as a chemist before entering graduate school at the University of Virginia in September 1948. Carolyn C. McMeekin (also UK chemistry graduate, June 1948) and I were married in July 1948. We have three children — Richard L., Jr., Ann C. (B.S. in nursing at UK, 1976 — married to Mark S. Johnson, UK graduate, 1977), and Elizabeth L. (UK graduate, 1978). Richard, Jr. and Elizabeth are lawyers. We have two grandchildren.

I received an M.S. degree in organic chemistry in June of 1950 and a Ph.D. in organic chemistry in June of 1952 at the University of Virginia. I began work in the Research Laboratories of Tennessee Eastman Company in November 1951 as a research chemist. My work over a 35 year period included research in organophosphorus chemistry, polyolefin chemistry (catalysis, high M. W. polymers and copolymers, polyolefin waxes, chemically modified waxes), polyester chemistry, hot melt adhesives, emulsifiable polymers, polymer blends, and flame resistant fibers, films and plastics. At the time of my retirement in May of 1986, I was a Senior Research Associate in the Research Laboratories of the Eastman Chemicals Division, Eastman Kodak Company and supervised the work of three research groups in the Polymers Research Division. I am author or coauthor of 25 papers and about 200 patents.

During my work at Eastman, I was closely associated with several UK chemistry graduates including my bother, Wayne V. McConnell, Dr. George Akin, Dr. Russell Gilkey, William E. Sweeney, Bill Moore, Julian Chaudet, and Jack Lewis (physics major). With regard to my studies at UK, I think Dr. Charles Barkenbus was the best teacher and lecturer that I ever had.

Serving on the UK Alumni Board of Directors for four terms was a real pleasure and it was nice to meet a lot of other UK graduates. I also got to know a lot of faculty members while recruiting technical personnel for Eastman from the Chemistry and Chemical Engineering Departments.

My hobbies include reading, traveling, following UK sports, and playing cornet/trumpet in the Kingsport Community Band and with the Has Beens, a 1940 style band made up mostly of musicians in their

60's and 70's.

I am looking forward to reading about the activities of other UK graduates in the 1945-1949 period.

1949

Michael Golben, Ph.D. People approaching my mellow age tend to reminisce excessively at any invitation, such as your request to bring you up-to-date on "all" of my activities since graduation. But I'll resist this temptation and will try to touch upon some of the highlights over the 38 years since August of 1949.

My wife and I have fond memories of our years at Kentucky. We moved from Front Royal, VA, with our three-year-old daughter in the fall of 1946 amidst the hectic ambience of returning veterans seeking housing and an education. I was a chemical engineer on leave-of-absence from a rayon plant after nine years out of Cornell University. Along with several others at that time, I was on a Signal Corps fellowship program investigating ionic properties of unsymmetrical electrolytes in non-aqueous solutions. My wife soon enrolled as a journalism major.

There are many images that come to mind of the first years at Kentucky; the frantic search for housing; the opening of Shawneetown barracks with its coal-burning stoves and piles of soft Kentucky coal whose gases gathered and exploded occasionally when the stove was "banked" for the day; the relief provided when we all invested in oil stoves for which we learned to install a copper fuel line from a barrel outside the back door; the homemade soap produced from saved bacon grease and lye; the fertility of the pastureland soil next to our apartment; radishes from cobalt-irradiated seeds; Dr. Dawson's clear and concise lectures on physical chemistry and accompanying philosophy of there being "nothing new under the sun"; Professor Barkenbus' description of a pesticide which caused cockroaches to be constipated; running out of graduate courses in chemistry and spilling into physics, math, bacteriology (electron microscope), engineering (X-ray diffraction lab) and scientific German and Russian; the adventure of helping my wife follow up on feature stories of a thoroughbred mare which ran a race at Keeneland and foaled on the next day, the farms which provide Percheron mares as foster mothers for thoroughbred foals, and the beautiful petrified waterfall on a local farm; experiencing the pervasive smell of tobacco; the excitement of watching "Bear" Bryant's colorful style of football; "Fabulous Five" basketball under "Baron" Rupp; playing tennis on the courts that used to be where the Chemistry-Physics Building now stands.

Upon being graduated in 1949, I returned to American Viscose Corporation, this time to their research laboratories in Marcus Hook, PA. Although AVC was deeply involved in

research with synthetic fibers, because of my extensive production experience with viscose and rayon, I was assigned the task of developing a continuous viscose process. By combining chemical and engineering innovations, I produced a continuous system that compressed a labor-intensive six or seven day batch process into a 90-minute machine process at the laboratory level, the whole concept being shelved when rayon production was cut due to competition from synthetics. However, this research also provided a good analytical tool for the evaluation of pulps and viscose solutions through phase contrast and electron microscopy later published in TAPPI.

This was a period of intensive application of statistics to research and production, and the course I took at Kentucky under Dr. South in "Mathematical Statistics" was an excellent foundation for further study under the guidance of experts in the Philadelphia area. This training was helpful when as technical superintendent of the AVC Lewistown plant, I initiated the trial of laboratory research discoveries and their evaluation by designed experiments, including EVOP.

But the future of rayon was not bright, and I applied for a position as research director with Gould Batteries based upon my academic background in electrochemistry. I joined Gould in 1958 at their Depew, NY laboratory, which was in the process of moving to Minneapolis. Our group in the Minneapolis laboratory produced the sealed cell nickel-cadmium battery used in the first Remington cordless shaver. We also developed patents on the electrodeposition method of producing cadmium and nickel plates.

In 1960, I accepted a position at 3M Company in St. Paul in their New Process Department. My efforts there resulted in several patents in the field of a novel method of depositing corrosion resistant coating by a mechanical tumbling process.

An interesting phase of my 3M experience was the preparation of contract research proposals for novel energy devices for the U. S. government. Later, I had extended experience with the research on new photographic films which included the use of modern instrumental analytical techniques.

After my retirement in 1978, my wife and I have divided our time between Florida and St. Paul where most of our six children and their families are located. Tennis is my active obsession. My wife and I attended the 1987 Wimbledon tournament and were charmed by the people and places in England.

It has been interesting recalling the past at Kentucky. I look forward to reading about other "forty-niners".

William M. Keely, Ph.D. After leaving UK, I have spent the next 38 years at United Catalysts, Inc. All phases of catalyst preparations, testing and characterization have been encountered. In addition, I was a part-time

(moonlighting) teacher at U of L and Indiana University, Southeast for about 20 years. Since 1972 I served as Course Director for short intensive catalyst courses in the U. S., Europe, and the Middle East, South America. A couple of the course flyers are enclosed.

Currently I'm Manager of Analytical, United Catalysts, Inc.

More important, I'm married and have five children — wife, Martha.

Editor: The course flyers sent by Keely, two on "Practical Catalysis for Chemical and Petroleum Technology" were for courses in The Hague and Denmark, and the other on Catalyst Selection and Evaluation in East Brunswick, NJ. The courses were offered by the Center for Professional Advancement. The flyers also elaborate on Bill's qualifications, listing over 40 publications, and "Dr. Keely's great strength in teaching is his ability to cut through theoretical considerations and with the minimum of theoretical or academic development to concentrate on pragmatic aspects of the applications of catalysis in industry."

Athena King, B.S., was appointed Professor (clinical) of Radiology effective September 1988, University of Cincinnati Medical Center.

Charlotte B. Reed Ward, B.S., Industrial Chemistry. Career since leaving UK: M.S., Purdue, 1951; married Curtis H. Ward, (M.S., 1950), September 1, 1951; Ph.D., Physical Chemistry, Purdue, 1956; children: Emma (Morris), b. 1952, B.A., Emory, M.B.A., S. Carolina, Marketing Director, M.S.A., Atlanta; Bess, b. 1954, B.S., Michigan State, M.S., Ph.D., Washington, Research Scientist, Marine Microbiology, Scripps Institution of Oceanography, La Jolla, CA; Mark, b. 1956, B.S., Wyoming, in business in Tampa; married, one daughter; Matt, b. 1962, B.S., M.P.A., UK (making him a third generation UK grad), in business in Richmond, VA; married to Lynn Neal, B.S., UK, 1986.

We lived in Kenmore, NY, after leaving Purdue, where Curt worked for Linde Air Products and I had babies. Lyle R. Dawson always impressed on us the importance of industrial experience for college teaching (of course, his advice to me was to become a technical secretary — and here I am, just now learning to hunt and peck on my new Mac!).

We came to Auburn in the fall of 1957, when Curt was appointed Associate Professor of Chemistry. A year later, I was recruited to teach elementary school science on Alabama's new statewide ETV network, teaching as many as 20,000 children per year in in-school classes. Turns out I had a flair for it, proving once again that old Kentucky ham is the best kind.

We spent a year in the Boston area (1960-61) when Curt became rather discouraged with prospects at Auburn and

returned to industrial research for Avco. He claims teaching is addictive — he missed it so much we returned to Auburn the next fall. My TV “sponsor”, the Physics Department, offered me a temporary appointment to teach general physics along with the TV classes, and, having a Ph.D. minor in physics I accepted. I always say my conversion from chemistry to physics was easy — I’ll do anything to get out of housework.

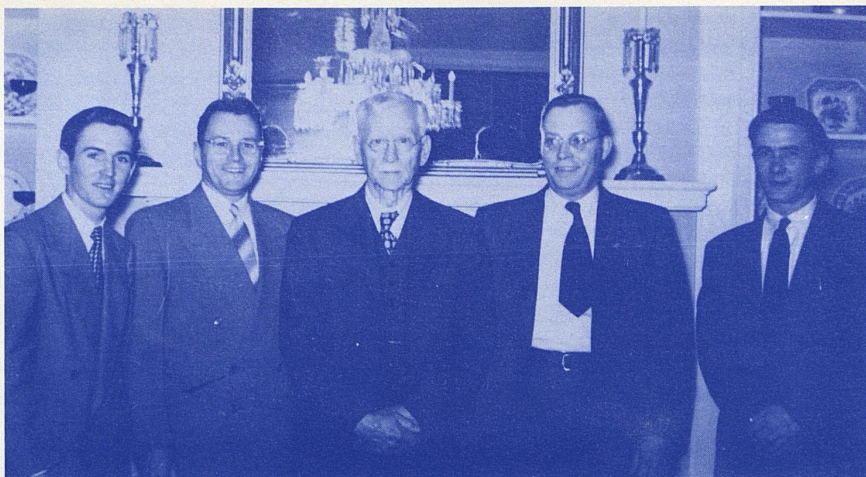
Since then, I’ve gotten tenure, become an Associate Professor, and designed and published a couple of textbooks for a two-quarter course in physical science, originally for elementary ed majors, but now the science elective of choice for business and liberal arts students as well — so I have about 200 students per quarter in two classes. In addition I have been teaching for the 10 years of its existence in the interdisciplinary course based on J. Bronowski’s *Ascent of Man*.

Extracurricularly, I was a Girl Scout troop leader from 1959 to 1986, served on the Auburn City Council from 1980 to 1986, worked with Cubs and the League of Women Voters, of which I am currently president for the third time, and was awarded both the Girl Scouts’ Thanks Badge and the Boy Scouts’ Silver Beaver. In 1976, I recorded two “firsts” for women: I became Auburn’s first female faculty chairman and Auburn First Baptist Church’s first active woman deacon (the very first to be ordained was already past 80; I was next). I’ve also taught Sunday School there for 30 years. Curt says a family can afford only one civic-minded member, so he tends to teaching chemistry and lets me mess around with all this other stuff.

Now that we’re through paying tuition, we’ve taken up traveling and have visited most of the countries of Eastern Europe, Scandinavia, the USSR, and China.

William E. Sweeney, B.S. The experiences while a student is the hard part and I don’t know whether I will be able to contribute anything — the memory isn’t what it should be and, as you know, it has been a while. So, this may be a disclaimer as to any accuracy that is implied. And I will offer what I remember and will probably give you too much information and request you glean from it what may be of interest.

After a year of graduate work under Professor English at UK, I went to work in August 1950 at the Research Laboratories of Tennessee Eastman Company in Kingsport, TN, a division of Eastman Kodak Company. In 1953 I was transferred to Texas Eastman Company in Longview, TX, a relatively new (at that time) division of Kodak, with responsibilities of quality control and development in the polyethylene area. This was enlarged in the next ten years to include polypropylene, polyolefin waxes and resins and adhesives based on polyolefins with increasing emphasis on the product development responsibilities. At



Besides Dr. Tuttle, who are the others of the 1940’s?

present, I am Director of the Plastics Laboratory of Texas Eastman with responsibility for product development of the enlarged product area as described above.

I’m afraid I can’t contribute much, if anything, from my experiences while a student. It was a time of trying to get through the five-year requirements for a B.S. in Industrial Chemistry in the shortest possible time while “existing” on the GI Bill of Rights. And doing graduate work under the well-known conditions. I am enclosing a couple of snapshots that were taken at an unknown school function — probably in the late ’40’s or 1950 and probably at an Alpha Chi Sigma, ACS or Sigma XI function. They are for your “archives” or for your disposal, whatever. You — or others — may be able to identify some if not all of those in the shots. Editor: Please let us know if any of you can identify those in the pictures.

All the best, to you and your colleagues.

Alan G. Veith, B.S. Here is a brief review of my life after graduation from the University in 1949.

At the time of my graduation I had interviewed with B. F. Goodrich and accepted a

job with them in Akron, OH. I started 8 June 1949. After a year’s training period, I moved to the company’s R & D Center in Brecksville, 16 miles north of Akron. I have been with the R & D Division since that time.

I began a career in the material technology of high polymers, with special emphasis on rubber, the materials used with it, and its mechanical properties.

More details on the technical aspects of my career are included in a copy of my current “Technical Resumé” which is enclosed. The resumé shows my present employer as Uniroyal-Goodrich; the tire division of Uniroyal, Inc. merged with the tire group of B. F. Goodrich in August of 1985. I was part of the tire group of B. F. Goodrich.

Now some details on my personal life. I attended graduate school at the University of Akron and in 1956 obtained an M.S. in chemistry. During this period I was married to Rosemary Thernes, in May of 1953. We have three young adult family members (children), two sons and a daughter.

Our oldest is Cary, (1957), who attended the University of Akron and obtained a degree in Chemical Engineering in 1980. He spent

three years with DuPont in Wilmington, DE, Experimental Station. He is now in the final stages of graduate study at MIT working on his Ph.D. in polymer chemistry. He plans to be married to Amanda Hanrahan in August of 1988.

Eric (born 1959), also attended the University of Akron, and graduated in 1982 with a degree in Mechanical Engineering. He is currently in an engineering development group with Aero-Jet Inc. in Sacramento, CA. He is also planning a marriage in 1988, in May, to Denise Hyde.

Laura (1962), is also in the Boston area, working for Softech Inc. as a software development engineer. She attended Bowling Green State University, in western Ohio, and graduated in 1984, with a degree in MIS.

Some of the above particulars may have been mentioned in previous communications

to the Department of Chemistry.

I still remember my days at UK, after my brief period of service in the Air Force (1944-45). I especially remember Dr. Dawson and physical chemistry, my membership in AXE, qualitative organic analysis with a young professor who's name I can't recall and the three component mixture that I was given to identify. One of the components was pyridine; I was able to identify this by opening the bottle. The other two were much more difficult. By the time I was finished with the weeks of lab work, I came to 'like' the smell of pyridine.

The year 1949 seems simultaneously, like yesterday and like a century ago; so much has happened in the world. I wonder what my sons and daughter will experience after they have been "out of school" for 38 years. Time will tell.

Editor: From his resumé, Alan received an M.S. in physical chemistry from the University of Akron in 1956. He spent 37 years in research and development in the rubber industry with B. F. Goodrich, prior to the formation of Uniroyal-Goodrich Tire Company. He specialized in the friction and abrasion of rubber with emphasis on the traction and wear performance and the mechanical properties of rubber. He is a member of the ACS, Rubber Division, Akron Rubber Group, AAAS. He has been active in ASTM affairs — serving on several of their committees and has received their Award of Merit and named ASTM Fellow in June 1978. He is vice chairman of USA Tech Advisory Group to International Standards Organization Technical Committee 45 on Rubber. He has two U. S. patents and 24 publications.

Alumni News

Thomas C. Herndon, B.S., 1923, died at the age of 88. He was Chairman of the Department of Chemistry at Eastern Kentucky University for several years before retiring in 1967. He received his M.S. and Ph.D. degrees from George Peabody Teachers College — now a part of Vanderbilt. He was a member of the Richmond Lions Club, Civil War Roundtable Club in Lexington and a charter member of the Torch Club. He was a veteran of World War I.

David W. Young, B.S., Industrial Chemistry, 1931, M.S., 1935, is 78 and still active as a chemist. His DWY Corporation has taken over the ARCO Leak Sensor Technology from ARCO Petroleum Products Company. He was in Lexington in October 1986 and says UK looks great and said: "I love Kentucky."

Jack P. Fletcher, B.S., 1950, M.S., 1952, is a Development Scientist — an analytical chemist serving clients in ethylenamines, ethanolamines, and alkyl amines at Union Carbide Corporation in South Charleston, WV. He served on the Committee for Specifications, Food Chemicals Codex at the National Academy of Science from 1971-1985 and appointed to the 1980-1985 Committee of Revision for the USP in 1983. He was elected to the 1985-1990 Committee of Revision in 1985, serving on two subcommittees (Pharmaceutical Ingredients and a new Purity Committee).

H. Olin Spivey, B.S., 1954, holds the rank of Professor in the Biochemistry Department at Oklahoma State University.

John D. Baxter, B.A., 1962, is Professor of Medicine and Biochemistry and Biophysics;

Chief, Division of Endocrinology, Moffitt Hospital; Director Metabolic Research Unit at the University of California, San Francisco. He was inducted into the University of Kentucky Hall of Distinguished Alumni in 1980. In December 1985, Queen Fabiola of Belgium presented him with the Dautrebande Prize given every three years for contributions in human or animal pathophysiology. Dr. Baxter, the fifth recipient of the prize, and his research group were the first to use genetic engineering for the production of proteins and the first group to produce growth hormone. He was a track star in high school and had a four-year athletic scholarship at UK. He continued to run in competition at Yale University where he received his M.D. degree. In October 1986 he announced the discovery by California Biotechnology, Inc., the genetic engineering firm he founded, of a way to spot victims of heart disease.

James L. Haynes, B.A., 1962, M.D. from UK Medical School, has been named Chairman of the Department of Surgery at the University of South Carolina School of Medicine. He will also serve as director of surgical education at Richland Memorial Hospital. Dr. Haynes joined USC's medical school faculty in 1979 after leaving the U. S. Army with the rank of Lieutenant Colonel. He received the Army Commendation Medal in 1979 and the Bronze Star for service in Vietnam 1968-69. He is coeditor of a textbook on surgery and has written numerous articles and presented papers on topics ranging from trauma to vascular surgery. He is a fellow of the American College of Surgeons, the Association of Academic Surgery, the Southeastern

Surgical Congress, the Southern Association for Vascular Surgery and the International Society for Cardiovascular Surgery. He is a member of the American Medical Association, the South Carolina Medical Association and the Columbia Medical Society.

Mary F. Richardson, B.S., 1962, Ph.D., 1967, writes that Brock University, where she is a Professor of Chemistry, is doing well with large increases of enrollment and faculty members. The past year she has served on the presidential search committee, is chair of the University Senate, and chairs the promotions and tenure committee. In her spare time she does research and brews award winning beer.

William E. Seale, A.B., 1963, M.S., Ag Economics, 1969, and Ph.D., Ag Economics, 1975, at UK, is Commissioner of Commodity Futures Trading Commission in Washington, DC, a position appointed by the President and confirmed by the Senate in November 1983 for the term expiring April 1988. His wife is a registered pharmacist and they have two sons (ages 23 and 22) and a daughter (age 18). From 1979-83 he was Vice President of Government Relations Commodity Exchange, Inc. in New York City. From 1975-79 he was legislative assistant to U. S. Senator Walter D. Huddleston. He has over 25 research publications and has presented numerous guest lectures to various professional groups. In his spare time he teaches sailing, owns a 40-foot sloop, holds a Coast Guard Captain's license to operate passenger-for-hire vessels, holds an advanced class amateur radio license, is an experienced cabinetmaker, and is an avid cyclist.

Kenneth L. Combs, B.S., 1967, M.D.,

1971, Tulane, is an internist in private practice with "Combs and Lutz" in New Orleans, LA. He is a breeder of Shar Pei dogs and is active in French Quarter preservation and restoration of buildings.

Lewis Nunnelley, B.S., 1968, Ph.D., 1974, Oregon State University, in nuclear chemistry, is married and working with IBM development lab in San Jose, CA doing a wide variety of applied research to magnetic recording. Before joining IBM, he spent time at Livermore Lab, a postdoctoral position at the University of Colorado, a teaching position at a community college in Oregon, summer jobs at the University of Washington, and a Masters degree in electrical engineering from UW.

Barbara Slater Barnes, B.S., 1971, is an analytical chemist specializing in atomic spectroscopy (AA and ICP) with Westinghouse Materials Company of Ohio in Cincinnati. She received an M.S. in 1986 in analytical chemistry from the University of Cincinnati under the direction of Joseph Caruso.

Frederick C. Nahm, M.S., 1971, has been hired as a vice president by the University of Pennsylvania, where he will supervise a staff of 250 and a development program that raises \$70 million a year. He graduated from Centre College in 1969 and worked as a research chemist and technical sales representative before joining Centre College in 1975 as the director of alumni affairs and annual giving. He was appointed Centre's vice president and general secretary, managed the college's fund raising during 1983-84 and 1984-85 years when it reported the highest percentage of alumni who gave donations to their college in the nation. It reached 74.1% last year, breaking a 72.2% record set by Princeton University in 1969.

Wayne L. Cook, Ph.D., 1973, is now technical director of Quality Chemicals, Inc., Tyrone Industrial Park, Tyrone, PA.

Can B. Hu, M.S., 1976, received a Ph.D. in 1980 from Massachusetts Institute of Technology. He joined the Deseret Polymer Research (now is Becton Dickinson Polymer Research) in December 1984. His responsibility includes the synthesis, modification and characterization of various biomaterials, immobilization of anticoagulant on biomaterials. Two papers were presented at the Society for Biomaterials Meeting (New York) and American Chemical Society meeting in New Orleans in 1987.

Gerald Maxwell, B.S., 1977, is a system

analyst at Teledyne Brown Engineering in Huntsville, AL. He left the Air Force after almost nine years. He received an M.S. in chemistry from Wright State University in Dayton, OH and a M.B.A. from the University of West Florida, Pensacola, FL.

Jaweed Ashraf, Ph.D., 1980, has a new position as Senior Research Scientist at American Cyanamid in New York City.

Peter Doorley, M.S., 1980, was promoted to the position of Laboratory Manager at the Humko Chemical Division of Witco in Memphis. Formerly he worked as the Laboratory Supervisor in the control lab at the Memphis plant. In 1985 Peter completed the Dale Carnegie course for effective speaking and human relations.

Anita (Wheeler) Fitzpatrick, B.S., 1980, M.S., 1982, and husband, **Mike** B.S., 1979, M.D., from UK, 1983, have returned to Kentucky. After a three year residency in Richmond, VA in a community program associated with the Medical College of Virginia, Mike has set up a practice in Bardstown, specializing in family practice. They are living in Elizabethtown and have two children. Anita is now considering returning to school in pharmacy and/or part-time teaching.

Patrick Leung, M.S., 1980, finished his M.D. and is in neurology residency at UK.

Kurt Haller, B.S., 1983, was awarded a 1986-87 ACS Analytical Division fellowship at Northwestern University.

Bennett (Sandy) Farmer, Ph.D., 1984, is Chief Applications NMR Scientist for Varian Instruments, Palo Alto, CA, for the entire USA. He is developing new applications and new pulse sequences for the 500 MHz NMR instruments.

Mark McEllistrom, B.S., 1984, is progressing rapidly in his Ph.D. program at the University of Wisconsin.

AKM Amanullah Khan, Ph.D., 1985 has a postdoctoral appointment at the University of California, San Diego.

Gaye Morelan, B.S., 1985, is now employed at Mallinckrodt Inc. Science Products Division, Paris, KY.

Danny Pawley, M.S., 1985, married the former Lisa Ann Thornberry in Elizabethtown in February 1987. Dan has been working at Dow Corning in Elizabethtown doing primarily a lot of chromatography.

Joe Wyse, M.S., 1985, is finishing his Ph.D. program in chemistry at UK.

Nancy Youtsey, M.S., 1985, began working January 1987, in the analytical services

unit of Chemical Industry Institute of Technology in Research Triangle Park, NC, just around the corner from her previous job. After living in the "south" for a year, Nancy, a native of Fort Mitchell, KY, indicated she now lived as far north as she would ever want to because of the much milder weather.

Todd Elder, M.S., 1986, is enrolled in the pharmacy Ph.D. program at UK.

Myron Gunsalus, M.S., 1986, is working in the chemical industry in Florida.

William Kluttz, M.S., 1986, is a research chemist with Schering Corporation, Bloomfield, NJ. He was coauthor with W. T. Smith of a paper presented at the U. S. Army CRDEC Conference on Chemical Defense Research.

Donna Palmieri, M.S., 1986, is enrolled in the Ph.D. program in chemistry at UK. She has two papers published.

William Sartain, Ph.D., 1986, has a Chester Davis postdoctoral fellowship in chemistry at Indiana University.

Diane Vance, Ph.D., 1986, is Assistant Director of General Chemistry at UK.

Fenton Williams, M.S., 1986, is attending medical school at the University of Louisville.

Kay Calhoun, Ph.D., 1987, is teaching part-time at Transylvania University and serving as lecture demonstrator for our general chemistry program.

Dana Evans, B.S., 1987, is working in the Crime Laboratory in Frankfort, KY.

Amy Howell, Ph.D., 1987, is a postdoctoral fellow in chemistry at Northwestern University. She coauthored with W. T. Smith a poster at the National Organic Chemistry Symposium, Vancouver, BC, June 1987.

Subhash Khare, Ph.D., 1987, is a postdoctoral associate in the UK College of Pharmacy.

Theresia Kusuma, Ph.D., 1987, has returned to her position at the University of Andalas, Padang, Indonesia, where she is the first woman professor holding a Ph.D. in chemistry.

Linda Osborne, M.S., 1987, is employed at Eli Lilly, Indianapolis, IN doing liquid chromatography on new drug products.

Mark Sabol, Ph.D., 1987, is a postdoctoral associate at Colorado State University.

Mark Scheuer, M.S., 1987, has taken a job as Chemist II at International Technologies, Inc., in Knoxville, TN.

Stan Simpson, Ph.D., 1987, is a postdoctoral fellow at the University of Utah.

Student Awards

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

Undergraduate Awards 1987-88

Robert M. Boyer Memorial Fund:

Undergraduate Seminar Poster Session Awards:

First Prize: Evan F. Ekman, \$50

Second Prize: Michael Kevin Woodrum, \$30

Third Prize: Paul K. Herrell, \$20

Thomas B. Nantz Tuition

Scholarships:

Benny G. Johnson, full year

Gina Y. Calhoun, half year

Willard Riggs Meredith Award to Outstanding Senior:

Cecila M. (Clarke) Davis, \$100

Stephen Harris Cook Undergraduate Summer Research Fellowship:

Charlene (Haertzen) Wiglesworth

Undergraduate Service Award:

Paul K. Herrell, \$50

Merck Index Award:

Roderick L. Warren

Analytical Chemistry Award:

Marion Keith Ewing

American Institute of Chemists Award:

Evan F. Ekman

CRC Handbook Award for Outstanding

Achievement in Freshman Chemistry:

Robert Simon

Graduate Student Awards 1987-88

Outstanding Teaching Assistant Award:
John F. Davis, \$100

Outstanding Graduate Student Research Award:

Jorge-Francisco Javier Mariategui, \$50

Theresa S. Kusuma, \$50

100% Plus Award:

Michael L. Rutherford, \$100

Thomas B. Nantz Memorial Scholarship:

Donna A. Palmieri, semester tuition

Ashland Oil Foundation Summer Fellowships:

Each recipient received \$1,125

Kevin G. Frank

Mary K. (McMillen) Freeman

Sandra A. Umhauer

Bruce A. Young

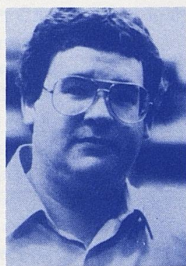
National Undergraduate Student Awards

Charles Jones, a B.A. chemistry major (pre-med) from Louisville, was selected to participate in the Leadership America program. This is a new, national program that will bring together 50 outstanding college seniors-to-be from across the country for 10 weeks in the summer to participate in a series of seminars, workshops, and group activities conducted in several locations in the U. S. The objective

of this program is to prepare these students to accept major leadership responsibilities earlier in their careers and to handle them more effectively.

Russell J. Mumper, a junior chemistry major was awarded a 1987 Fellowship sponsored by the American Chemical Society Division of Nuclear Chemistry and Technology at San Jose State University in San Jose, CA. The

fellowship involves an intensive six week summer course plan in nuclear chemistry. Mr. Mumper is one of only 12 students selected by a joint committee composed of members of the committee on Nuclear and Radiochemistry of the ACS Division of Nuclear Chemistry and Technology.



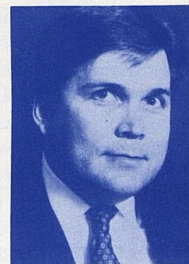
Jeffery R. Appling

Jeffrey R. Appling joined our faculty as Assistant Professor in August 1987. He received a B.S. in 1980 and a Ph.D. in 1985 from the Georgia Institute of Technology. From 1985 to 1987 he was a postdoctoral research associate at Brookhaven National Laboratory. He has 16 publications in his area of research which include laser multiphoton ionization spectroscopy, photoelectron angular

New Faculty

distribution measurements, above-threshold ionization studies, photofragmentation dynamics and circular dichroism in photoelectron angular distributions. He presented a poster "Photoionization of Aligned Molecular Excited States" at the Gordon Conference on Multiphoton Processes in New London, NH, June 1986 and a paper on "Circular Dichroism in Photoelectron Angular Distributions from Two-color (1 + 1) REMPI of NO" at the International Conference on Multiphoton Processes IV, in Boulder, CO, July 1987.

Robert T. Sullins, Assistant Professor, starting in the 1987-88 academic year. Dr. Sullins earned his B.A. in 1975 from the University of California at San Diego and his Ph.D. in Analytical Chemistry from Texas A&M in 1981. He then joined Exxon Chemical Americas at the Baton Rouge Chemical Plant where he was a Development Chemist.



Robert T. Sullins

In 1983 he became Laboratory Manager/Chief Chemist in the Assurance Laboratory at DuPont Chemicals' Chocolate Bayou Plant, Alvin, TX. Dr. Sullins has been active in the area of ion beam methods of analysis. He plans to extend his research in Rutherford backscattering and particle-induced X-ray emission analysis to ion beams of low energy atmosphere beams.

Information Please

Name _____

Degree and Year _____

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

ZIP _____

Your present position or title _____

Organization _____

ZIP _____

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

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

Features you would like to see in the next Newsletter _____

Please return to: Dr. William F. Wagner
Department of Chemistry
University of Kentucky
Lexington, Kentucky 40506-0055

News from the Faculty and Staff

Donald P. Ames, a former faculty member in the early fifties has been named McDonnell Douglas Distinguished Fellow — the first to earn this honor, the highest the company bestows on its specialists. He has held the position as General Manager of the McDonnell Douglas Research Laboratories for the past 15 years.

Leonidas Bachas presented two papers: "Homogeneous Enzyme-Linked Competitive Binding Assay for Biotin Based on the Avidin-Biotin Interaction", by S. Daunert, L. G. Bachas, and M. E. Meyerhoff, 194th ACS National Meeting, September 4, 1987, New Orleans, LA and "Avidin-Biotin Interaction and Competitive Binding Assays", at the MUACC meeting, November 7, 1987, Columbus, OH. He received one of only six \$5,000 UK special summer faculty Research Fellowships awarded to Assistant Professors in 1987. He has received the following grants to support his research: "Fiber-Optic Fluorometer", Bond Issue Equipment Fund, Commonwealth of Kentucky, "Ion-Selective Electrodes with Covalently Bound Ionophores", Research Committee Grant, University of Kentucky, "Potentiometric Sensors Based on Ionophore Modulation by Antibodies or Binding Proteins", American Chemical Society, Petroleum Research Fund, "Homogeneous Enzyme-Linked Competitive Binding Assays for Haptens Using Potentiometric Detection Schemes", American Association for Clinical Chemistry, Research and Endowment Fund. (This grant is given to only one person per year.) His wife, Sylvia Daunert, who is a pharmacist and a chemist has been appointed by the President of ACS, Mary Good, for three years as a member of the Younger Chemist Committee (a National ACS Committee).

Carol Brock was promoted to the rank of Professor effective July 1987 and also assumed the position of Director of General Chemistry. Since the last newsletter she has traveled to Poland, where she presented papers at the Symposium on Organic Crystal Chemistry in Rydzyna, and at the European Crystallographic Meeting in Wroclaw. On the same trip she spent a few days in Prague, Berlin, and Dresden, visited the Enraf-Nonius factory in the Delft, and spent a week in Zurich collaborating with colleagues at the ETH. Last spring she presented a paper at the meeting of the American Crystallographic Association and took part in a panel discussion on service crystallography. This fall she attended a Forum for the Physical Sciences organized by IBM. Back in Lexington she is preparing for arrival of the new departmental MicroVAX computer. This computer will control the X-

ray diffractometer, perform off-line processing of NMR data, and run a database of reactions for organic synthesis. She also continues to serve on the U. S. National Committee for Crystallography, and on the Wellesley College Science Center Advisory Committee.

D. Allan Butterfield has been appointed Director of the University of Kentucky Center of Membrane Sciences. The Center was created after the successful submission of a grant to the National Science Foundation. Dr. Butterfield is the principal investigator of this grant. Faculty from the colleges of Arts and Sciences, Engineering, Home Economics, Agriculture, Pharmacy, and Medicine along with graduate students and postdoctoral scholars comprise the Center. The uniqueness of the Center rests on the strong research interaction between experts in biological membranes and experts in synthetic membranes. No other such membrane center exists in the United States. In addition to his NSF grant, Allan has funding from the Department of Defense on a joint project with W. T. Smith and from the Tobacco and Health Research Institute with Dr. Mike Jay of the College of Pharmacy. During the period 1985-1987, Allan was the Director of Graduate Studies in Chemistry. Graduate enrollment increased from a mean of about 55 graduate students to about 70 students during this time. Dr. Butterfield or his students gave research presentations at several national meetings including the Southeastern Regional Meeting of ACS in Louisville, The Scientific Conference on Chemical Defense (1986 and 1987, both held in Aberdeen, MD), the Southeastern Magnetic Resonance Conference at the NIEHS in Research Triangle Park, NC, and the American Society of Hematology National Meetings in San Francisco (1986) and Washington, DC (1987). Only one-quarter of submitted papers are accepted for the latter meeting. Allan gave invited seminars at the Department of Biochemistry of St. Jude Children's Hospital in Memphis, the Department of Nutritional Sciences of the University of Guelph in Canada, and the Department of Medicinal Chemistry of the UK College of Pharmacy. Allen was appointed to Site Visit Teams by NIH to review a proposed Alzheimer's Disease Research Center (University of Pittsburgh) and a proposed Sickle Cell Disease Center (University of Southern California). He has taken family vacations in Maine the past two summers. His daughter, Nyasha, competed in the Lexington Junior Miss Competition and now is busy completing her senior year of high school and contemplating colleges for next year. Marci, his wife, continues working on the Brain Injury

Unit of Cardinal Hill Hospital as an R.N.

Dennis Clouthier recently presented a paper entitled "Very Low Pressure Single Rotational Level Fluorescence Lifetimes of Thioformaldehyde", by J. R. Dunlop and D. J. Clouthier at the Inter-American Photochemical Society meeting at Clearwater Beach, FL, January 4, 1988. His DOE grant "Laser Spectroscopy of Combustion Intermediates" was renewed for 1987-88 and a new postdoctoral research associate, Dr. Jerzy Karolczak, from Poland, joined his group in January 1988. Dennis traveled to the Herzberg Institute of Astrophysics, National Research Council of Canada in Ottawa, Canada in March 1987, where he conducted a series of experiments aimed at identifying the spectrum of the unknown free radical, CCS. Dr. David Moule from Brock University and Dr. Richard Judge of the University of Wisconsin-Parkside spent several weeks with Dennis working on collaborative experiments in laser spectroscopy. In the spring of 1987, Dennis and his students moved all their apparatus into the new Laser Chemistry Laboratory. This facility, which houses approximately \$300,000 worth of state-of-the-art laser instrumentation, is being shared by Drs. Clouthier, Guarr, and Appling.

Audrey Companion's main activity the past year has been chairing the Lexington Section of the ACS. She organized the outstanding National Chemistry Day programs including the observance of the 75th anniversary of the Lexington Section. She is continuing research in computer simulation of problems in material science. She continues to work with the UK Women Chemists group formulated during the years when she was Director of Graduate Studies and actively recruited women who had, for one reason or another, left Graduate School, and were now ready to come back. All the women chemists in the Department meet at least once a semester to talk one-on-one with a prominent woman chemistry visitor, celebrate something that has happened to one of the group (promotion of Carol Brock, completing a qualifying exam, finally becoming a Ph.D. or an M.S. finding a job) or just to rap on what is going on in the Department. Some of the men have indicated interest in joining the group — particularly when they have pot-luck dinners!

Bill Ehmann received the 1987 Sturgill Award for contributions to graduate education at the University of Kentucky. Selection was based in part on recommendations received from former graduate students. He presented an invited paper at the International Conference on Nuclear and Radiochemistry in September 1986 in Beijing and also an in-

vited seminar at the Institute for Atomic Energy at the request of his former colleague Wei-Zhi Tian. Wife, Nancy, accompanied Bill to China. The trip included brief visits to Japan and Hong Kong. Bill also presented invited papers at an FDA workshop in Bethesda, MD in November 1986, the 1986 Winter Meeting of the American Nuclear Society in Washington, DC in November 1986 and the Inorganic Analytical Research Division of the National Bureau of Standards, in Gaithersburg, MD in November 1986. He also was coauthor on papers presented by other research group members at the 1986 Meeting of the Kentucky Academy of Sciences at Lexington in November 1986, the International Conference on Methods and Applications of Radiochemistry in Kona, Hawaii in April 1987, the Annual Meeting of the American Academy of Neurology in New York in April 1987, the 21st Annual Conference on Trace Elements in Environmental Health in St. Louis in May 1987, the 9th Conference on the Application of Accelerators in Research and Industry in Denton, TX in November 1986, a Symposium Sponsored by the AARP and the National Institute on Aging in Bethesda, MD, September 1986 and three papers at the 38th Southeast Regional Meeting of the American Chemical Society in Louisville in November 1986. Bill also organized and chaired the Symposium on Biomedical Applications of Analytical Chemistry at the 1986 SERACS meeting and the 1986 Naff Symposium on Radionuclides in Chemistry and Medicine. Daughter, Kathleen, finished her postgraduate internship in clinical dietetics at the UK Hospital in August 1987, and has accepted a job as a clinical dietician with Humana, Audubon in Louisville. Son, Bill, is still at the U. S. Geological Survey in Reston, VA, and sons, John and Jim, are employed in Durham, NC and Lexington, respectively.

Thomas Guarr and his wife, Amy, had a son, Joseph Thomas, on May 2, 1986 (the day before the Kentucky Derby, by the way). Joseph is now a regular visitor in the building. About a week after he arrived at UK, Tom left to attend a Gordon Research Conference on Electron Donor-Acceptor Complexes in New Hampshire in August 1986. He also presented a paper on the electropolymerization of ruthenium and osmium polypyridines at the ACS meeting in Denver, April 1987. He has the following grants to support his research: a UK Major Equipment Grant to purchase an excimer laser, a UK Research Committee Grant for "A Critical Test of the Superexchange Model of Electron Transfer", an ACS-PRF Grant for "Kinetics of Competitive Long-Range Electron and Hole Transfer Reactions", and a Biomedical Research Support Grant for "Electrochemically Controlled Drug Release From Redox Polymers".

Bob Guthrie attended the 34th General Assembly of the International Union of Pure and Applied Chemistry to discuss final changes in the proposed system of nomenclature for reaction mechanisms that he has been working on with the Commission on Physical Organic Chemistry for the last ten years. The final version should go to press this spring and be published next fall in *Pure and Applied Chemistry*. The meeting took place in Boston, in August 1987. He attended the Gordon Conference on Physical Organic Chemistry in Plymouth, NH, in June 1987. He has received a \$22,000 grant from Research Corporation in connection with a new program for revitalizing academic researchers. The Graduate School will provide a matching grant in support of the two-year program.

Jim Holler spent most of his time over the past two years revising, rewriting, editing, and proofreading *Fundamentals of Analytical Chemistry* by Doug Skoog, Don West, and (now) Jim Holler. It came off the presses in November and should be on your bookshelf soon. He recently gave a departmental seminar at his alma mater, Michigan State University, entitled "Temporal Optimization in Reaction-Rate Methods of Analysis". His major project is the completion of the family log home near Stamping Ground. Bill Wagner says he's been working on his house for nearly 40 years, so maybe theirs will approach completion by the turn of the century. His research has released two inmates upon the world during 1987: Stan Simpson's dissertation is entitled "Basic and Practical Investigations of the Mixing of Chemical Reagents by Microdroplet Collisions" and Kay Calhoun's was "Temporal Optimization of Reaction-Rate Methods of Analysis and its Application to Enzyme-Catalyzed Reactions".

Wilbur Mateyka attended the 32nd Annual Symposium of the American Scientific Glassblowers Society in Boston, MA, where he was presented with the J. Allen Alexander Award. This is the most prestigious award given by the ASGS. It is given for outstanding glassblowing and for furthering the aims and ideals of the society. Wib was president of the ASGS in 1984 and 85. He also attended section meetings in Napa, CA and Williamsburg, VA. In October he spent three weeks in Germany visiting his first grandchild, Mathew Alexander Mateyka, born October 2, 1987.

Kurt Niedenzu presented papers: "Studies on B-Halogenated Pyrazaboles" at the National ACS Meeting in Denver, CO, April 1987 and "Reactions of Boron Heterocycles with Pyrazole and Related Studies" at the National ACS Meeting in New Orleans, September 1987. He has received additional \$86,556 from the Office of Naval Research for 1987-88 to support his research on "Macromolecules Derived from Pyrazolylboron and Related Boron-Nitrogen Species".

A NATO grant of \$8,000 provided for travel to Europe for research on "Transformations of Boron Heterocycles".

Jim O'Reilly attended the Midwestern Universities Analytical Chemistry Conference in 1986 at the University of Pittsburgh, and in 1987 at the Ohio State University. The second edition of the undergraduate textbook *Instrumental Analysis*, edited with Gary Christian, was published in 1986. He was appointed Director of Graduate Studies in July 1987. He is still refereeing soccer games at the youth, high school, and college levels. Officiated in the state high school soccer tournament held in Lexington in November 1987.

Merle Patengill returned in July after two one-year leaves of absence (first year: sabbatical at Stanford; second year at NASA Ames Research Center, Moffett Field, CA) to his old Kentucky home. The sun shined so bright on it that they thought they would die! He presented two papers at the West Coast Theoretical Chemistry Conference at Berkeley in June and presented one paper and co-authored another at the 1987 Conference on the Dynamics of Molecular Collisions in Wheeling, WV in July. NASA awarded him a three-year grant for \$63,774 to support his research on calculating the rates of certain chemical reactions that occur as a spacecraft enters the upper atmosphere after descending from a high orbit. This knowledge will play a key role in designing a new braking system for spacecraft which could ferry men and machinery between space stations and orbiting satellites. Aerobraking will save fuel for such spacecraft working in high orbit. He complains that Bill Wagner urged him to take out a second mortgage on their house from the Credit Union and after one payment the variable rate was raised from 9.5% to 11%. He bought a pet hamster since Bill Plucknett's supply of dogs is at a low ebb.

John Richard has had a busy year teaching, traveling and tracking down carbocations. In November he received a grant from the Petroleum Research Fund to study Structure-Reactivity Effects on the Reactions of Nucleophiles with α -Substituted Benzyl Cations. This summer he spoke on carbocation reactions at the International Symposium on Organic Reactivity in Paris, and the 194th ACS National Meeting in New Orleans.

Jack Selegue is on sabbatical leave as a Fellow of the Alexander von Humboldt Stiftung, working with Professor D. Klaus Jonas at the Max-Planck-Institut fuer Kohlenforschung in Muelheim a.d. Ruhr, West Germany, until August 1988. Son, Paul, was born on August 17, 1987 and is accompanying Jack and Edith on their sabbatical. According to the proud father, "Paul is the world's cutest baby". Jack's research is currently supported by the U. S. Department of Energy, the Consortium for Fossil Fuel Liquefaction Science (funded by DOE Pittsburgh) and the NSF/

EPSCoR program.

Stan Smith has assumed a new administrative position as Director of the campus-wide NMR Center. The center, under the Vice-Chancellor for Research, is responsible for all the NMR spectrometers anywhere on the campus including the Medical Center and Pharmacy College as well as the Chemistry Department. Stan continues to be the Director of Instrumentation in the Magnetic Resonance Imaging and Spectroscopy Center (MRISC) Building, networking of all the NMR facilities and managing the day-to-day operations of the MRISC research programs. Stan's office is now physically located in the old pharmacy building (now named the Slone Building) on Washington Avenue where the MRISC facilities are temporarily housed. With these new administrative duties he teaches only one course in the Department and is released from all other departmental duties although chemistry is still his permanent home as far as the university tenure policies are concerned. Stan's research efforts now focus primarily on in vivo localized spectroscopy in conjunction with various programs in the MRISC. In his spare time he has presented several invited talks on imaging and in vivo spectroscopy. He was one of a dozen "Outstanding University Researchers" selected to participate in the University's new "Saturday Seminar" program for alumni. Away from the University Stan "acquired" another child when his 16-year-old stepson elected to come live in Kentucky with Beth and him. His eldest son, Michael, successfully passed his license exams in architecture this past summer and is now practicing in Lexington. His daughter, Sharon, is living in West Virginia where she is a White Water Rafting Guide on the New and Gauly Rivers. Stan is still active teaching

scuba diving and has enjoyed trips to Michigan and Florida as well as local lake diving.

Tom Smith gave poster sessions presentations at ACS National Medicinal Symposium at Chapel Hill, NC in June 1986 and at ACS National Organic Chemistry Symposium in Vancouver, BC in June 1987. The paper at Chapel Hill was coauthored with Nina Baranowska and the one in Vancouver with Amy Howell. At the organic symposium he got to see Nina and Przemyslaw Maslak, Ph.D. 1982. He included some vacationing in Seattle, Victoria, BC and other beautiful parts of British Columbia on the trip to the organic symposium. He and his wife also enjoyed traveling in Maine and the Caribbean this past summer.

Steve Yates relinquished the job of Director of General Chemistry. He presented the following lectures: an invited talk entitled "(n,n' γ) Reactions and Other Studies of Nuclei Near Closed Shells", at the 8th EPS Study Conference on the Structure of Cold Nuclei, Varna, Bulgaria, September 14-18, 1986; an invited lecture entitled "Inelastic Neutron Scattering Studies of Transitional Nuclei", at the University of Jyväskylä, Jyväskylä, Finland, September 25, 1986; an invited lecture entitled "Shapes and Shells in Nuclei", at the ACS Nuclear Division's Summer School in Nuclear Chemistry at San Jose State University, August 4, 1987; two papers entitled "M1 Transitions and Mixed-Symmetry States in O(6) Nuclei" and "Subshell Closures, Shape Coexistence, and Alpha-Like Correlations in Medium-Heavy Nuclei" at the Sixth International Symposium on Capture Gamma-Ray Spectroscopy, Leuven, Belgium, August 31-September 4, 1987; an invited lecture entitled, "Structural Implications of the Double Subshell Closure at ^{96}Zr ", at

the University of Jyväskylä, Jyväskylä, Finland, September 9, 1987; and coauthored several other papers at national meetings. He continued his research collaboration with workers at Lawrence Livermore National Laboratory by spending one month in Livermore during the summer of 1986 and one week of the summer of 1987. He is also continuing the international research collaboration between UK and the Institute of Isotopes, Budapest and has had two Hungarian visitors for periods for one and three months, respectively, at UK, and has made two one-week visits to Budapest in the past year. Funding for his research was received from the following: "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, 1986-1986; "Nuclear Methods in Chemical and Biological Sciences", (with J. L. Weil, M. Jay and 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, \$280,036, 1987-1988 (and approved for two additional years); "Accelerator Upgrade", (with M. T. McEllistrem, M. A. Kovash and J. L. Weil, Physics), National Science Foundation, \$129,500, 1987-1988. He is serving as Councilor of the Lexington Section of ACS. Linda is still selling coats and dresses at Snyder's (formerly Stewart's, the May Company and L. S. Ayres, and soon to be Hess's) at Fayette Mall. They have a nine-year-old daughter named Lynn.

Department of Chemistry
University of Kentucky
Lexington, Kentucky 40506-0055

NON-PROFIT ORGANIZATION
U.S. POSTAGE
PAID
LEXINGTON, KENTUCKY
PERMIT NUMBER 51

ADDRESS CORRECTION REQUESTED
Return postage guaranteed